RISKGOV EUROPEAN PROJECT

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

FINAL REPORT

ANNEX 1 – SUMMARY OF THE CASE STUDIES

T. SCHNEIDER, C. SCHIEBER, L. VAILLANT (CEPN)
G. HERIARD DUBREUIL, S. GADBOIS (MUTADIS)
A. OUDIZ, F. BOURGOIGNON, A. MILOCHEVITCH (IRSN)
J. PATERSON (UoW)
G. BROWNLESS, T. BANDLE (HSL)
S.-O. HANSSON, M. HAYENHJELM (KTH)

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Project co-ordinator :

- Centre d'étude sur l'évaluation de la Protection dans le domaine nucléaire (CEPN) (FR)

Partners :

- Mutadis Consultants (FR)
- University of Westminster (UoW) (UK)
- Institut de Radioprotection et de Sûreté Nucléaire (IRSN) (FR)
- Health and Safety Laboratory (HSL) (UK)
- Kungl Tekniska Högskolan (KTH) (S)

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1. INTRODUCTION

The objective of the RISKGOV Project is to analyse and identify quality criteria for the governance of industrial activities giving rise to risks to people and the environment from radioactive and chemical discharges during normal operations. For this purpose, RISKGOV aims at: 1) analysing and comparing the elements contributing to the quality of governance systems associated with environmental discharges from nuclear and chemical installations; 2) providing a series of criteria to assess the quality of the governance of risk activities.

In total, 8 case studies were conducted, covering radioactive and chemical releases related to local and international contexts and referring to innovative risk governance processes in France, Sweden and the United Kingdom:

- The role of local liaison committees with regard to the management of discharges of installations:
  - France: Local liaison committee of the Gravelines Nuclear Power Plant
  - Sweden: Local liaison committees of the Barsebäck Nuclear Power Plant and the Rohm and Hass Chemical installation

- The dialogue process during the preparation of reauthorisation of radioactive discharges:
  - France: COGEMA-La Hague facility
  - United-Kingdom: Devonport Royal Dockyard

- The dialogue process in a regional context:
  - France: Management of air quality around the industrial site of Etang de Berre

- The dialogue process in an international context:
  - Implementation of the OSPAR Convention for chemical and radioactive releases
  - The abandonment of the Brent Spar offshore platform

The analysis was performed by a multidisciplinary research team and based notably on interviews with key stakeholders directly involved in these innovative risk governance processes. The following dimensions were addressed: a) The guiding principles of the

decision-making process; b) The role of expertise; c) The stakeholders involvement process; d) The factors integrated into the decision-framing and decision-taking processes; e) The implementation of decisions and their review. The complete analysis framework is presented in Appendix 1.

This Annex to the final RISKGOV report presents a summary of the case studies. The full case studies are presented in the Annex 2.

2. CASE STUDIES CONCERNING THE ROLE OF LOCAL LIAISON COMMITTEES WITH REGARD TO THE MANAGEMENT OF DISCHARGES OF INSTALLATIONS

2.1. Control of radioactive discharges around the Gravelines Nuclear Power Plant by the Local Commission of Information in France

2.1.1. Background and context

At the beginning of the 1970s, the decision to build a thermic power plant in the area of Dunkirk 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 NPP. Within a widespread climate of protest against nuclear energy, this decision met with opposition. 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 climate of conflict, the mayor of Gravelines, Albert Danvers, 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 on 2nd December 1987 by the General Council of the Department (Nord) 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.

2.1.2. Development of the case study

The interviewed actors

Within the study, members of the RISKGOV team met 6 people reflecting the composition of the CLI: two local elected representatives (including the Chairman of the CLI), the president of the Chamber of Trade and Industry of Dunkirk (who is also the Chairman of the technical sub-committee), the president of an environmental NGO (ADELFA), the director responsible for the safety of the NPP of Gravelines and the secretary of the CLI (who is seconded from the DRIRE). During the interviews, several actions initiated and supported by the CLI were detailed, including the implementation of safety measures to limit the potential impact(s) associated with an oil slick on the

Gravelines NPP operation and the organization of a measurements campaign to ascertain whether plutonium had been discharged from the NPP.

The functioning of the CLI

The CLI, which has no legal status, is funded by local communities (mainly Gravelines, Dunkirk and the Department) and the Regional Directorate on Industry, Research and Environment (DRIRE). Its budget is about 35 k€. It has more than one hundred official members (local elected people, public authority representatives, local NGOs, Trade Union representatives, operator, medical authority representatives) named by a Decree of the Departmental Assembly, but only 20 people take part regularly in its activities. Its role is both to inform the population and to survey the impacts associated with the power plant. The commission can access all the information, studies or regulatory prescriptions that concern the power plant (except industrial and commercial secrets). Local communities that benefit from the activity of the power plant financially support the commission.

In order to improve the quality of its work, the CLI created two sub-commissions in April 1996. Within this study, the focus is mainly on the technical sub-commission, which is in charge of the technical aspects of the plants functioning (i.e. incidents or discharges monitoring for example). This sub-commission played a major role in the creation of a radiological monitoring network around the power station independent of others (which are managed by the operator and the authority).

Two or three plenary sessions of the CLI are organized each year. The technical sub-commission meets 3 or 4 times a year to debate new projects, incidents or discharges into the environment. Furthermore, visits of nuclear installations are organised according to the concerns of the CLI. Those meetings and visits are a way for the various participants to get reliable information on various topics, such as the evolution of the regulations. EDF presents its annual feed back report and its prospects, strategy every year. The DRIRE presents the results of its inspections. The CLI publishes regularly a news bulletin called OPALE (3 times per year) and send it to inhabitants living close the power plant (100,000 copies).

2.1.3. First elements of analysis of the risk governance process

On the statutes and the financial resources of the CLI

The focus on the definition of a legal statute as well as dedicated resources for the CLI reveals a real will from all its members to set up an established, permanent structure in order to promote access to and dissemination of information concerning the surveillance of the NPP. Such a structure would also help to make clear the level of resource available to the CLI. This formalisation would also favour the definition of "running conditions" for the CLI, notably the right and duties of each member and the circulation of the information inside and outside, as well as the decision making process adopted to define the official position of the CLI on a particular topic. Therefore, there is a strong desire that this should not be an "informal" risk governance process.

Information and expertise

Members of the CLI are in the position of maintaining an understanding of the situation and the key issues surrounding surveillance of the NPP, without actually becoming experts in the traditional sense (e.g. public and operator experts) themselves. The role of the members is rather to analyse regularly the data and information and ask for additional measurements or explanations if they feel it is necessary. To achieve these tasks, they use the results from a range of expertise, collected through local and national networks as well as from public experts. Thus these local actors maintain a high level of vigilance over the site, taking care that questions are asked to the operator, either by the public authority or by themselves. They are in a position of questioning the management of the safety and radioactive discharges by the operator. They can request further explanations as well as criticize the choice of the operator with regard to prevention. At the same time, they act as intermediaries with the local population in questioning the operator and to transferring information to the local population. For improving their understanding, confidence and capacity to question the choices of the operator, the participation of members of the CLI in the inspections of the DRIRE at the NPP is a key action. Although the members of the CLI do not consider themselves as experts, they want their concerns to be taken into account in the management of the NPP's safety, both by the operator and the public authority. The questioning of the members of the CLI allows on one hand to raise the issue of management of potential

events (e.g. the risk of oil pollution), and on the other hand to have a prospective vision (e.g. the will to take into account the consequences of the ageing of the installation).

Acting in the context of an environmental protection concern

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 amongst members of the CLI to be associated with the organisation of vigilance over environmental protection and industrial activities in the region, but keeping at the same time a specific risk governance process for the NPP in order to avoid this being handled in a larger forum not able to tackle specific questions about surveillance of the NPP. For example, the question of the evolution of the prevention with regard to ageing installations seems to be specific to the nuclear facilities.

The position of the operator in the risk governance process

It is clearly acknowledged by the operator that the members of the CLI are key interlocutors as far as the management of safety and radiation protection is concerned. In this context, it is of prime importance for the operator to quickly and correctly keep them informed in order to demonstrate its transparency. Beyond the issue of transparency, the operator listens to the requests and questions expressed by the members of the CLI, as well as to take into account their proposals for the implementation of protection options. Nevertheless, the members of the CLI do not accept direct financial support from the operator for the functioning of the CLI. Rather, the financial support from the operator is devoted to additional actions to help provide information, such as the payments of travel costs for visiting nuclear installations, as well as to facilitate the organisation of such visits.

