Implementation of Local Committee in the vicinity of industrial Seveso sites, France

Myriam MERAD*
*e-mail myriam.merad@ineris.fr
*INERIS, Accidental Risks Division, BP 2, F-60550 VERNEUIL EN HALATTE, France

Abstract

As a result of the Toulouse catastrophe of the 21st September 2001, a new law on the Prevention of Technological and Natural Risks has introduced the creation of "Local Committees for Information and Concerted Actions". The aim of the Local Committees is to promote debates on technological risks among the stakeholders and increase transparency in the decision-making process related to risks resulting in particular from "Seveso" industrial sites.

Introduction

The Toulouse accident on September 21, 2001 has revealed the inadequacy of a number of practices in major accidental risks prevention process in France.

The factory of the company "Grande Paroisse" which produced ammonic (1150 t/j), nitric acid (820 t/j), urea (12000 t/j) and ammonium nitrate was located near the center of Toulouse and distributed on nearly 70 ha of ground. This factory knew an explosion on the level of its storage section of "downgraded ammonium nitrates" (MEDD, 2001).

This explosion, which caused more than 30 deaths and thousands of wounded in a radius of 500 meters and more than 26 000 residences damaged on a radius of 3 kilometers (MEDD, 2004), marked a turning in the French regulation with the promulgation of the law n° 2003-699 of July 30, 2003 relating to the "prevention of technological and natural risks, and damages compensation". This law revealed:

1. Insufficient information of the public and a need for a stronger implication of the public in decision relating to the risks (chapter I of the law);
2. Situations where the proximity of very urbanized zones can worsen the consequences of major accidents on risky industrial sites (chapter II);
3. A need to consider the employees (as well as subcontractor employees) of risky factories and make them contribute to the risk management in the companies (chapter III);
4. A need for more adequate and more effective systems for victims compensation (chapter IV).

In order to take measures concerning the lack of information and dialogue between the actors involved in the risk prevention process, but also in the decisions related to the urbanization around industrial sites presenting a high level of risk, the law of July 30, 2003 in France proposes:

- in its article 2[1] the Prefect sets up a structure called "Local Committee of Information and Dialogue" (CLIC) for any basin comprising Seveso High Threshold sites. This structure is equipped with means by the State;
- in its article 5[1], the CLIC is associated to the elaboration of the Technological Risks Prevention Plans (PPRT);

---

[1] Article 5 de la loi 2003-699 du 30 juillet 2003 relative à la « prévention des risques technologiques et naturels, et à la réparation des dommages » : Art. L. 515-22. – « le *préfet définit les modalités de la concertation relative à l'élaboration du projet de plan de prévention des risques technologiques dans les conditions prévues à l'article L. 300-2 du code de l'urbanisme. Sont notamment associés à l'élaboration du plan de prévention des risques technologiques les exploitants des installations à l'origine du risque, les communes sur le territoire desquelles le plan doit s'appliquer, les établissements publics de coopération intercommunale compétents en matière d'urbanisme et dont le périmètre d'intervention est couvert en tout ou partie par le plan ainsi que le comité local d'information et de concertation créé en application de l'article L. 125-2.* »

- in its article 21, the CLIC must be informed of the technical information coming from the Safety Studies (EDD) to know: probability of occurrence as well as the damages of accidental evens.

The CLIC is at the same time addressee of "technical" information concerning risks and also an active actor in decisions related to urbanization control around the high threshold Seveso sites.

This paper focuses on the link between the CLIC dialogue structure and the PPRT urbanization control process.

In this paper we will first present the CLIC structure as well as different other dialogue and information structures. We will then present the urbanization control process around the Seveso High Threshold sites within the framework of the Technological Risks Prevention Plans (PPRT) and stress on revolution introduced by the CLIC in the way risks acceptability is considered in the decisions related to the prevention of the major technological risks.

The role of the dialogue and information are presented in a third part. This part insists primarily on the new shape of actor whom the dialogue introduces. To finish, this paper will present a set of methodologies aiming at avoiding and resolving possible conflicts between actors during the dialog process.

1 A new dialogue structure in major industrial risks prevention process in France

The will to provide spaces of exchange and meeting between various local actors having jointly concerns and an interest for the questions relating to the industrial environment is revealed in France through the existence of various place or structures: public investigations, local committees, Permanent Secretariats for the Prevention of Industrial Pollution (SPPPI).

These various forms of structuring the space of exchange intervene at different times during decision-making process. Our interest goes on the place of these spaces of dialogue within the framework of the control of the urbanization around Industrial site.

1.1 Spaces of information and dialogue present before the installation of the CLIC

The CLIC structure, introduced by the n° 2003-699 of July 30, 2003, comes to redraw and officially recognize the place of the coordination and dialogue between the actors involved in the industrial risks prevention process and more specially in the urbanization control process around the industrial sites.

1.1.1 The public investigation

The public investigation is a procedure established before the administrative decisions that can impact freedoms and basic rights. To this end, this procedure consists in informing and collecting the appraisals, suggestions and proposals of the public before the decision-making[2].

Governed by the law Bouchardeau n° 83-630 of July 12, 1983 relating to the "democratization of the public investigations and the environmental protection", the public investigation is a procedure initiated by the Prefect and control by an investigating police chief or a board of inquiry (if the file is sensitive) indicated by the President of the Administrative Court.

The investigating police chief (or a board of inquiry) has, starting from a departmental list of aptitude:

- To inform. He places at the disposal of the public the files and documents relating to the investigation at the beginning of the procedure.
- To organize. He can ask for additional information, decide lonely or in the presence of the petitioners of the organization of the public meetings; he can solicit the administrative judge on the realization of an expertise dependent upon the petitioner.
- To follow-up. He is in-charge of collecting all the observations and remarks and of writing a report addressed to the various administrative authorities.

