EUROPEAN COMMISSION

nuclear science and technology

Comparative Analysis of Risk Governance for Radiological and Chemical Discharges of Industrial Installations

(RISKGOV)

Contract N° FIKR-CT-2001-00168

Final report
(summary)

Work performed as part of the European Atomic Energy Community's research and training programme in the field of nuclear energy 1998-2002 (Fifth Framework Programme)
Key action: Nuclear fission
Area: Radiation protection

2007

Directorate-General for Research
Euratom

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Objectives

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.

Methodology

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
- Management of air quality around the industrial site of Étang de Berre in France
- Implementation of the OSPAR Convention for chemical and radioactive releases
- The abandonment of the Brent Spar offshore installation.

Based on the findings of the European TRUSTNET project[1] and in order to ensure a consistent analysis of the case studies, as well as to progress in the understanding of key features in the quality of 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-making processes;
e) The implementation of decisions and review.

This analysis was performed by a multidisciplinary research team and based notably on interviews with key stakeholders directly involved in these innovative risk governance processes.

[1] www.trustnetgovernance.com

Presentation of the case studies on innovative risk governance processes

The following paragraphs provide a brief description of the risk governance processes studied in the project. Detailed reports are available on the RISKGOV website[2].

The re-authorisation of radioactive discharges from the Devonport Royal Dockyard in the UK

The British Royal Navy has used the dockyard at Devonport, Plymouth, for over 300 years. The dockyard, located in the city, has been very important economically to the city; however its role is now reduced. In the mid-1980s, the British Government decided that refitting of nuclear weapon powered submarines should be moved from Rosyth and also be carried out at Devonport. This activity required a re-authorisation from the Environment Agency, notably because of a change in the radioactive waste streams (e.g. tritium) from the dockyard. The Environment Agency decided to go beyond the regulatory requirements and launched a programme of engagement and consultation with the public. The main aim of the Environment Agency appears to have been to come to a well informed decision regarding the re-authorisation, rather than to reach a consensus. It went about this by holding publicised public meetings and 'one-to-one' surgeries, as well as through general media relations. The consultation 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 the operator. The large-scale engagement of stakeholders for the Devonport authorisation was quite new when it was carried out. This approach has since been adopted more widely.

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

COGEMA's spent-fuel reprocessing plants are located in La Hague 20 km west of Cherbourg and started operation in 1966. In 1995 and 1997, epidemiological studies were published, questioning the excess of incidence of leukaemia among children living around the plants. They caused strong reactions among the local population, and particularly among mothers of children who organized themselves into a group called "Les Mères en colère" (Angry Mothers) and published a manifesto asking for "clear and objective information". In this context, the ministries of health and of environment set up expert groups to further investigate epidemiological and radioecological aspects. The working group on radioecology, called "Groupe radioécologie Nord-Cotentin (GRNC)", included experts from authorities, expertise organisations, operators as well as experts from a number of local and national associations and European organisations. Broadening the discussions, the GRNC has contributed to improving the quality of the work, and undoubtedly 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. It has also undoubtedly assisted the stakeholders in reaching a better understanding of each other's logic and values, and eventually contributed to a better mutual understanding. Furthermore, the regular contacts established with the local stakeholders were key elements for improving the credibility of the work. In the meantime, for regulatory reasons, COGEMA asked for a revision of its licensing authorisations. For the first time, a pluralistic experts group was asked by the safety authority to give an advice on the documents provided by COGEMA. It was an opportunity for public debates and it pointed out needs for improvement in terms of local stakeholders involvement.

[2] www.riskgov.com

Risk communication and dialogue procedures with the local population around Barsebäck nuclear power plant in Sweden

Barsebäck, started in 1975, has been one of the most debated and controversial power plants in Sweden, partly because of its location some 20 kilometres from Copenhagen. In 1998 the Swedish Government chose Barsebäck to be the first nuclear power plant in Sweden to take one of its reactors out of action. The local liaison committee (LCC) started as all similar LLCs, in 1981, as a direct result of the referendum on Swedish nuclear power in 1980. The LCC members are nominated by the local governments and represent the local political parties. There is also a Danish observer, with no right to vote. The role of the LLC is not so much to have a direct influence over particular decisions nor by being experts or employing experts, albeit they have that right. Their obligation to supply information to the public has evolved to a role of scrutinizing the information given by the media, agencies (radiation protection and safety authorities) and industry, and informing the public only when they have a diverting view. Their role is one of a democratic and local access to an informed insight into all this, with the possibility to detect changes in both public concerns and in the trustworthiness of industry and agencies. This order of risk governance rests on two key factors: the independence and incorruptness of the agencies and the general knowledge of the LLC members. The incorruptness of the agencies 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 is maintained through education, the access to information, the exchange of information and experiences with other LLCs and within the GMF (European Nuclear Municipalities Network).