A climate of confidence favourable to the efficiency of the CLI

The climate of confidence developed among the stakeholders involved in the CLI allows in-depth discussion and common working (each member having his own role). This climate of confidence does not necessarily mean that there is a single point of view on the topics and issues at stake. Each member can keep his autonomy and point of view. Although strong and divergent positions on specific subjects may create

temporarily a climate of conflict, the conditions for dialogue still exist and common work is still possible according to the mutual respect which exists between the members of the CLI. This climate of confidence, acknowledged by most of the members of the CLI, has progressively emerged between them, essentially during recent years, following the openness in terms of membership as well as in terms of organisation of the work.

2.2. Risk communication and dialogue procedures with the local populations around a nuclear power plant in Sweden

2.2.1. Presentation of the case study.

The *Lokala Säkerhetsnämnden vid Barsebäck* (literally "The Local Board for Safety by Barsebäck"[1]), started as all similar LLCs, in 1981, as a direct result of the referendum of Swedish nuclear power in 1980[2]. All municipalities housing nuclear power were subsequently, through the Act on nuclear power, SFS 1984:3, given the right of access to information regarding the safety and radiation protection issues from the operator through the formation of a LLC. Prior to this, little information was given to the general public, either from the authorities or the plant itself. With the controversy over subsequent accidents, such as Chernobyl, a much more attention was focussed on the nuclear plant and the authorities.

The role of the LLC as specified in ordinance SFS 1988:810 is to guarantee transparency of the power plants to the local population and general public on nuclear power safety, radiation protection, and emergency planning in case of accident. This is an ongoing process of transparency, and influence, for the local public around a nuclear power plant. The actions are specified as staying updated, obtaining information, compiling information, and providing information to the public, the local authorities and institutions. This could perhaps be reformulated as the task of being the informed but watchful eye of the public in dialogue with a potentially hazardous industry, as an extra safety measure that risk governing decisions are not made entirely contrary to common sense or that may endanger the locals.

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[1] The concept of a *Lokalt Säkerhetsråd* is unique to Sweden. The term "Local Liaison Committee" will in the following be used the concept, on the advice from the Secretary of the *Lokala säkerhetsrådet vid Barsebäck*, Staffan Ödewall, even if this is not fully equivalent.

[2] The result of the referendum being the full expansion of the already planned 12 reactors to be completed, but with a long-term goal of phasing out the energy source and to replace it by 2010.

As an organised interested party with the role as a local layman's authority, the LLC is also part of the decision making process of the authorities in terms of being a *remiss* party. That is, being consulted for written comments on matters within their field of interest and expertise before major regulations are decided or decisions taken.

The LCC receives an annual budget of 400.000 SEK from the Government and reports its activities on an annual basis. The representatives are proposed by the two local municipalities in the Barsebäck region, but decided by the Government. They must represent the mandates of the latest local election and have an even gender distribution. At most meetings, apart from the members, representatives from the industry are usually present, sometimes representatives from the authorities, and sometimes experts on a particular field on invitation from the LLC. The LLC also have, apart from the economical resources, a cooperative organ, KSO, for exchange of information and experience between the different LLCs of Sweden, and for educational programmes.

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 mistake in information given by the CEO to the media. After this Barsebäck's information department moved directly to the premises of the plant from the joint information department it shared with its owner Sydkraft, and a new policy was adopted for a more active role. The authorities, *Svenska Strålsskyddsinstitutet (SSI)*, the Swedish Agency for Radiation Protection and *Svenska Kärnkraftsinpektionen (SKI)*, Swedish Nuclear Power Inspectorate, have a regulatory responsibility to disseminate information to the general public and have in recent years also adopted a much more ambitious approach towards supplying information to the general public. The LLC rely primarily on Barsebäck, the authorities, and KSO for information. Barsebäck, the SSI and the SKI all produce an abundance of information each year. The authorities play a very important role since, besides their role as regulator and inspectors; they are also experts and conduct extensive research. Not only the regulations, but also research reports and the annual inspection report of the safety and radiation protection situation of the nuclear power sites, are all freely accessible both as written documents and as pdf-files to download from their official web sites.

The SSI and the SKI are regarded both by the LLC, the industry and the authorities themselves as a neutral and independent source of information, representing not only the common interest but also being experts.

Whether as a result of the LLC or not, the trust and confidence of Barsebäck in the local community is currently very high.

2.2.2. First elements of analysis of the risk governance process

The Government agencies SSI and SKI play the key roles in the risk governance surrounding the plant, not in terms of responsibility or technical solutions - that is solely that of the licensee - but in terms of their manifold function as regulators, experts, inspectors and producers of information material. This key role is stressed by all stakeholders: the industry, the LLC members, as well as the agencies themselves. The very role and independence of the LLC is dependent upon it. The inspecting role of the agencies is also very important. The nuclear power industry is very small; the SKI has only half a dozen major sites to inspect each year. This means that every nuclear power plant gets inspected at least once a month every year, and that the agency knows the plants' operations very well. The SSI has a larger number objects to inspect, since other radiation sources than nuclear power are included in their domain, but conducts regular inspections of the nuclear sites all the same. The agencies have powerful tools to put pressure on the nuclear power plants since they can, apart from other measures, call for a stoppage of production until further measures are taken or revealed weaknesses investigated. This happens almost every year at one or another of the sites (usually after the annual maintenances) and is very costly for the plants.

The industry complains of being the most scrutinized industry of all, and more so than all other types of energy production, but this vulnerability to scrutiny has not only led to negative publicity in the media but also to stable trust in the Government agencies. The industry regards the trust in the authorities as vital for trust in the information from Barsebäck.

To the LLC the authorities are prerequisites for the independence of the LLC since they have both the expertise and acquaintance with the industry. The multiple roles of the agencies make them qualified assessors of information. Their role as independent government agencies means that they are regarded as a disinterested party: independent 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.

All this affects the role the LLC can and does play; the open relationship with the industry and the scrutiny of the authorities are the conditions for the LLC procedures; Barsebäck explain their decisions and operations, and the authorities comment on and assess this information and the operations.

The role of the LLC is therefore not so much direct influence over particular decisions (that is handled by the *remiss* procedures), nor by being experts or employing experts, albeit they have that right, (that is handled by the research departments of the universities, the industry and the agencies), nor that of disseminating information to the public (information is already produced by the media, the agencies and Barsebäck NPP). Their role is one of a democratic and local access to an informed insight into all this, which can detect changes in both public concerns and in the trustworthiness of industry and agencies.

This structure of risk governance rests on two key factors: the independence and incorruptness of the agencies and the general knowledge of the LLC members. The independence of the agencies towards the industry is maintained by strict codes for the inspectors and rotations policies, and towards the political interests in their organizational independence from and open relationship with the Government. Their incorruptness is checked by the transparency of the different boards, the *remiss*-procedures and the Principle of Public Access to Official Records. The knowledge of the LLC members are maintained through education, the access to information, the exchange of information and experiences with other LLCs and within the GMF, and also the through the discussions and meetings of the LLC itself.

2.3. The dialogue forum established by a chemical industry in Sweden

2.3.1. Presentation of the case study

In 1998 Rohm and Haas Nordiska in Landskrona formed a Community Advisory Committee, following the example of other companies within the Rohm and Haas group.

The CAC was a unique initiative within the chemical industry in Sweden at the time and the first CAC in the country. In 1999 they received the Best Environmental Work Award in the category Environmental Communication for their communication efforts

with the CAC, the newsletters to local residents and the regular attitude surveys of the local opinions. This award is a collaboration between the Confederation of Swedish Enterprise, IVA (the Royal Academy for Engineering Sciences), the Swedish Environmental Protection Agency, Miljöstyrningsrådet (the Board for Environmental Management owned by industry, the Government and the local governments) and part of the European Better Environment Awards for Industry initiated by the EU Commission.

Trust and confidence in Rohm and Haas have increased after the risk communication efforts taken, including newsletters, an Environmental Report, 'open house' activities, attitude surveys as well as the CAC. According to the CEO there has been a significant change in attitudes towards Rohm and Haas. In the past Rohm and Haas was relatively unknown and if it was known, this was for negative reasons, i.e. bad odours. Nowadays the company is better known and for positive reasons.