[2] Article 1 of the law n° 83-630 du July 12, 1983 relative to « démocratisation des enquêtes publiques ».

It is to be specified that this type of investigation excludes from its field of application work carried out in order to prevent a "serious and immediate danger"[2].

The space of exchange is:

(i) opened to all people concerned with the decisions;

(ii) centered on a decision;

(iii) limited in the time. Upstream of the decision-making but downstream of the technical elements having contributed to framing the decision.

1.1.2 The Permanent Secretariat for the Prevention of Industrial Pollution (SPPPI)

This structure does not have a legal existence. It joined together actors on a local scale such as the State through its services (e.g. DRIRE), the industrialists, the local communities, associations for the protection of environment, media, experts...) around questions having a link with the industrial environment. There are 11 SPPPI on the French territory.

It is the Prefect who defines the composition and specifies the missions of the SPPPI. The SPPPI of Area PACA is one of the oldest. Placed under the authority of the Prefect and animated by the Regional Division of Industry, of Research and of Environment (DRIRE), this one was decided in 1971, and was made operational in 1972, following problem raised by the concentration of industrial site around "Etang de Berre" region in order to ensure balance between the economic dimensions and the the environmental quality.

The principal missions allocated with the SPPPI are:

- A mission of information: information of the public on pollution and the means of reducing them.
- A mission of strategic and operational orientations: to promote policies of lute against the harmful effects and the installation of an anti-pollution plan for the industrialists.
- A mission of orientation of the expertise concerning the local conditions.

Within the framework of the control of the urbanization around the industrial site, the extent of the sphere of activity of the SPPPI includes the industrial basin. In these terms, the SPPPI has a mission of information and centralization of the problems common to various industrials site.

Lets notice that neither the law n°2003-699 of July 30, 2003, nor the decree n° 2005-82 of 1 February 2005 relating to the creation of the local committees of information and dialogue pursuant to the article L 125-2 of the code of the environment, nor the circular n° 00908 of May 15, 2001 relating to the installation of the interdepartmental local commissions of coordination (CLIC) clearly specifies the interactions of this structure of dialogue with the new CLIC and does not recognize its official existence.

1.1.3 Local committees

Existing in various forms, having various objectives, and having an official structure or not these local committees are multiple. One finds there the Local Committees of Information and Safety (CLIS), the Local Committees of Information and Monitoring for nuclear power (CLIS), the Local Committees of Information and Exchange (CLIE) and more recently the Local Committees of Information and Dialogue (CLIC).

The table below presents the forms and mission of the first three structures.

Tableau 1. The three shapes of local committees (Mazri, 2005)

	CLIS Local Committee of Information and Safety	CLIS Local Committee of Information and Monitoring	CLIE Local Committee of Information and Exchange
Framework	Official structure of dialogue and consultation around the nuclear sites. Initiated by the Law Bataille 91-1381 of 30-12-1991.	Official structure of information and monitoring around the of waste treatment installations. Within the framework of the Barnier decree of 29-12-2003.	Nonofficial structure. Created on the initiative of SEVESO companies.
Participants	Two colleges Named by the Prefect. 1/Mayors according to the site settling. 2/Qualified People (Expert, Personnel ECA, Trade unions, Associations, Institutions)	Named by the Prefect: 1/ State services. 2/Industrialists. 3/erritoriales communities. 4/Environnemental associations.	Guests by the company. Variable composition 1/.State services. 2/. District representatives. 3/Mayors; CHSCT. 4/Environmental associations.
Organization	Plenary assembly. A bureau. Working groups.	A president (Representative of the Prefect). Meetings, Visits on sites, Budget definite. Documents given by the site owner.	1/ Regular Meetings. Agenda fixed by the industrialist. 2/Presentations and debates in the course of meeting. 3/Budget supported by the industrialist.
Objectives	1/ To develop the right to information of the citizens concerning the sites activities. 2/Animation/Debate on safety.	1/ To promote the public information. 2/ Dialogue, concertation and monitoring authority.	1/ To allow the industrialist to understand expectations of the local residents. 2/ To inform the residents on the life of the industrial site, its constraints, its dangers and its evolution.

Within the framework of the urbanization control around the Seveso sites, it is the CLIE structure that captures our attention because of its proximity with the new CLIC structure. Indeed, this nonofficial structure creates on the initiative of industrial, aims at establishing a confidence relation between two principal actors: the industrialist and the local resident. This confidence relation is based on a reduction of the lack of information and knowledge between the "local resident" and the "industrialist" that posses a technical expertise concerning his company.

However, the role of the CLIE in the decision remains vague. This is reflected by the following points:

- The recourse to the expertise. The neutrality of the expertise, required if a conflicts happen, could be called in question, this owing to the fact that the CLIE is at the industrialist initiative.
- Means. Financial means that are necessary to the CLIE operations depends on the industrialist. Within the framework of the urbanization control around the industrial site, it is necessary to recognize the responsibility for the trio Industrialist /State/Local communities.

1.2 The Local Committee of Information and Dialogue (CLIC)

By many facets, the installation of this new structure of information and dialogue, that is represented by the CLIC, has strongly change the practices in industrial risks prevention process in France.

Indeed, introduced through the July 2002 circular of the Ministry for Ecology and Sustainable Development (MEDD) that recommend to the Prefects the installation of the "CLICs by anticipation", this "pilot structure" became since 2003 an opportunity for the various actors concerned with the major

industrial risks to coordinate each other and to be able to give their opinions concerning information provide within the Safety Studies and the Technological Risk Prevention Plans.

It was necessary to wait until February 1, 2005, with the promulgation of the decree n° 2005-82 relating to the creation of the local committees of information and dialogue pursuant to the article L 125-2 of the Code of the environment, to see the role, the missions and the framework of the CLIC specified and fixed.