Control of radioactive discharge around the Gravelines nuclear power plant (NPP) by the local commission of information in France

The Gravelines NPP, operating since 1980, is located near Dunkerque. Considering the persisting conflicting climate after the starting of the first reactors, the mayor of Gravelines initiated the creation of a local commission for information (CLI) in 1987. Its members are nominated by a departmental decree. Members of the CLI have already launched several actions, notably for understanding and following up the presence of plutonium in sediments as well as for requesting the implementation of prevention actions concerning the risk of oil pollution. They are in a vigilant position, taking care that questions are asked to the operator, either by the public authority or by themselves. For improving their understanding, confidence and ability to question the choices of the operator, they participate from time to time to the NPP's inspections led by the safety authority. The questioning of the members of the CLI allows on one hand to question and to anticipate the 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).

The dialogue forum established by a chemical industry – Rohm and Hass – in Sweden

In 1998 Rohm and Haas Nordiska in Landskrona formed a community advisory committee (CAC) after the model of other companies within the 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 committee does not have any decision-making mandate but is purely advisory. The CAC was not formed to deal with a specific question but as part of a process to engage in an ongoing dialogue with the local community. The CAC initiative is part of the Responsible Care programme and those other risk communication efforts that Rohm and Haas has engaged in:

the attitude surveys, the newsletters to the local households, and the distribution of an environmental report. The decisions are made within the company, while the CAC plays an altogether different role in providing the general public a unique insight into these decisions and dealings of the company.

Management of air quality around the industrial site of Étang de Berre in France

The Étang de Berre is located in the south of France, close to Marseille. This area is characterised by a very high density of industries, leading to the emission of many air pollutants. In this area, the Permanent Board for Industrial Pollution Prevention (SPPPI) was created in 1971 to temper with the local opposition to the industrial development. This board is chaired by a representative of the state (the prefect) and its *main mission is to group around the table some actors having a priori opposite interests.* The Working Group on Sulphur Dioxide (SO_2 WG) was created at the very beginning of the SPPPI as this pollutant was considered to be one of the main contributors to air pollution. Its main missions are to elaborate action plans in order to meet the quality objectives and the limit values to be applied in 2005 and to improve the emergency actions to be undertaken in case of high SO_2 concentration peaks. Since 2001, several local commissions of information have been created in the county of Bouches-du-Rhône at the initiative of operators, local NGOs or local authorities. The issues discussed in these commissions concern industrial risks and environmental pollution or nuisances, and the topics addressed in these meetings are closer to the local population concerns than those discussed during the SPPPI meetings. A central actor of expertise is AIRFOBEP, which provides the results of the measurements of air quality. The fact that the administrative board of this association and its general assembly are composed by representatives of four colleges (state services, operators, local authorities and NGOs) contributes to the credibility of its results. This credibility was reinforced when the chairmanship of the association was given to a mayor instead of an operator.

Implementation of the OSPAR convention for chemical and radioactive releases

The OSPAR Convention for the protection of the marine environment of the North-East Atlantic was signed in Paris in 1992 and entered into force in 1998. It covers both chemical and radioactive releases. The contracting parties are the 16 states which have signed the OSPAR Convention. At a ministerial level, they are represented by the ministries responsible for the protection of the environment. At the commission level, the heads of delegation stand for different national authorities. The European Union is represented, and observers (i.e. members of non-governmental organisations, intergovernmental organisations, and any state which is a non-contracting party) are also involved. The OSPAR governance process can be characterised as pyramidal: the commission votes on the proposals for recommendations and decisions prepared by the committees on the basis of the technical work of the working groups. Observers do not have the right to vote but can submit any documents they consider to be relevant. The risk governance process is based on the search of trade-offs through dialogue. In a step-wise approach the process is steadily oriented towards the reduction of the marine pollution. According to the OSPAR Convention the measures and steps taken to reduce or eliminate pollution associated with hazardous and radioactive substances shall apply: the precautionary principle, the polluter-pays principle, best available techniques and best environmental practice. The 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. The OSPAR decision-making process is indeed characterized by the integration of technical and political views. Moreover there is also important assessment work achieved 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.