The CAC was not formed to deal with a specific question but as part of a process to engage in an on-going dialogue with the local community. This dialogue forum was established in an expansion phase when the company was planning a reconstruction and expansion of the installation. The company had also been associated with bad odours in the local community in the past. The initiative came through engagement in the Responsible Care programme, which stresses the importance of transparency and openness, and also the commitments within the international Rohm and Haas group.
The CAC is a communication forum between industry and public with the aim of establishing a dialogue and trust, and consists of local representatives from the community of Landskrona. The members are selected so as to represent the community at large and the local interests. The Committee does not have any decision-making mandate and is purely advisory. The CEO and the EHS (Environment, Health and Safety) Manager are present at all meetings together with members from the local community.

The CAC initiative is part of the Responsible Care program, and those other risk communication efforts that Rohm and Haas engage in: attitude surveys, newsletters to local households, and the distributed Environmental Report. The CAC is regarded as a complement to these activities and not as a replacement. The CAC is regarded by the company as a further step in the Responsible Care commitment to transparency and openness to the local public.

The company does not expect any immediate influence from the CAC, the idea is rather that it allows the company to gauge what others, non-employees, think is of importance that the company does.

During the start-up phase the interest in the Community Advisory Committee was large and the attendance rate high. After this initial starting up phase, an educative phase followed, where the company primarily informed the CAC members about the company and their operations. After the initial informative phase the company has informed the members on topics such as news, changes and information about the working environment. Risk has however not so much been an issue addressed.

The CAC is not active in the sense of making decisions or carrying out specific actions. The decisions are made in the company – against a background of progressive environmental regulations, policies and strategies from the Government and the local authorities, the international group of the company, and the voluntary commitments to EMAS, Responsible Care etc. The CAC plays an altogether different role in providing the general public a unique insight into these decisions and dealings of the company.

The actual decision-making is thus restricted by the democratic influences of local, regional and national electives, by organized stakeholders in the democratic *remiss* process, by the industries voluntary commitments for environmental and democratic improvements. The locals that are living nearby are no experts and are not directly influencing the decisions but are offered participation.

2.3.2. First elements of analysis of the risk governance process

On the one hand both the industry and the members of the CAC are in general rather content with the idea and procedures of the CAC. It is perceived as a mutual exchange of ideas between the community and the industry. Rohm and Haas has in the past been a controversial plant, primarily due to odour problems and hence had a bad reputation in the neighbourhood. This was further enhanced by the negative perception of the chemical industry in general and the tendency to be very anonymous and to keep quiet about problems.

Rohm and Haas has through its attempts at increased transparency in general, including but not limited to, the CAC, together with a reconstruction of the actual site and

installation of filters to minimize odour incidents, achieved a change of attitude and increased confidence among the local community towards the company.

However the objective from the industry that the CAC would serve as some sort of positive ambassadors for the company that puts a lot of effort into environmental, safety and health concerns, as not been as successful as was expected. The CAC is relatively unknown. The hypothesis that the information was never passed on but stayed in the CAC was tested but not confirmed. Most members disagree or disagree strongly that the information stays within the CAC and is not passed on. But when asked to specify to whom the information is given, it appears that the members do pass the information on but only to their immediate circle: the interest they represent, their friends, and most of all their family. Their network of contacts, that is work colleagues, fellow members of associations, the local inhabitant in general and neighbours are all occasional rather than regular receivers of information.

The responses to questions regarding the passing on of information or comments from others to the board suggested that this was even lower, but again with only the organised interest, family and friends as the most frequent contributors. This is interesting since the Chairman of the CAC does not perceive the members as representing “interests” other than being local residents, and the industry has particularly chosen people with a large field of contacts.
One interpretation would be that the issues discussed in the CAC differ from issues discussed outside it. The agenda is set by the industry, although it is possible for members to raise topics. The topics discussed and the material explained may not be very “hot topics” or relevant issues from the members point of view, but they appreciate them as a token of concern and a serious effort at transparency. The data presented is not questioned in the sense that members routinely check the information from the company with that from another source. “It is a matter of trust”, as the Chairman puts it.

The members mention a lack of “vitality” within the board, and declining attendance figures in the meeting minutes confirm this. Most members have been on the board for quite some time. The industry compares this with the start-up phase when the CAC was new, and all basic information concerning the operation and its environmental impact was news.

It seems that the CAC members treasure their 'transparent' view of the company but do not know what to make of it, and the industry treasures the public trust and reputation that they have gained through transparency but do not know how to vitalise it. The intentions are good on both sides, both appreciate this type of contact and openness. But the initial idea was neither that of the industry nor that of the public. The CAC model is part of the international Rohm and Haas sphere and not a specific solution to an acute problem from the local industry's part.

As for the actual decision making procedures in risk governance and in the areas of EHS, the most influential forces that lead to development and rethinking in these areas are according to the EHS Manager: the conditions related to the licence for production, public opinion and the management board of the Rohm and Haas group. The ultra filter improvement is for example a direct outcome from the conditions in the licence. The opinion of the local community and how it regards the company is also an important factor influencing the environmental work.

There seem to be positive side effects from the CAC: the Chairman of the CAC believes that the CAC was very valuable for the former CEO who was not local, and that the company has received positive publicity for it in the local newspaper and the newsletter. He also believed that the CAC gave valuable contacts with the environmental activists for the industry. The industry representatives also pointed out that other chemical industries felt some pressure to prioritise EHS concerns and communication efforts too, after the Rohm and Haas initiatives.

3. THE DIALOGUE PROCESS DURING THE PREPARATION OF REAUTHORISATION OF RADIOACTIVE DISCHARGES

3.1. Dialogue process around the liquid and gaseous releases of the COGEMA-La Hague facility in France

3.1.1. Presentation of the case study

The La Hague reprocessing installation is located in the Nord-Cotentin region, near Cherbourg in the West part of France on the coast. This plant started its operations in 1966. Two more plants were later built: one which entered in operation in 1989 for reprocessing the foreign spent fuel and a second one in 1994 for reprocessing French spent fuel. It should be noted that 6000 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 NGOs and representatives of the workers at the COGEMA reprocessing plant. This commission is called: "Commission Spéciale Permanente d'Information près de l'Etablissement de La Hague" (CSPI).

In 1995, Professor Jean-François VIEL's team at the University of Besançon published a study performed in the region of the La Hague reprocessing plant suggesting an excess of incidence of leukaemia among persons less than 25 years old within the 10 km zone around the site (Beaumont-Hague canton), at the limit of the significance threshold: 4 cases observed between 1978 and 1992 compared with 1.4 cases expected. In January 1997, the same team published the results of a “control case” epidemiological study performed in the same region. This second study pointed out the association between some lifestyle habits - presence on local beaches, consumption of seafood, living in a granite house - and the development of cases of leukaemia in persons less than 25 years old within a radius of 35 km around the La Hague reprocessing plant. The authors assumed a causal relation between this observation and the environmental exposure to ionising radiation.

The publication of the results in the media 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 as well as the other nuclear installations in the region and their potential health effects. 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.

Furthermore, due to a modification of the installation, COGEMA asked for a revision of its licensing authorisations. Therefore, the Safety authority (DGSNR) started a process for revision of the discharge authorisations of the installation. This process led to negotiations that involved different experts and gave an opportunity for public debate.

The case study is devoted to the analysis of the perception of the GRNC by its participants as well as on the licensing authorisation process.

3.1.2. Development of the case study

The main participants in the GRNC have been interviewed in order to discuss their perception of the group outcomes and to identify more precisely the role of expertise in this process.

The discharge authorisation process was studied through the detailed chronology of the events, and by an analysis of all documents produced (letters from the Safety Authority (DGSNR), the Institute for Nuclear Safety and Protection (IRSN), COGEMA, reports following the public enquiry,...)

3.1.3. First elements of analysis of the risk governance process

The GRNC process

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.