This committee, creates by Prefect of department decree for any Seveso high threshold site, is limited to 30 people. The CLIC is structured around five colleges of actors[3] including:

- The "administration" college:
  - Prefects, or their representative;
  - a representative interdepartmental services of defense and civil protection;
  - a representative departmental services of fire and rescue;
  - a representative services in charge of the inspection of the classified installations;
  - a regional or departmental representative of the equipment division;
  - a representative services in charge of the factory inspectorate, employment and vocational training.
- The "local authorities" college: deliberating assemblies of the local and territorial communities or the publicly-owned establishments of the concerned inter-commune co-operation.
- The "owners"college:
  - Management representatives.
  - If necessary, a representative of the authorities managers of the works of road, railway, harbour infrastructure or of inland navigation or modal multi- installations located in the perimeter of the committee.
- The "local residents" college: Representatives of the local associative world, residents located inside the zone covered by the local committee and, if necessary, the qualified personalities.
- The "employees" college:
  - Employee representatives proposed by the delegation of the personnel committee of safety, health and working conditions.
  - If necessary, it includes employee representatives of each concerned establishment, at a rate of at least a staff representative per establishment, proposed per the delegation of the personnel of the committee of hygiene, safety and the working conditions among its members or, failing this, per the union delegates.
  - The members of the committee of hygiene, safety and the working conditions and the union delegates are replaced when their mandate of member of the committee of hygiene, safety and the working conditions or of union delegate ends.

The CLIC is concerned with various actions:

- Give opinion. It is associated the development of the Technological Risks Prevention Plans (PPRT). It can give a report on the project of plan. It gives observations on the information memoranda provide by the authorities and the owner to the citizens.
- Receive information. Technical information such as on the accidents having perceptible consequences outside the site, the critical analyses, EDD, emergency and information plans concerning the becoming of the owner and the operation such as extension projects or modification of the installations.

[3] Article 2 of decree of February 1, 2005 concerning the CLIC.

- Give information to the public (citizen).

The CLIC must meet at least once per year. It can call upon recognized experts to carry out a third expertise. The majority of colleges must approve the recourse to the expertise. In fact the MEDD finances its operation.

The formulation of the final opinion of the CLIC is done in a concertative process than approved by the majority. Thus, if the opinions and the decisions are approved by half of the members present or represented, the voice of the president is dominating. This rule, specified within the framework of article 5 of the decree, leaves a large range to interpretation on (i) the representativeness (per a number of college or a many people in the colleges) and (ii) the distinction between the concept "of opinion" which represent a lighting or a recommendation for the action and the concept of "decision" which implies to take the responsibility for the action. This last point can appear problematic when the CLIC has to come to a conclusion about the proposal for a Regulation of the PPRT.

Another characteristic of this CLIC structure is that the number of people present, within the CLIC meeting, is open if the president considers the people likely to bring lightings to the debates.

This various information concerning the CLIC structure shows that this last one can face a paradox as for its relation with the State. Indeed, in one hand a designation and a right of veto to the balance if an equilibrium happened between the colleges and in an other hand the potentiality of being autonomous of the industrialist means (e.g. the CLIE).

In what follows, is presented the new procedure used for urbanization control around the industrial site Seveso high threshold in France. This one takes the form of Technological Risks Prevention Plans (PPRT) and is the continuity of the "vulnerability" approach applied by the French administration within the framework of the natural hazard.

2 A "vulnerability" approach for urbanization control around the Seveso high threshold sites

Introduced by the law of July 30, 2003, the Technological Risks Prevention Plan (PPRT) is a procedure that aims at preventing the risks related to the presence of a Seveso high threshold industrial site. For that purpose, the PPRT consists in taking the following measures:

- the reduction of the risk to the source (action on the risk);
- the control of the future urbanization;
- the reinforcement and/or the protection of the building;
- the control of the use of public spaces;
- the action on the land: expropriation, renunciation, pre-emption.

In order to account for specificities of the industrial activity, the French Ministry of environment and Sustainable Development (MEDD) has set up an experimental process. Indeed, by taking support on its two commissions, which are respectively the "hazard group" and the " stakes group " the MEDD set up a methodology for the application of the PPRT and by testing this methodology on eight voluntary industrial site.

These methodological developments were confronted to different industrial practical cases according to (Table 2):

(i) various natures of production and various levels of complexity;

(ii) various levels of seniority of regional presence;

(iii) various levels of local and regional sensitivity and various modes of risks governance. The table below presents the eight industrial site selected to test the experimental methodology.

Tableau 2. Eight factorys site selected for experimentation PPRT

Id.	Nature of industrial site	Commune	Firm	Experimentation caracteristic
1	Petro- chimical plateform	Notre Dame de Gravenchon (76)	Exxon Mobil	A part of the installations
2	Oil storing	Toulouse (31)	Esso	All the installations
3	Oil storing	Lorient (56)	Total	All the installations
4	GPL storing	Vire (14)	Butagaz	All the installations
5	GPL storing	Bollène (84)	Butagaz	All the installations
6	Chemical site	Mazingarbe (62)	Total et SAV	All the installations
7	Chemical site	Roussillon (38)	Rhodia	All the installations
8	Refining	Feyzin (69)	Total	A part of the installations

The eight experiments (Table 2) made it possible to identify a certain number of difficulties related to the application of the experimental methodology PPRT. In 2005 and beyond that, this observation will make it possible to bring the necessary adjustments to the PPRT methodology in the perspective of the promulgation of the application decree of PPRT[4] and the drafting of a methodological guide (PPRT).