The abandonment of the Brent Spar offshore platform

The UK continental shelf (UKCS) has been the scene of hydrocarbon exploration and production since the mid-1960s. One of the first installations to be decommissioned was the Brent Spar offshore platform, constructed in 1975. This was a unique structure in that it was neither a rig nor a platform, but rather a floating oil storage buoy. Discussions between Shell and the Department of Trade and Industry (DTI) began in 1992, with some thirteen disposal options initially being considered. Of these, two were finally considered in detail: deep water disposal and horizontal dismantling. In May 1995, after an examination, Shell was granted a licence to dispose of the Brent Spar at the North Feni Ridge in the North Atlantic. Following reports of the Greenpeace occupation of the installation, and especially the dramatic footage shot as activists boarded it, the disposal of the Brent Spar, from being a peripheral issue of technical interest only to regulators and industry, had become a major international issue touching the whole question of the attitudes of government and industry to ocean dumping specifically and environmental protection in general. The government's response was extremely robust, defending the regulators decision. Shell, on the other hand, wavered in the face of the dramatic effects on its business across Europe and finally announced that it was abandoning the deep water disposal plan. It was at this point that the innovative approach began to emerge. Faced with such a serious problem, the company first move was to commission an independent foundation to carry out an audit of the contents of the Brent Spar with the hope of resolving the conflict between its figures and those put forward by Greenpeace. In the event, Greenpeace admitted errors in its sampling process even before the publication of this report. Shell also announced a new 'Way Forward', placing a notice in the Official Journal seeking expressions of interest from contractors regarding the disposal of the Brent Spar. At this point, Shell also announced that there would be a stakeholder dialogue process with a view to assisting the identification of the ultimate solution. The stakeholder dialogue process, led by the Environment Council, served two important functions. First of all, it served to build trust between the stakeholders, inasmuch as by the end of the process all agreed that the deep water disposal was indeed the best practicable environmental option. It also allowed the operator and the regulator to see that even a technically sound decision on disposal may not be socially acceptable and that stakeholders may be prepared to accept compromises on one dimension of environmental protection in order to gain advantages on another.

Comparative analysis of the risk governance processes from the case studies

Confronted with the common themes and elements emerging from the common interdisciplinary analysis, the challenge facing the team was to attempt to move beyond the simple list and to offer a coherent picture of their inter-relationships. Working with the common themes and elements and referring back to case studies, the key features of innovative risk governance processes were gradually pointed out. As the case studies show there are many ways of reflecting the themes and elements identified as important. The approach that is therefore proposed is that these themes and elements should be considered by the various stakeholders with a view to determining their relative importance in a given context and how they might best be achieved or implemented as appropriate. The first major step in this analysis was to achieve a grouping of the various themes and elements. The result was that they could be grouped under five headings as follows:

(a) Initiative

(b) Process elements

Inclusiveness of participation; inclusiveness of issues; collective and mutual learning

(c) Governance culture

Clarity on the nature of the process; quality of the partnership; multi-level governance; resilience of the process

(d) Evaluation and re-initiation

(e) Outcomes

Trust and confidence; acceptance/acceptability of decisions; sustainable development

Broadly speaking, following the *initiation* of the process, the *process elements* are seen as vital components that must be dealt with from the outset. Insofar as these are successfully implemented, they are seen to produce and support a *governance culture* that is well adapted to deal with complex problems, respond to emergent issues and meet societal expectations regarding the governance of risk issues. The fact that the overall process is concerned with learning and adaptation to emergent issues means that evaluation is a vital component, which provides feedback about its success and/or the need for improvement. This allows for the re-initiation of the process, and its understanding as iterative, adaptive and evolving rather than as linear and deterministic. Insofar as a risk governance process operates in this way, the framework suggests that there is a higher probability of achieving or at least moving closer to the objectives of trust and confidence, acceptance and acceptability of decisions and sustainable development.

Exploitation – dissemination

RISKGOV seeks to identify from its case studies examples of practices that can be emulated elsewhere as well as pitfalls and tension points from which positive lessons can equally be learned. This analysis was performed in discussion with the stakeholders and with reference to the emerging findings of the TRUSTNET work, in order to prepare a set of criteria for assessing the quality of the governance of risk activities and the benefits offered by the approach.

It is not clear that this analysis is the last word on this subject. Rather it is now something that has to be tested and hopefully improved in the context of new risk governance processes. To this end, a self-evaluation tool was also developed, which is included in the final report. This tool is in essence a first attempt to make the scheme operational, albeit in a modest way. It is designed to allow those designing or involved in a risk governance process to assess its quality. For those initiating such a process the benefit will hopefully be that it will allow them to determine whether it is functioning effectively and efficiently and also to foresee problems that might jeopardise its continuation. For those involved as other stakeholders in such a process the hope is that it will provide them with some standard, as it were, against which to judge its adequacy and upon which to base claims for improvements. Furthermore, because the criteria included in it are directly related to the elements of the scheme of risk governance emerging from the RISKGOV project, feedback from stakeholders should also allow us to test, amend and refine the scheme itself. In this regard, there will be an early opportunity to do precisely this in the context of the TRUSTNET in Action project. This recently commenced initiative brings together a range innovative risk governance processes that are newly established or in the process of establishment and which are therefore in a good position to examine and test the framework.

It may also be the case, of course, that this empirical testing of the analysis can contribute to the debate about governance at the theoretical level. In that perspective, a seminar involving different teams working in the field of risk governance and some specialists from the fields of political science and regulatory theory could be organised. It would seem appropriate to consider arranging such a seminar as an additional part of the dissemination phase of the RISKGOV project in order to confront the RISKGOV findings – both at the level of the individual case studies and at that of the lessons drawn from their analysis by the project team – with the current most influential theoretical accounts of risk and its governance.