The licensing authorisation process

The licensing authorisation process, which started in 1994, has been analysed in detail. The first elements of analysis are the following :

- Before the submission of the official request, a dialogue was established between the public authority and the operator. This process allows the operator to develop a broad understanding of what was expected of it and thus avoid large amounts of official, bureaucratic correspondence arising from an initial application that was largely unacceptable to the public authorities. However, this initial informal, 'scoping' stage greatly restricted the degree of openness and transparency surrounding the application.
- The public enquiry is seen as a tool for the public authority to provide information to the public. However, the authorities do not have any obligation to explain their final decision. The CSPI proposed some actions in order to improve the diffusion of information during the public enquiry : it requested additional copies of the document for the NGOs; it proposed putting the document on the internet (but this proposal was not implemented); and finally proposed organising a public meeting (this meeting was however cancelled and replaced by a meeting organised by the commission of the public enquiry).
- The NGOs were heavily involved in the analysis of the documents. Their comments concerned the acceptability of discharges.
- A large amount of documentation was provided by the operator relating to the impact assessment study.
- Some questions still remain :
    - There is not a convergent point of view relating to the simultaneous request for modification of licensing authorisations and discharges authorisation.
    - There was not a real debate between all the stakeholders. In fact, most NGO's did not attend the public meeting because they did not consider it to be credible.
    - There was a lack of discussion on the level of discharges considered as acceptable (only a detailed discussion on the "admissibility" of the request)

There was a lack of knowledge on the impacts associated with the chemical discharges from the installation.

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

3.2.1. Presentation of the case study

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. However with less people employed at the dockyard than before, the city's dependence on the dockyard as a source of livelihood is seen to be reduced.

Nuclear-powered hunter-killer submarines have been refitted at the Devonport Dockyard since the 1970s. In 1987, a private company, Devonport Management Limited (DML), took over the refitting from the Royal Navy. Shortly after, the British Government decided that refitting of nuclear weapon-carrying nuclear-powered submarines ("Vanguard class") should be moved from Rosyth and also be carried out at 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. In addition the association of Vanguard class submarines with nuclear weapons (removed before entering Devonport for refitting) had the potential to make the discharge authorisation more controversial. Some years before, it was identified that significant quantities of the radionuclide 14C were in waste from refitting; as this had not been reported previously, some media coverage and controversy resulted. These issues in particular meant that the re-authorisation had the potential to be high-profile and controversial.

Under the Radioactive Substances Act, the Environment Agency is obliged to consult the Health and Safety Executive and the Food Standards Agency. However, realising the potential for controversy, the Environment Agency decided to go beyond the regulatory requirements and launched a programme of engagement and consultation with the public. It also moved to issuing one authorisation for all of the waste streams, to enable it to take a more holistic view of the discharges.

The main aim of the Environment Agency appears to have been to come to a well informed decision regarding the re-authorisation, rather than to reach a consensus, whilst maintaining its reputation and having a workable decision to regulate. It went about this by holding publicised public meetings and 'one-to-one' surgeries, as well as through general media relations. The Environment Agency seems to have gone to some trouble to answer all queries including contacting official experts for their views where appropriate. The consultation process was carried out between May 2000 and mid - 2001. In the end, the Environment Agency recommended that the Ministers grant an authorisation but with discharge limits generally somewhat lower than originally requested by DML.

3.2.2. Development of the case study

Initial contact was made with the Environment Agency, in particular the nuclear regulatory inspector for the Dockyard who was intimately involved in the consultation.

Through the Inspector, a range of suggested contacts were obtained for people and organisations involved in the process. This was used to draw up a provisional list of people and organisations to interview regarding the authorisation. At each of the interviews, an effort was made to identify any people or organisations who played a significant role in the authorisation. In the event, the initial list of contacts proved essentially complete. Those interviewed are listed below :

- Environment Agency staff
- DML staff
- Royal Navy officer
- Dockyard Trade Union representative
- Local School Governor
- Local opposer

- Plymouth City Council official
- Representatives of local campaign group
- Local Health Authority expert (issued report on occurrence of cancers)
- Local Member of Parliament

The project team are satisfied that the range of opinions surrounding the re-authorisation has been captured through these interviews.

Relevant documents, such as public meeting transcripts and proposed authorisation decision documents were also collected.

3.2.3. First elements of analysis of the risk governance process

The Environment Agency seems to have managed the authorisation process in such a way that they – or at least their staff – are well respected and such that widespread, deep-rooted controversy over the decision was avoided. This seems to be due to the Environment Agency's openness and because they were able to communicate with other stakeholders whilst keeping enough balance to be able to act as an 'honest-broker'. This view is perhaps not an unqualified, unanimous one: certain stakeholders thought that the Environment Agency was not entirely immune to pressure or influence from Defence interests in Central Government. Nevertheless, the broad success of the Environment Agency's communication – which was two-way – seems to lie in the quite detailed approach the Environment Agency took to planning their meetings and surgeries. They also seem to have been quick to respond to potential crisis points.

From the interviews conducted, DML took over an operation that previously had been relatively closed to stakeholder involvement. The consultation process surrounding the discharge helped open up DML and build links with local stakeholders. Compared with 15 years ago, DML and the Royal Navy seem to have become more open, although there were differing views as to the extent of this. Thus the process appears to have contributed to the capacity for dialogue in the locality although the research team detected a feeling amongst some stakeholders that DML could improve in this area.

The non – institutional stakeholders interviewed were people and organisations with grave reservations over the siting of a nuclear facility in Plymouth. A number of issues emerged from the information collected, particularly relevant to the use of experts in the

process. The internationally accepted model for predicting the occurrence of harm from radiation doses was questioned by non-institutional stakeholders, who felt that that the Environment Agency were not open to alternative views on the model. A recommendation of this work would therefore have been for a pluralistic re-examination of the radiation dose-harm model but in fact such a committee (CERRIE) was set in 2001. Additionally, interviews emphasised that the authorisation was one, albeit significant, event in the continual presence of the nuclear facility. One of the non-institutional stakeholders in particular keenly recognised the trade-off between the economic benefits of the dockyard and the safety implications of having a nuclear site in the vicinity. This individual has an important role in the local community and so in some respects acts as a 'watcher' over the dockyard for the local area. Thus this stakeholder's position is an interesting 'barometer' for perception of the nuclear activities at the dockyard.

From the interviews, it is apparent there are issues related to stakeholder engagement, whether as 'engagement fatigue' on the part of non-institutional stakeholders or resource implications on the part of institutional stakeholders. Such issues have also been recognised elsewhere, in particular in the other UK case study, Brent Spar.

Through improved participation of the local public and organisations, the Environment Agency was able to make a potentially highly controversial decision in a manner that did not cause the type of outcry that has been observed for decisions with a similar potential for controversy. A concrete indicator of this is that there was no legal challenge or 'call-in' by the Secretaries of State for recourse to a Public Inquiry. The process appears to have encouraged longer term communication between the site and non-institutional stakeholders in the area, although it would be interesting to investigate the situation today. It seems to have been successful in handling more local issues but less so for wider questions, such as over the dose-harm model used. However, this is how the process was designed and the wider questions are outside the specified remit of the Environment Agency, who 'owned' the process. Following on from this point, a challenge for regulatory institutions is to devise effective means of handling wide ranging and multi-governance issues within a localised process, both in terms of geography and their own remit.

4. THE DIALOGUE PROCESS IN A REGIONAL OR INTERNATIONAL CONTEXT

4.1. Management of air quality around the industrial site of Etang de Berre in France

4.1.1. Presentation of the case study

The Etang de Berre is located in the south of France, close to Marseille. This area has a very high density of industries, including oil refineries (Total and BP), chemical industries (Oxachimie, Naphtachimie…) and electricity generation plants (EDF). This concentration of industries leads to the emission of many air pollutants (e.g. SO_2, O_3, NO_x).

In this region, a Permanent Board for Industrial Pollution Prevention (SPPPI) was created in 1971 to temper the local opposition to industrial development. This Board, chaired by a representative of the State (the Prefect), is divided into several commissions (air, water, industrial wastes…). In each commission, working groups have been created to deal with specific topics (SO_2, O_3, etc.). These working groups are composed of several types of actors (such as local elected people, NGO, operators, public authority representatives, experts).

Other types of dialogue structures have also been created:

- Local information commissions, like the Shell Local Commission of Information and Exchanges (CLIE),
- In the framework of the implementation of the French law on air quality, a regional commission for the elaboration the regional plan on air protection (COREP) was created.

There is also a specific organisation devoted to air quality measurements, AIRFOBEP. This organisation is financed by operators (57 %), public and local authorities and is chaired by a local elected representative. It is in charge of the development and the follow-up of the air quality measurement devices network and the analysis of the data provided by this network.

The objective of this case study is to analyse the functioning of the various dialogue structures dedicated to the management of air pollution (both at the regional and the local level), and more precisely to the management of Sulphur Dioxide (SO_2) releases.