2.1 The PPRT methodology

The PPRT is a methodology connecting the three actors that are the State, the Community, and the Owner. The PPRT will allow, following the signature of a financing convention to the trio "Prefecture, local communities and the owners", to choose the proportioned measures to reduce the risk (vulnerability) around the industrial site. For that purpose, the PPRT methodology follows the following phases:

A technical phase. This phase under the piloting of the DRIRE and the DDE must lead to an evaluation of the risks and an analysis of the vulnerability and an identification of measures of risks reduction. For that purpose, this phase is based on two parts carried out in parallel: (i) the characterization of the hazard, by the owner and under the supervision of the DRIRE, starting from element coming from the Safety Studies (EDD) and (ii) the characterization of the stakes, by the DDE while being based on the local communities, starting from data relating to the stakes.

The choice of these measures depends on the crossing of the hazard map and the vulnerability of stakes map and depend on: the nature and level of the hazard to which a stake is exposed[5].

Eight levels of hazards are define according to the level of cumulated probability and the level of intensity: TF+, TF, F+, F, M+, M, Fai+ and Fai. Moreover, according to the level and the nature of the hazard, some measures are considered as inescapable, to define or subject to credits. The zones concerned by these measures are defined as follows:

- zones where measures are inescapable: (e.g. land measurements within the framework of the highest risk);
- the problematic zones where various types of measures can be considered and for which additional investigations are necessary. For these zones, the reduction of the vulnerability must be the subject of a study;
- the zones where generic measures can placed without specific vulnerability studies.

[4] The PPRT decree will be published at the beginning of September 2005.

[5] The stakes are represented by the peoples, the goods, the activities, and cultural patrimony or the environment exposed to a hazard.

A phase of discussion. This phase, implying the Prefecture, the DDE, the DRIRE, the owners, the local communities, the CLIC and associations, consists in reacting on the results of the technical phase of the PPRT in order to propose a "project of lawful zoning and an associated payment". This consists in identifying the zones and the sectors of prohibition or lawful regulations. Let us note that the zones of risk open to the dialogue are the zones TF, F, M and Fai.

A lawful phase. This phase must lead to the publication of a "prefectoral decree of approval of the PPRT". This decree is established after "public investigation" into the project of PPRT and the collection of the formal opinions of the associated parts.

The description of methodological step PPRT shows that the dialogue, of the various actors implied and/or concerned with the preventive measures, intervenes only when the technical aspects are suggested. Thus, it is necessary to make sure that the actors involve in the dialogue process understand the technical dimensions (probability, kinetics, intensity and vulnerability) before they contribute to the development of the lawful project of zoning.

Moreover, the outcome of the PPRT highlights a certain number of problems at the dialogue phase: the responsibility for the CLIC and these colleges of actors, the economical as sociological stakes which implies the choice of a risks prevention measure on the zone scale near the industrial site.

The experience feedback on PPRT experiments during the year 2004 and the consultation of a certain number of actors implied in process PPRT reveals the presence of the following difficulties:

A]. Technical contents of exercise PPRT.

- Identification of the perimeter of study of the PPRT
- Distinction between EDD and lawful PPRT.
- Coherence with the EDD.
- Identification of the scenarios for the PPRT.
- Information of the criteria "probability", "intensity" and "kinetics" suggested.
- Integration of uncertainty, the methods of calculation and the exits
- Hierarchization of the scenarios of accident.
- Identification of a level of acceptability.
- Lawful zoning of the PPRT.
- Relation between old zoning and new zoning.
- Identification of the three zones relating to the three thresholds of effect.

B]. Organization of the meetings of technical work and the dialogue and briefings.

- Order and coordination between the meetings of the technical groups "group risk" and "vulnerability group".
- Regularity of the technical meetings
- Regularity of the briefings
- Finality and limits of the conciliation meetings.
- Meetings practical modalities.
- Form and finality of the dialogue.
- Local Function of the Committee of Information and Dialogue (CLIC).

C]. Practical and lawful methods in accordance with the publication of a PPRT.

- Financings of expropriation, the renunciation and pre-emption
- Role and responsibility for the fascinating parts with the PPRT.
- Coherence with the existing and prospected urbanism.

The different difficulties listed above shows the importance of the technical dimension in the framing of the coordination between the actors involved in the PPRT process. This shows that the development of an acceptability of the risks, by the various actors of the dialogue, must and is managed differently within the framework from the PPRT.

2.2 The risks acceptability: more than one mathematical dimension

Very often treated in the framework of the EDD, the concept of " risk acceptability " is assimilated to a the "level of criticality". There is however a distinction between these two concepts. The level of criticality is an evaluation of the scenario of accident starting from the crossing of its probability (or its frequency) and of its gravity. The level of acceptability represents the choice of the industrialist a priori. A structure of criticality grid (e.g. Numbers levels) is suggested, the level of acceptability should be, as for him, a local concept to fix by the industrialist and not main road. The grid of criticality or acceptability, used within the framework of the EDD, makes it possible to estimate a level of criticality, for the whole scenarios, on the basis of two axis: probability and the gravity of the consequences following the occurrence of a scenario of accident (Figure 1).

The criticality grid makes it possible, amongst other things, to show the impact of the barriers (in prevention or protection) installations on the reduction of the risk taking into account the level of acceptability fixed a priori by the industrialist.