4.1.2. Development of the case study

The first part of the work was devoted to the collection of available information on the existing dialogue structure, including: history of the SPPPI (from its creation to the present day), identity and role of the various actors, the running of AIRFOBEP and the procedures set up to reduce SO_2 releases.

Then, several interviews were conducted with:

- The director of AIRFOBEP,
- A representative of the DRIRE[3] , which provides the secretariat for the SO_2 working group (SO_2 WG) set up within the SPPPI,
- A member of MNLE 13, a local environmental NGO, that is participating in the SO_2 WG and to the COREP.
- The mayor of Berre, who is also the President of AIRFOBEP.
- A representative of an operator (BP), who is in charge of the environmental management,
- A representative of ARDEB, a local environmental NGO, who is also elected in the City Council of Rognac and who participated in the creation of the local liaison committee of the Shell oil refinery.

Finally, on the basis of the collected data and the common analysis framework, an analysis of the risk governance process was carried out.

4.1.3. First elements of analysis of the risk governance process

One of the most 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:

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[3] Regional Direction of Industry, Research and Environment, in charge of implementing, under the authority of the Prefect, all or part of the policies decided by the Ministries of Industry, Environment, Transport, Work, Research and Technology. Of particular relevance to this work, it is in charge of preparing the chemical discharge authorizations for an industrial site.

- On one hand, a “regional” structure, the SPPPI, created 30 years ago, lead by the public authorities (DRIRE), aiming principally at the implementation and the respect of French and European regulations,
- On the other hand, local structures, lead by industrial and / or local environmental NGO (the Shell CLIE for example), aiming at developing a dialogue at the very local level.

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.

The 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. Through the SPPPI, the Public Authorities favour 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, was confirmed, as was the minor role of the NGOs. The durability of this structure is probably due to its constant adaptation to the new issues (creation of new working groups, integration of new members, regulation evolutions implementation, etc.).

But such a dialogue cannot 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 the local commissions of information, which are closer to the population. The CLIE of Shell thus 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 when 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 around the Etang de Berre. 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 question of justification of the industrial activities has never been raised, even by the NGOs representatives interviewed, whose aims are to combine human health and environmental protection together with economic development. This can be partly explained by the historical context and the weight of the industries located in this area with their consequent role as major employers.

As far as air quality is concerned, the key source of expertise 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 of its results. This credibility has been reinforced since the AIRFOBEP Chairmanship was given to a mayor instead of an operator. The representative of MNLE13 notes however that the knowledge of the NGOs members is not always sufficient to evaluate the operators' actions. In contrast, the representative from the ARDEB association relies on the knowledge of the members of its association to evaluate the proposals of Shell, and the representative from BP believes that there is no need for external expertise, as the health impact studies are not performed by the operator but by external recognized institutes.

4.2. Implementation of the OSPAR Convention for chemical and radioactive releases

4.2.1. General background

The OSPAR Convention for the protection of the marine environment of the north-east Atlantic entered into force on 25 march 1998. It has been signed and ratified by all of the Contracting Parties to the Oslo and Paris Conventions (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.

Within the general obligations of the Contracting Parties of the OSPAR Convention, the Article 2.1(a) stipulates that these Parties have the legal obligation to "take all possible steps to prevent and eliminate pollution and to take the necessary measures to protect the maritime area against the adverse effects of human activities so as to safeguard human health and to conserve maritime ecosystems and, when practicable, restore marine areas which have been adversely affected". It is also mentioned that the Contracting Parties will apply the precautionary principle and the "polluter-payers" principle. They will define the "best available techniques" and the "best environmental practice" for the programmes and measures for use in applying the Convention.

The OSPAR Convention operates through a three-tier organisation :

- first tier level : the Commission composed of representatives from each Contracting Party,
- second tier level : the Environmental Assessment and Monitoring Committee (ASMO) and five strategy committees (among them : Hazardous Substances Committee - HSC- and Radioactive Substances Committee - RSC-),
- third tier level : working groups.

The Commission votes on the proposals for recommendations or decisions prepared by the Committees on the basis of the technical work carried out by the working groups. If required, the proposals are voted on by the Ministers of the Contracting Parties (Ministerial Meeting).
NGOs, governmental organisations and other States which are not Contracting Parties can be admitted as observers by a unanimous vote. They can participate in the meetings of the Commission, Committees and working groups but they have no right to vote. They may nevertheless interact and make proposals which can be discussed provided they are supported by at least one contracting party.

The OSPAR Commission can adopt programmes and measures and can specifically make recommendations and decisions by a unanimous vote of the Contracting Parties. If unanimity cannot be reached, the Commission can however adopt them by a three-quarters-majority vote. In this case, a decision is only binding for the Contracting Parties who voted for it. Unlike decisions, recommendations have no binding force.

4.2.2. The OSPAR Convention for radioactive releases

One aspect of the Convention concerns the releases of radioactive substances, and a specific committee (RSC) has been created under the heading of the OSPAR Commission to facilitate the implementation of the OSPAR Strategy with regard to radioactive substances.

This Strategy was adopted at the Ministerial Meeting of the OSPAR Commission in Sintra in July 1998. It 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" [7];
- 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".

This case study focuses, at the international level on the organisation of the OSPAR Commission and the committee on radioactive substances (RSC). At the national level (France), the study focuses on the case of reprocessing plants. Several problems are raised in OSPAR, especially the interpretation of the objective of 2020, the definition of environmental quality criteria and reprocessing versus non-reprocessing options. Documents on the strategies developed by each country (for example, “national plans” for achieving the objective of the Strategy ; national reports on the implementation of BAT ; implementation of decisions concerning the review of the authorisation of discharges for reprocessing plants) are being prepared to present the way they will reach the objectives of 2020. These documents were analysed in the case study.

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[7] The objective of 2000 was left out in the Ministerial Meeting of Bremen in June 2003.

Interviews have been conducted with the following actors :

- The OSPAR Secretariat ;
- A representative of the French Ministry of Industry in charge of presenting the French strategy at the Radioactive Substances Committee ;
- The deputy-director of the Nuclear Safety Authority (DGSNR) ;
- A representative of COGEMA, participating to the OSPAR Commission as a member of the WNA (World Nuclear Association) NGO ;
- A representative of Greenpeace France ;
- A representative of a local NGO (ACRO).

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". Greenpeace does not hesitate to underline the contradiction of some states' position at the international level and at the national level. For the OSPAR secretary, two ways of thinking can be singled out at OSPAR : the "economic view" (risks-benefits) and the "absolute view" (pure environment).

The national authorities (DGEMP and DGSNR) emphasize the ambiguity of the Declaration of Sintra, particularly the time frame 2020, and the difficulty to implement the objectives of Sintra. 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. Furthermore, while COGEMA advocates the normalisation, DGSNR considers that normalisation does not comply with the goals of the OSPAR Convention which aims at reducing the discharges in absolute value. On this last point, COGEMA is very concerned by the choice of the base-period, which it feels should reflect the efforts already made in the reduction of radioactive discharges.

The 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 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.

4.2.3. The OSPAR Convention for chemical releases

The study focussed on decisions concerning mercury cell chloro- alkali production.

In 1990, a recommendation was made by PARCOM to phase out mercury cell chloro-alkali plants by 2010 (PARCOM decision 90/03) with the aim of reaching a zero 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 grounds, and on technical criteria.
On the legal side, the chloro industry argued that the phase-out was not a binding decision. 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 were to close in 2010 with no incentive to reduce the level

of 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 chloro-alkali plants were not all similar). Then, impact assessment was made around the sites on air, water, vegetables, etc. 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 for gathering and harmonizing the data. Importantly, OSPAR meetings made it possible to share this with OSPAR Contracting Parties.

During two years informal inter-sessional 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 carried out a review of the 90/3 decision with the industry. The positions of the Contracting Parties were divergent because they were at different stages in the implementation of the recommendation. Eventually, OSPAR considered that it was 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.

Interviews have been conducted with the following actors :

- representatives of Eurochlor and Atofina
- a representative of Greenpeace
- OSPAR secretariat
- a representative of the French Ministry of Environment

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 autonomous Contracting Parties will and ability 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.

4.2.4. First elements of analysis of the risk governance process

4.2.4.1. The guiding principles of the decision-making process

According to the OSPAR Convention, 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

Hazardous substances

As regards hazardous substances more specifically, the Sintra strategy in 1998 added the principle of substitution, i.e. the substitution of hazardous substances by less hazardous substances or preferably non-hazardous substances where such alternatives are available. The phase-out recommendation included in the 90/3 decision on mercury releases is based on that principle. Also important is the development of BAT. The scope of these techniques is wide. They can cover the substitution principle. For instance, the BAT for mercury technology in the 2001 BREF in the chloro alkali industry is considered to be a shift to membrane technology. BAT are the result of an investigation process which combines innovation and risk assessment : what are the newest techniques used, what are their relative impact on the environment, on safety at work and on products' safety ?