	IMPACT / CONSEQUENCES SUR :				PROBABILITE DE L'EVENEMENT				
					A	B	C	D	E
<- Gravité	Sécurité des personnes	Biens / Equipements Pertes d'exploitation Impact financier	Protection de l'environnement	Image / Réputation de la SRPP	Jamais entendu parlé dans l'industrie	Evénement s'étant produit dans l'industrie	Evénement s'étant produit dans les groupes Elf et Shell	Se produit plusieurs fois par an au sein des groupes Elf et Shell	Se produit plusieurs fois par an à la SRPP
0	Aucun impact santé / aucune blessure	Aucun dommage	Aucun effet	Aucun effet					
1	Blessures bénignes (soins / ASA)	< 50 kF Continuité des opérations assurée	Impact limité au dépôt - pollution < à 100 Kg	Suscite l'attention du public sans réaction					
2	AAA - Accident avec arrêt	< 500 kF Interruption brève des opérations	Dommages sans effets durables entraînent une plainte et/ou une infraction aux normes	Suscite la réaction du public / attention des médias et pouvoirs publics					
3	AAA - Accident avec arrêt entraînant un handicap partiel	< 5 MF Arrêt partiel des activités SRPP	Dommages affectant le voisinage - plusieurs plaintes / infractions aux normes répétées	Couverture médiatique régionale Réactions pouvoirs publics /associations					
4	handicap total / maladie irréversible ou 1 à 3 morts	< 50 MF (Perte partielle opérationnelle)	Nuisances étendues nécessitant des mesures de restauration	Impact national / nécessite mobilisation actionnaires					
5	morts multiples	> 50 MF Perte substancielle ou totale d'activité	Dommages sévères et persistants / impact financier très lourd	Impact international					

Figure 1. An example of a criticality grid (Grid SRPP)

The PPRT do not have as a finality to carry out a quotation of acceptability. This aspect falls within the competence of the EDD. The PPRT will define a approval of zones submitted to public constraint and annexed to Local Plan of Urbanization (PLU). These zones are delimited on the basis of information provided by the crossing, after dialogue, of information coming from the hazard map and the vulnerability map. Thus, the grid used within the framework of the PPRT is a grid making it possible to distinguish, starting from the crossing of the hazard and the vulnerability of the stakes, of zones (expropriation, pre-emption and renunciation) opened with the dialogue (Figure 2).

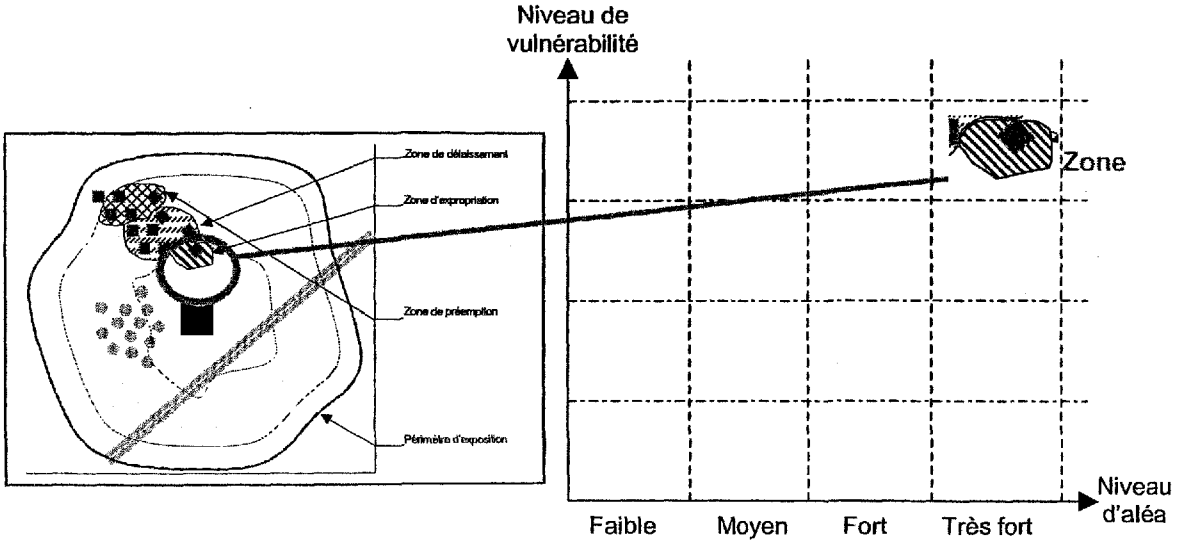


Figure 2. Identificatio of the lawful zones starting from level of hazard and level of vulnerability

The way in which the acceptability is treated within the framework of the PPRT must be clearly clarified. The probability does not summarize by its self the risk acceptability. By distinction to the EDD where the acceptability is fixed a priori by the industrialist by using the support offered by the criticality grid (or of acceptability), the acceptability within the framework of the PPRT does not depend any more of the only industrialist. The probability criterion, in complement of the two other criteria, which are the kinetics and the intensity of the scenario of accident, is used to produce the hazard map. This map does not aim at defining zones of acceptability, but rather at identifying zones subjected to different levels of request. These zones are named: zones of very strong hazard, extreme hazard, means hazard and weak hazard. It is with the crossing, with the result of the technical part of the PPRT, of the hazard map and the vulnerability map that the concept of acceptability appears. At the difference of the EDD, acceptability is carried by the dialogue process within the "Local Committee of Information and Dialogue" (CLIC). While being based on the proposals of the technical groups, this committee has the role of making go up the stakes and the local constraints to take into account before the publication of lawful zoning.

3 The dialogue and the information process : the CLIC and the PPRT

The presented PPRT methodology shows that the information as well as the dialogue will not be entirely carried by committee CLIC. This shows us the need for specifying the range of these two concepts: the dialogue and the range of the consensus. The glossary establishes by the working group Dguhc- MAD/CERTU/CETE (2001) defines these two concepts as follows:

- "the dialogue is a policy of consultation of the people concerned with a decision before this one is taken. The dialogue consists in confronting the proposals of the building owner within the criticism of the interested actors (inhabitants, associations...). The petitioner commits himself listening to the opinions and the suggestions of the consulted people, with if required modifying his project to take account of their counter-proposals, to even give up it completely "(Dguhc-MAD/CERTU/CETE, 2001).

- "a consensus is an agreement between several people which implies the concept of assent. The term also indicates the agreement, even nonexplicit, of a strong majority of the public opinion "(Dguhc- MAD/CERTU/CETE, 2001).

How the dialogue must it be organized? How to arrive at a consensus within the framework of dialogue CLIC structure?

3.1 The dialogue and briefings organization

It is necessary to distinguish various forms of making in relation and thus of organization of privileged working places named "meetings" between the risks prevention actors. To this end, it is adapted to distinguish various forms of meetings: briefings; technical meetings; conciliation meetings. These three types of meetings must answer the "general following requirements":

- the "Master of meeting" must be clearly identified. This one is the regulator of meeting. It must appoint a secretary of meeting for the drafting of the report;
- necessary information to the good course of the meeting must be placed at the disposal of the fascinating parts a number sufficient days before the occurrence of the meeting;
- a glossary and a communication supports must be placed at disposal;
- the object, the finality as well as the place of the meeting in the realization of the PPRT must be clearly clarified;
- the "rules of game" of the meeting as well as the role of each participant must be clarified at the beginning of each meeting;
- the financing of the meetings must be clearly specified before the organization of each meeting
- a recall of the conclusions of the previous meetings must be carried out at the beginning of each meeting;
- a synthesis of the "outstanding facts" must be presented at the end of each meeting;
- the calendar of the other meetings must be stated at the end of each meeting;
- the questions having not obtained satisfactory answers during the meeting must be treated at the beginning of the next meeting.

In addition to these general requirements, requirements specific to typologies of meetings indicated above of which necessary:

- ***Technical meetings.*** These meetings arise in two forms:
  - *Individual meetings of the hazard group and the vulnerability of the stakes group.* From their nature, those owe meeting of the technicians holding a knowledge and an expertise on the studied object. These meetings must be limited to a reduced group (max. 10 people). The regulator of meeting must be ensured of the good comprehension of the methodology of work.
  - *Meetings gathering the two technical groups at the same time.* These meetings aim at coordinating work of the hazard groups and vulnerability of the stakes group from the point of view of a dialogue or briefing.
- ***Briefings.*** Those are characterized by the presence, on the same place, people "having taken part" in the development of the technical conclusions of the PPRT and people concerned with the technical conclusions (e.g. local councillors, association, etc). The purpose of these meetings is to bring a visibility on unfolding of work of the technical groups and their practical perspectives. These meetings must remain open to all people concerned. These meetings must take place with each projection of the technical conclusions.

- ***Conciliation and dialogue meetings.*** Those must help to bring additional data elements to the technical conclusions. Carried by the Local Committee of Information and Dialogue (CLIC), these meetings exceed the pure briefing. Indeed, the opinions of the various colleges of actors of the CLIC must give places to an adjustment of the technical proposals.

The framing of the lawful map of the PPRT must be carried out in dialogue with the various local actors. The dialogue is based on the technical elements of the PPRT. The minutes of the various meetings of work (intermediate or not) must be carried out in a preoccupation with a transparency and a preoccupation with an information to the various actors (e.g. the Local Committee of Information and Dialogue CLIC). The publication of a document presenting experimental methodology PPRT at the various actors would have allowed: (i) to get along on a common vocabulary enters the various stakeholders, (ii) to avoid methodological skews of comprehension while returning to the reference documents.

The dialogue on the recommendations of the technical groups (hazard and vulnerability maps) is carried by the Local Committee of Information and Dialogue. The plenary group is informed and listened.

The communication around experimentation PPRT but also after this one will have to be done on:

- Proposing a glossary.
- Training on the use of PPRT approach.
- Framing of the supports of communication adapted to the various profiles of PPRT stakeholders.

When the dialogue arrives at a not-consensus between the actors, it is necessary to have recourse to a third part. Thus, when the consensus is not "natural", the article L 515-8 of the code of the environment precise that the CLIC can call upon an expert. The sub-chapter below introduced a distinction between three types of actors whose mission is to support and/or to act on the consensus.

3.2 The expert, the mediator and the facilitator

In order to take care of the correct operation of the dialogue, two types of measures can be taken within the framework of the PPRT:

- Measures known as intern with the dialogue. Those would consist in introducing or making carry by an actor of the dialogue the role of "mediator" or "facilitator".
- Measures known as external with the dialogue. Those consist in calling upon an "expert".

The mediator, the facilitator or the expert have in common the fact of intervening within the framework of a neutral approach. In what follows, the role as well as the techniques used by these various profiles belonging to the same category of actor "says intermediate" are presented.

3.2.1 The mediator and the facilitator

This actor "says intermediate" must take care of the disappearance of the situations of misunderstanding or incomprehension between the actors to imply in the dialogue while taking care to establish a proximity with the whole of the actors, by presenting a good control of the situation of negotiation and to thus have about it an adapted strategy or tactic (Grima, 2005). François Grima (2005) distinguishes four styles of mediators:

Tableau 3. Styles of mediators (Grima, 2005)

	Positive anticipation on the capacity of the parts to be agreed	**Negative anticipation on the capacity of the parts to be agreed**
Distancied comprehension	Facilitator. Mediation like a technique.	Articulator. Mediation like give-giving.
Empathic comprehension	Trainer. Mediation as the research of equity.	Third negotiator. Mediation like research of justice.

The facilitator is defined like an organizer of debate aiming at helping the actors of the dialogue to go towards a satisfactory agreement. The characteristic of the facilitator is to avoid the situations of overflow. Within the framework of the PPRT, this role can be carried by the president of the CLIC. This last represented by the Prefect or a designated person.