Radioactive substances

As far as radioactive substances are concerned, the question of substitution introduces a debate and is at the origin of divergences among the contracting parties. Does it apply at the level of the whole practice (i.e. electricity production with nuclear energy)? Does it mean to discuss the justification of the reprocessing option?

In fact, the current concern on radioactive discharges within OSPAR is focused on the two reprocessing plants and thus the debate on substitution is a rather difficult issue: two countries (France and UK) have direct economic interests in the debate while the others are less concerned by the economic point of view. In this perspective, it should

be noted that the OSPAR decision related to the "reprocessing option" (favouring the non-reprocessing option) was signed by the contracting parties, except France and UK, and thus do not apply to these countries which are the only one having reprocessing plants.

Therefore, although it seems impossible to reach a consensus among the contracting parties within OSPAR on the issue of the justification of the reprocessing option, it creates a forum for discussing the issue and providing arguments in favour and against the different possible strategies. In this context, OSPAR creates the debate but does not impose solutions.

4.2.4.2. The implementation of decisions and review

A basic principle in OSPAR convention is that the implementation of decisions and even more of BAT is a matter for contracting parties. They specify the objectives set in an OSPAR decision or apply the BATs defined by the Convention taking into account the national and local context. It has to be remembered that the "decisions" or the "recommendations" are voted either with unanimity, or by a three-quarters majority vote. In the latter case, a "decision" only binds the Contracting Parties who voted for it. The "recommendations" have no binding force.

The commitment taken by contracting parties still is that they have to show that they act consistently with their vote, and they cannot avoid presenting in front of other parties the efforts they make to implement every decision they supported.

Hazardous substances

An interesting feature of BAT is that it is not a binding tool, and its application needs to be tailored or adapted according to the technological and economic situation of the plant. The fact that eventually OSPAR decided that it could not change the 90/3 recommendation, either by postponing the deadline, or by turning the recommendation into a binding decision reflects the low capacity of enforcement and control that the Convention has on Contracting parties. In this loose control may also lie its ability to set ambitious goals. In the meantime OSPAR continues to request a review of the 90/3 implementation from contracting parties. This is the only tool to check progress, but it is efficient in putting the onus on contracting parties. Although the time-table of the

original phase-out recommendation might not eventually be respected by all concerned countries, the recommendation is progressively being implemented.

Radioactive substances

Within the framework of assessing the implementation of OSPAR Strategy for radioactive substances, the contracting parties have to present a national plan. It is the responsibility of the contracting parties to produce this plan, but OSPAR cannot evaluate the plan, it just takes note of it. However, even if the OSPAR decisions or recommendations are not legally binding for the contracting parties, it appears that the political decisions taken by the countries in the framework of the OSPAR Strategy (like for example the Sintra or Bremen statements) progressively commit the contracting parties towards the implementation of the strategy.

4.2.4.3. The role of expertise

The work achieved within OSPAR often seems to be the result of tensions between political discussions and technical arguments.

Hazardous substances

The two main principles that drive OSPAR process in governing hazardous substances are substitution and Best Available Techniques :

- The input of expertise in the discussion over substitution is rather limited. As the mercury cell example has shown, arguments on substitution focus on justification and — once the possibility of substitution is agreed — on the terms of a shift from one technology to another, for instance on the time frame.

- The preparation of BAT implies important scientific and technical efforts to gather data, develop and assess technologies. Nonetheless the delineation between expertise and negotiation is uncertain as soon as BAT have to be interpreted and implemented. As stressed above, a BAT potentially contains recommendations of substitution. The implementation of BAT gives room for negotiation at national or local level.

Radioactive substances

Technical issues are discussed in the OSPAR Commission: political objectives are translated into technical issues which are then considered by the relevant experts. Positions adopted result from compromise and negotiations between the actors attending the meetings (Contracting Parties and observers). The interpretation of experts is not only based on technical competence but it also reflects the political strategies adopted by each participant. So experts can have an active role on political decisions by turning the discussions into one option or the other. For example, talking about "zero discharges" has not got the same consequences as talking about "zero impact" on man.

4.2.4.4. The stakeholders involvement process : influence of stakeholders' watchfulness on trust and confidence

The OSPAR decision-making process is characterized by the integration of technical and political arguments. Nonetheless there is important assessment work carried out within OSPAR to estimate and follow the quality of the marine environment, the releases of the various substances, and the review of the efforts made by each contracting party.

Hazardous substances

The information on hazardous substances is scattered and is provided in different formats according to each national practice. Data are provided by national authorities and, when possible, by the industry. Gathering, harmonizing and updating data are important functions of the Convention. There are opportunities for stakeholders, both the industry and the environmental protection NGOs, to provide additional data and to comment and argue on the data that are available. This gives credibility to the quality of the assessment and is a guarantee that, to some extent, difficult areas in an assessment are scrutinised.

The participation of stakeholders in the DYNAMEC process where hazardous substances are assessed and prioritised also strengthens the integration of various viewpoints in the selection of substances. It is possible that the dialogue between contracting parties and stakeholders makes more transparent the way this selection process meets the overall goal of OSPAR, i.e. the protection of the marine environment.

There is input both from the industry and the environmental protection NGOs to enhance the relevance of OSPAR activities towards its primary goals. This may result in a more trustworthy governance process. This is the reason why both the industry and the "green" NGOs express satisfaction with OSPAR. Their views are listened to, and the principles set out in the Convention (precautionary principle and BAT) give them a basis to influence the actions taken. However most issues are not associated with local concerns around chemical sites. OSPAR decisions and work do not seem to be visible to the wider public.

Radioactive substances

As noted by the various stakeholders we met, the OSPAR Convention is mainly seen as a political process, where the Contracting parties commit themselves towards the progressive implementation of the Strategy.

The preparation of the national plan for France was made by the DGEMP with the technical support of IRSN. Moreover, the DGSNR took part in the validation of the document. However, no consultation of the NGO's was carried out in the preparation of the national plan. The representative of a local NGO around the COGEMA-La Hague plant regrets that the debate is not open to participants other than the operators and the administration, and that the local actors do not have a role to play in the drawing-up of the national plan or in the determination of the technical aspects of the strategy (baselines, radionuclides to be selected , definition of environmental quality criteria, etc.).

The NGO Greenpeace, participating as observer to the OSPAR Commission, notes that it is important for them to be able to provide their opinion as they act as a pressure group aiming to enlarge the scope of the debate and introduce new issues. Even if they do not sign the decisions, they can have an influence if some contracting parties adopt their point of view.

4.3. The abandonment of the Brent Spar offshore installation

4.3.1. Presentation of the case study

In the mid 1990s Shell decided to abandon its Brent Spar storage installation in the UK sector of the North Sea. To this end it sought and received approval from the UK government 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.

The response of the different actors to this situation is telling. While the UK government insisted on the integrity of the approved disposal plan, Shell, against the government's wishes and to the annoyance of many scientists, abandoned the plan and effectively went back to the drawing board. It began by commissioning an independent survey of the installation, which demonstrated that Shell's claims about the levels of toxic waste rather than those of its critics were substantially correct.

Significantly, however, even before the results of the survey were known, the company announced a new strategy involving an international engineering competition, an open communications approach and dialogue with stakeholders designed and organised by an independent and mutually-acceptable third party. In other words, it had recognised that irrespective of the scientific answer to the problem of disposal, the previous regulatory approach had completely failed to take account of public concerns. It also recognised that certain questions did not have a purely scientific answer and that value judgements were involved – in other words, that technical feasibility did not equal social acceptability.

The net effect of the exercise was the recommendation and approval of a new BPEO in the form of a quay development in Norway – a plan that enjoyed the support of all stakeholders and which was ultimately approved by the regulator.

The fact that it was ultimately effectively conceded by all sides that the original deep-water disposal plan was indeed the best option available at the time seems to indicate that, irrespective of the technical integrity of a regulatory decision, the *process* by which it is reached is of crucial importance. It also indicates that scientific and regulatory judgements about what constitutes environmental harm may not always override societal judgements.