The trainer presents a contractual vision of the social relations and must hold a good level of expertise in the legal field. Grima (2005) defines it as "an organizer of a harmonious social debate, not being able to tolerate agreements calling it into question". Within the framework of the PPRT, this role must be played by an actor holding a double competence: control of the technical significance of the aspects (risk, stakes) as well as the control of the lawful aspects as well as the control of the legal aspects directly related on the PPRT and indirectly to the obligations and constraints of the various actors of the dialogue.

The role of the articulator exceeds the role of the facilitator in his animation of the debates. Indeed, this one is in the search of result (production of agreement) while weighing on the negotiation without intervening there directly. The third negotiator holds a protocolar and formal position. It controls the negotiation while being based on a conclusive step aiming at showing the superiority of a proposal of an actor on the others. Within the framework of the PPRT, this role can be occupied by the expert appointed by the CLIC.

If the first both form of mediation can be presented some are the situations of dialogue, the two last take place only in the event of conflict. The argued negotiation then becomes necessary. By negotiation one understands "a series of talks, exchanges of views, steps which one undertakes to manage an agreement or to conclude a business. It supposes that there exists from the different points of view and a will to find an agreement "(Dguhc- MAD/CERTU/CETE, 2001).

3.2.2 The expert

The various consulted dictionaries define the expert by his experiment in his field of competence and the quality of its know-how; the dictionary Hachette (1997) specifies that the expert is that "Which acquired a great skill by the practice".

Thus, the expert is appointed through his official or professional statute and not starting from his competences; he says the "people named by authority of justice, or chosen by the interested parts, to examine, estimate certain things, and to submit a report of it" (Dictionary of the French Academy, 1835). The expert is also "that which comes afterwards, to say truth" (Philippe Fritsch (2000) in Decrop, 1997 and Decrop and Galland, 1998).

Three types of experts are distinguished according to the situation of expertise:

- *The professional expert.* One finds a proof of their legal existence, in France, in the form of corporation created by the King in 1690. At that time the expertise was carried out with an

aim of the collection of the royal tax and with an aim of estimating the goods of late (Decrop and Galland, 1998).

- *The legal expert.* It auxiliary of justice named by the authority or is indicated by the interested parties "to examine and estimate certain things, and to submit of it a report" (Decrop and Galland, 1998).
- The scientific expert. It represents the new type of expert who draws his legitimacy from the scientist. It is called with the rescue in public decision, not to evaluate the past, but to anticipate the future and to deliver its opinion. It is with max Weber (1959) that one owes the first theorization of the expert whom it then defines as a bond between "the scientist" and the "policy" and is with the "specific" service of the latter.

Because it is the assemblage point between the scientist and the policy, the expertise must, not to be confused in its practice with those, to delimit its spheres of responsibility and its limits for competence. Indeed, the expertise stops where the policy (decision) begins: the expert is adecision-making aid, the public decision maker integrates various contextual dimensions of the study of risk to establish the best solutions and to communicate his decisions with the public (Decrop, 1997; Godard and Al, 2002).

Thus, the expert has the role of clarifying the decision of an institution and of placing at his disposal his experiment and his capacities of analysis. It is to the final decision maker (institution) that thus returns the responsibility of take into account the various disciplinary fields of the technical expertise (legal, economic, etc.) and to integrate them in the decision.

Bovy and of Erik Laes (2002) define the scientific role of expert in the following way:

- the competence of opinion. The expert answers a request for decision-making aid, it advises but does not suggest; it engages in the decision-making process but is not carrying the latter.
- a role of referee. The scientific expert is not referee except if "it is asked to him" to act in this direction; consequently the scientific expert merges with the legal expert;
- a role of negotiator. This role is not asserted in term of communication of the results to the public but within the framework of the work of collective expertise; the negotiation is done on the objectives, it is thus not a finality but a condition of good practice of the collective expertise;
- the communication. It has as a role to explain to the agent (the applicant of the study) the contents of the established facts. The communication of the expert is there to explain and not convince.

Work on the rules of intervention of the expert is rare not to say non-existent. In Decrop (1997), Godard et al.. (2002) and Bovy (2002) the intervention of the expert is distinguished according to the formal framework from its designation and that abstract from its recognition.

From a formal point of view, the expert is by contract dependent with the decision maker while holding autonomy of intervention, independence and scientific freedom in order to conclude his mission. It is to the expert that returns the role to identify the priority problems, to define his framework and its working conditions in manner autonomous without being subjected to a hierarchical constraint of the seeker organization of the study under penalty of lack of objectivity of the returned conclusions.

In the framework of problems PPRT, the expert intervenes when the dialogue arrives at a node of blocking at the level of the concertative structure which is the CLIC. The decree of February 1, 2005 on the Local Committees of Information and Dialogue as well as the law of July 30, 2003 does not specify the nature of the missions of expertise.

Thus, the expertise can arise in two forms at the same time technical and scientific. In the framework of problems PPRT, the expert intervenes when the dialogue arrives at a node of blocking at the level of the concertative structure which is the CLIC. The decree of February 1, 2005 on the Local Committees of Information and Dialogue as well as the law of July 30, 2003 does not specify the nature of the

missions of expertise. Thus, the expertise can arise in two forms at the same time technical and scientific:

- on what brought to choose the measure of reduction of the risk on the zone considered at the time of the dialogue. To this end, the expertise will relate to aspects related to hazard and with vulnerability stakes;
- on the economic, social, legal... etc. consequences of the installation of a measure on the considered zone. To this end, the expertise will carry on aspects other than the two components of the risk taken in account within the framework of the PPRT to know: the cartography of the risk and the cartography of the stakes.

The mediator, the facilitator or the expert are based on methodological steps aiming clarifying the misunderstandings, at showing the effectiveness or the optimality of the installation of a preventive measure on the considered zone.

In what follows, a certain number of operational means aiming is proposed at returning the dialogue within the framework of the most effective possible PPRT.