4.3.2. Development of the case study

In view of the above summary and the aims of the overall project, it was clear that there are four key actors whom the study should focus upon as the most important sources of information:

- Shell, the owner and operator of the installation
- DTI Offshore Decommissioning Unit, the regulator
- Greenpeace, the NGO responsible for bringing the issue to public attention
- Environment Council, the body responsible for designing and running the Stakeholder Dialogue process

Of these actors, three responded immediately and positively to the team's requests for interviews and documentary information: Shell, DTI and the person responsible for the Stakeholder Dialogue process who now works for another organisation. For a variety of practical reasons, it has taken much longer to reach a point where an interview could be arranged with Greenpeace.

To date, interviews have been conducted with the relevant personnel at Shell and the DTI and also with the person responsible for facilitating the Stakeholder Dialogue process on behalf of the Environment Council.

4.3.3. First elements of analysis of the risk governance process

A striking finding of the study conducted to date has been the extent to which both the operator and the regulator regarded their experience with the Brent Spar Stakeholder Dialogue process as a turning point in the way they view their relationships with other actors and the way they work on a day-to-day basis. Both admitted that they entered the process with a significant degree of scepticism and concern, but both equally conceded

that they had found the experience to be positive and to have encouraged them to adopt an inclusive approach more generally in their work.

Our interviews with these actors and our review of the documentation available concerning this case has thus allowed us to form some views about the characteristics of successful inclusive risk governance processes, while clearly recognising that some sort of blueprint is not going to be easy, or even possible, to produce.

Among these findings, one that stands out in particular is the important role played by independent third parties – in this case to provide an engineering assessment of the installation and to design and run the dialogue process. This reflects an important change in the way that public authorities are perceived, no longer necessarily as independent and concerned with the public interest, but rather as somehow overly closely connected with those they are regulating. In the absence of the implicit confidence that, at least rhetorically, is supposed to reside in these authorities, an independent third party, provided it is one that enjoys the confidence of all parties, can prove extremely efficient and effective in removing much of the disagreement and hostility that can characterise such situations. This is a finding that merits further analysis, as it seems to have significant implications for risk governance processes in contemporary conditions where many observers point to a lack of public trust and confidence in authorities.

Our interview with the Stakeholder Dialogue process facilitator has provided us with a great deal of useful information in this regard as they have much experience drawn from this and other such exercises. There do appear to be generalisable lessons, even if care must be taken to tailor any stakeholder inclusion to the precise context in any given case. Where this is done sensitively, however, then the rewards may be significant, as in the Brent Spar case. Here, for example, when confronted with a range of disposal options, all of which were technically feasible and all of which involved a similar environmental impact, the stakeholders identified criteria that they could use to reach a reasoned decision about which option to recommend to the operator—specifically the energy balance test (which favours options showing a positive energy balance, in which more energy is saved than is expended) and the waste hierarchy (which prefers reuse options to recycling options and these in turn to straightforward disposal options).

Equally, this work has also allowed us 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. Either way, this is the sort of issue that we hope to be able to speak to Greenpeace about in the near future.

APPENDIX 1. – COMMON INTERDICIPLINARY ANALYSIS FRAMEWORK

The criteria presented in this appendix have been used for the assessment of the case studies in order to ensure a consistent analysis of the cases in the different countries involved, and to progress in the understanding of key dimensions in the quality of risk governance processes. These criteria do not represent a strict questionnaire for the surveys, but some dimension of risk governance which have been addressed when analysing the different case studies.

Though these different criteria are much interlinked, it is possible to identify different dimensions which will be developed hereafter:

- The guiding principles of the decision-making process
- The role of expertise
- The stakeholders involvement process
- The factors integrated into the decision-framing and decision-taking processes
- The implementation of decisions and review

It can be noticed that these criteria result from the TRUSTNET project[8] dedicated to risk governance in Europe, as well as from the reflections of the RISGOV team.

1. The guiding principles of the decision-making process

The governance of hazardous activities is based on a series of basic principles which guide the decision-making process. These principles are often referred to as a support to decision and action : prevention, precaution, substitution, justification, risk assessment, norm setting to name but a few…. The ways these principles are introduced, interpreted and articulated in the decision-making process may differ significantly from one hazardous context to another.

The studies will explain the rationales of these principles in the specific cases observed.

- What is the rationale of the risk governance principles behind the decision-making process ?

[8] For more information on TRUSTNET, see web-site : http://www.trustnetgovernance.com

- What are the objective of risk governance in the case : avoid risk, question the justification of the hazardous activity, set norms to limit risk at emission, set norms to limit risk at environment (concentration), develop Best Available Techniques…?
- How do these principles contribute to improve the governance of hazardous activities ? In which way do they enhance improvement ? What are the possible blockages in their implementation ?

2. The role of expertise

A set of criteria relates to a specific part of the process, i.e. expertise. The purpose of these criteria is to clarify the role of expertise in the decision-making process, and the ways it informs the process taking into account uncertainties, value-judgements, and controversies.

- How are uncertainties identified ?
- Are dissenting views encouraged ? How are they reported ?
- To what extent are facts and values distinguished ?
- How are the role and scope of expertise defined ?
- How do experts declare their interests ?

3. The stakeholders involvement process: influence of stakeholders' watchfulness on trust and confidence

The trust and confidence model proposed in TRUSTNET is useful to analyse how stakeholders involved in a dialogue on a risk situation can improve trust and confidence where these have been previously damaged or challenged.

Confidence is the everyday relation each individual usually develops with his/her environment : it reflects a situation where the individual feels carefree, is familiar enough with a technical system and the people in charge of its operation not to worry about it. Blockage in decision regarding hazardous activities often results from a crisis of confidence. When broken, confidence cannot be built again from scratch. As a prerequisite it is necessary that some key stakeholders – first opposed following this crisis of confidence – rebuilds trust one in the other. Unlike confidence, trust is a personal relationship between individuals; it is experienced, tested and strengthened

through mutual dialogue and confrontation. Once it is developed, this mutual trust brings reflected confidence to the larger community concerned by the hazardous activity.

Some stakeholders play a key role in rebuilding trust : they relay the questions and concerns of a large part of the community and raise them in front of the institutions in charge of the operation and control of the hazardous activities. These *relay actors* have direct contact with the industry operators and the regulators. They try hard to receive direct answers to their questions. This confrontational dialogue is a major element in trust building, but also in confidence building. This is because the *relay* actors test and experience the operators' and regulators' trustworthiness that the community as a whole may gain confidence again in the technical operation of hazardous activities.

One important dimension in this trust building process is the fact that *relay* actors by their questioning attitude make more explicit to the community the differing roles of the two institutions responsible for hazardous activities, the operator on the one hand, the regulator on the other hand.

As a support in this reflection three graphs are proposed at the end of this Appendix.

The following questions are helpful to address this question :

- Why is stakeholder involvement needed ?
    - Blockage ?
    - Distrust ?
- who are the stakeholders involved (operators, regulators, experts, elected representatives, NGOs…) ?
- how are they represented, participating ?
- how are stakeholders encouraged and enabled to take part in the decision-making process ?
- what is the aim of the stakeholder involvement process ?
    - is trust a goal shared by the various stakeholders involved ?
    - is there a value in the way the process itself is run ?

The question of stakeholder involvement and trust is connected with expertise (see above) and integration (see below). In this respect there is interest in considering how the ways expert advice is secured and used and contributes to building social trust.

4. The factors integrated into the decision framing and decision taking processes

As far as risk governance is concerned, the decision-making process often relates to complex situations and need to consider in a comprehensive way the various (and often competing) factors which are at stake in risk governance (risk, sustainable development...) and the different goals the decision-making process is expected to meet (protection, agreement, equity...).

This implies that eventually the decision-making process integrates these different factors to come up with a decision. This integration may be carried out in different ways. Integration can be achieved by the ultimate decision-taker at the very end of the process. Alternatively, it can be made by the various stakeholders involved in the framing of the decision before the decision is formally taken.

The questions below can be used to characterize how the decision making process can integrate – beside scientific aspects – society needs all along the decision path.

- How does the decision-making process take into account the following factors :
  - Extent of social trust
  - Extent of uncertainties
  - Nature and complexity of the problem
  - Dilemmas, trade-offs
  - Importance of reaching broad agreement

- Beyond risk, what kind of consideration is given to the following items :
  - Benefits
  - Justification of the activity
  - Sustainable development
  - Equity

- How is scientific information and expert advice used ?
  - Are they put in the public domain ?
  - What is the relevance of these in the decision-making process ?
  - How do scientific information and expert advice contribute to a good decision ?
  - How are they put in perspective with other factors ?
- To what extent is the decision-making process sensitive to local context ?
- How is the local factors balanced with equity and utility ?
- How does the decision-making process take account of the cost of protective measures ?
- How does the decision-making process give room to subsidiarity and for norm-setting at the local level ?
- How does the process enable stakeholders to identify different players ? (differentiation of the roles of the players : operator =/= regulator)
- How do stakeholders perceive their contribution and role in the decision-making process ?

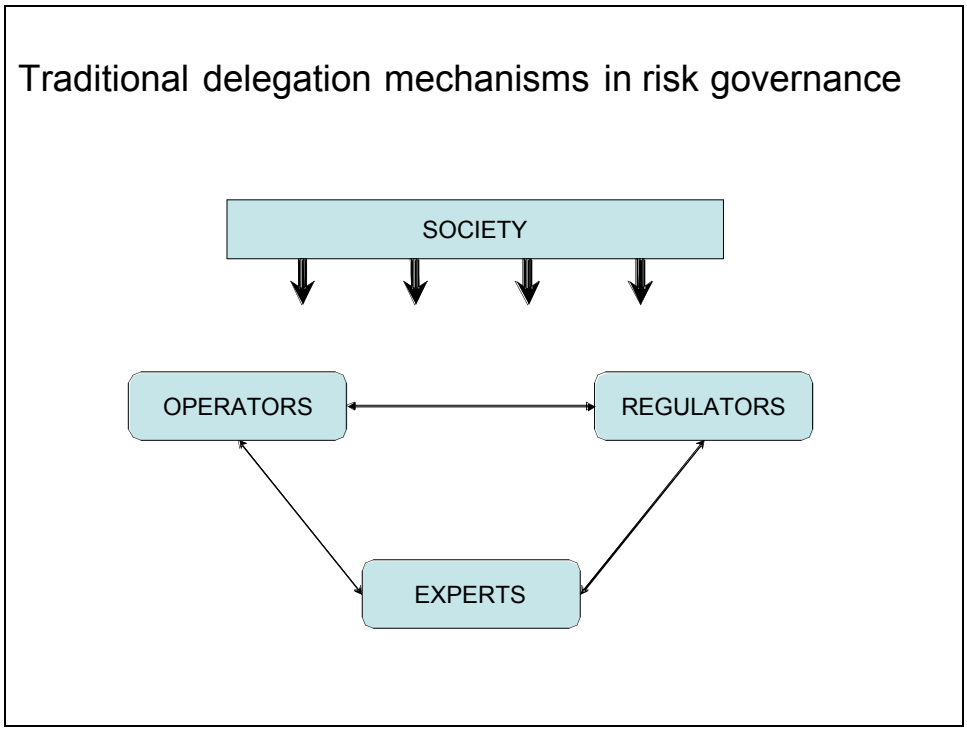
5. The implementation of decisions and review

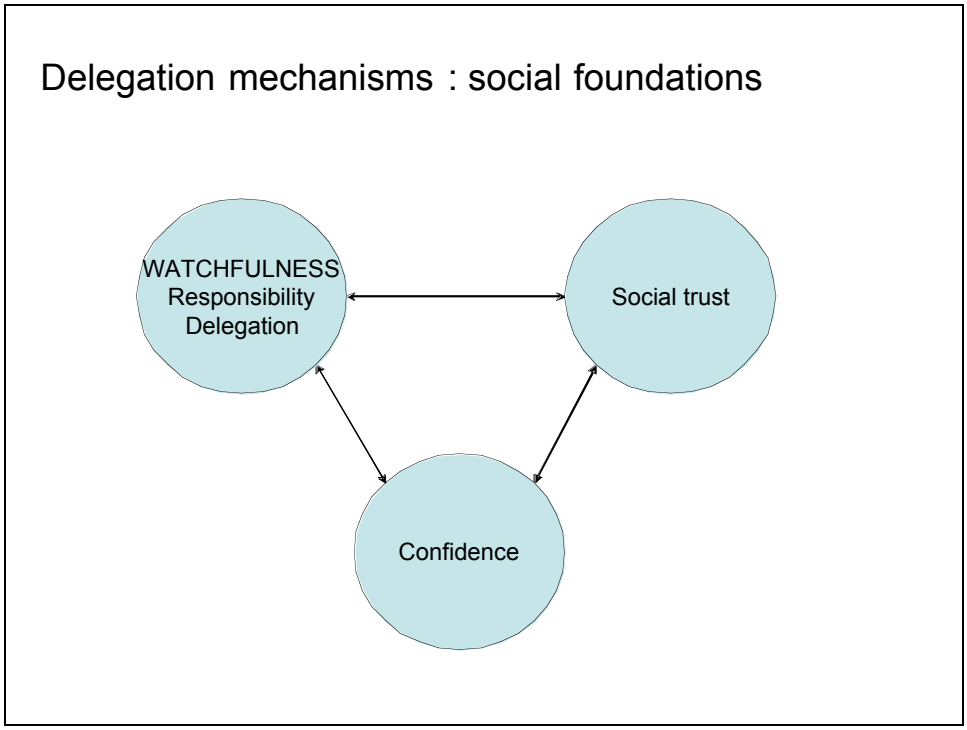
Eventually the decision-making process in itself will be evaluated in its ability to convey the different dimensions of risk governance, but also to follow up and review decisions against change. The decision-making process indeed does not end with one decision. It also includes capacities to follow-up and review decisions to check whether they properly answer the issue as it was framed and to take additional measures if required.

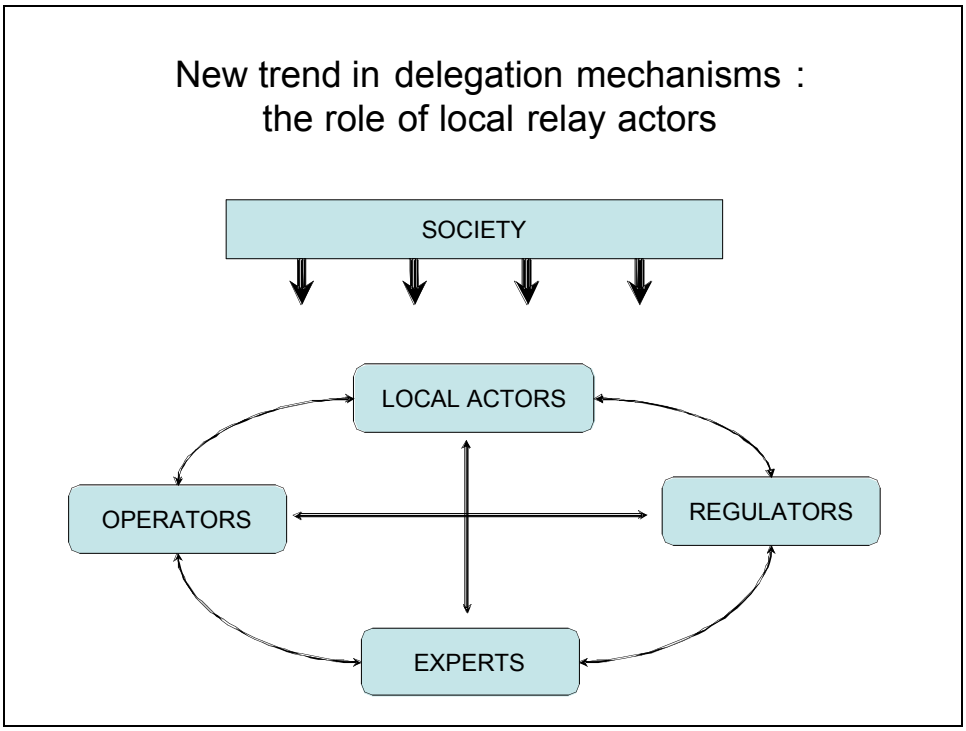
- What are the mechanisms for revising the decision when the conditions for the decision have changed ?
- How is the implementation of decisions evaluated ? How regularly ? What kind of system provides for check and progress ?

STAKEHOLDER INVOLVEMENT

These graphs have been proposed for discussion within the research team.






New trend in delegation mechanisms :
the role of local relay actors
SOCIETY
LOCAL ACTORS
OPERATORS
REGULATORS
EXPERTS