4 Strategies and tactics of mediation and operational steps of negotiation

In order to conclude a mediation thus an expertise in situation of support to a group, the intermediate actor (e.g. the mediator, the expert) must dispose of a set qualities or approaches aiming at going towards the consensus. To this end, the state of the art established by Grima (2005) concerning the strategies and tactics used within the framework of the steps of mediation have the advantage of being very synthetic. This state of the art is presented in the table below:

Tableau 4. Synthesis of the strategies and tactics used by the mediator (Grima, 2005)

	Strategy		
	Reflexive	**Substantive**	**Contextual**
Definition of the strategies	To weave bonds of confidence with the parts to make accept the mediation.	To act on the bonds between the parts and to facilitate a reciprocal comprehension	To convince the parts of the existence of a common interest
Mobilized tactics	o To clarify the framework action. o To propose a followed approach to go toward a consensus. o To take the control of the diary of the parties. o To put forward the rule of good manners.	o To be made the spokesman of an evanced o Bring back the debate on the consensual ground. o To direct the debate towards specifics points. o To redefine the framework agreement. o To take it part. o To threaten by law. o To argue it by the reason. o To uncouple the relations.	o To reassure the negotiators. o To ensure the negotiators of an post consensus assistance. o To assist the negotiators in the presentation of the agreement obtained with their representatives. o To underline the cost of the absence of agreement. o To resort to the intervention of an external third.

The various tactics aiming at using the three strategies presented in Table 4 (reflexive, substantives and contextual) concern the qualitative steps of organization of the negotiations for going towards a consensus. When the mediation arrives at a situation of not-consensus and where the qualitative steps comes up against their limits, of the steps operational based on quantitative approaches can be employed. In what follows, an illustration of the two types of operational approaches of avoidance or going towards a resolution of conflict are presented.

4.1 Qualitative approaches

The implementation of the Technological Risks Prevention Plans (PPRT) is typically a complex problems where a significant number of actors participate (directly or not) during the "concertative (dialogue) phase. The Soft-OR[6] approaches are developed for these typologies of problems.

In what follows, a Soft-OR method is presented. This method is SODA (*in* Hjortso, 2004).

Conflictual situations are inherent to processes where various groups of actors having different values, perceptions, objectives, constraints and roles in the dialogue but also in the elaboration of the final decision. In order to understand and be a support to solve these various conflict situations, we can refer to the work developed by Ackoff (1974) and Eden (1989). The SODA method makes it possible to identify and structure the concerns "known as being subjective" of the actors in order to make them discuss and share by the group; and then to go towards a consensus.

The SODA method is based on the eight following steps (Eden, 1990):

1. Initial individual interviews and development of cognitive maps.
2. Feedback interviews aiming at validating the initial cognitive maps.
3. An analysis with an aim of identifying key solutions.
4. Formal research and experts interviews.
5. Refinement of the solutions.
6. Workshop to work on the conscience and the sensitizing of the actors.
7. Workshop to identify orientations.
8. Workshop to elaborate a set of actions.

Among, these eight steps, two times are of primary importance.
First, the step consists in interviewing the group of actor in order to understanding and let emerge the various solutions and options where they wish to tend. Using an interaction process between the involved actors and the facilitator, this approach help to highlight the expectation as well as the solutions that allow changing the way the group of actors has initially perceived the situations of conflict.

This makes it possible to elaborate what is known as a cognitive cartography. Various strategies can help to highlight, capture and collect the individual structure of the trio: value/objective/aspiration. The guiding principle of the step of mapping support on the postulate that the individual continuously has a representation of the world through "a system is built" made up of a finished number of topic and repetitive concepts (built). The cognitive map is represented by a network of concepts (nodes) bound by chains of argumentation. It makes it possible to break insulation individual perceptions of the

[6] OR : Operational Research.

consequences and the explanations associated with the concepts. In a sense, this map is a support to the communication.

In the second time, the facilitator analyzes the various cartographies (by actor) with an aim of highlighting common points. The maps are gathered and incorporated in a representation aiming at providing a global vision of the representation, by the group of actors, of the problem. This makes it possible to emphasize various explanations, consequences, dilemmas, options as well as the even negative positive visions of the effects of the options.

This type of approach can be easily to be set up as of the launching of process PPRT. It will make it possible to act upstream and avoid, even to argue and act on, the possible conflict situations at the time of the dialogue.

This approach is only one example of a set of other qualitative approaches that can be used. Among those, the ones based on understanding and acting on the group dynamics (Mucchielli, 2002).

4.2 Quantitative approacesh

The quantitative approaches of negotiation and decision support are numerous. The decision trees are an example. This approach allow, using probabilities and graphical support to highlight the most relevant option(s) carrying the consensus of the actors.

However, due to the fact that:

- the risk is by nature dependent of several criteria (risk is combination of hazard and vulnerable stakes);
- the choice of measures to reduce the risk depend on the agreement between the actors after a dialogue process;
- the decision criteria must be elicited by the various actors to accredit the choice of preventive measure on a zone.

It was decided to present one quantitative approach: the multiple -criteria approach.
All the decision-making methods structure the decisional contexts in three principal phases (Figure 5):

- a problem structuring phase;
- a running phase;
- a recommendation phase.

The first phase consists in:

- describing the context and the decision-making process. One identifies there the multiple actors, their systems of values and various key- times of decision-making process;
- building the actions, elements on which carries the decision;
- identifying the decision situations (Roy and Bouyssou, 1993) which consists in thinking about the way in which the recommendations or the results must be presented; and identifying the spirit in which is elaborate the decision-making " decision problematic" (Roy, 1985; Roy and Bouyssou, 1993).
- modeling the consequences of the actions and criteria in order to compare an action to an other.

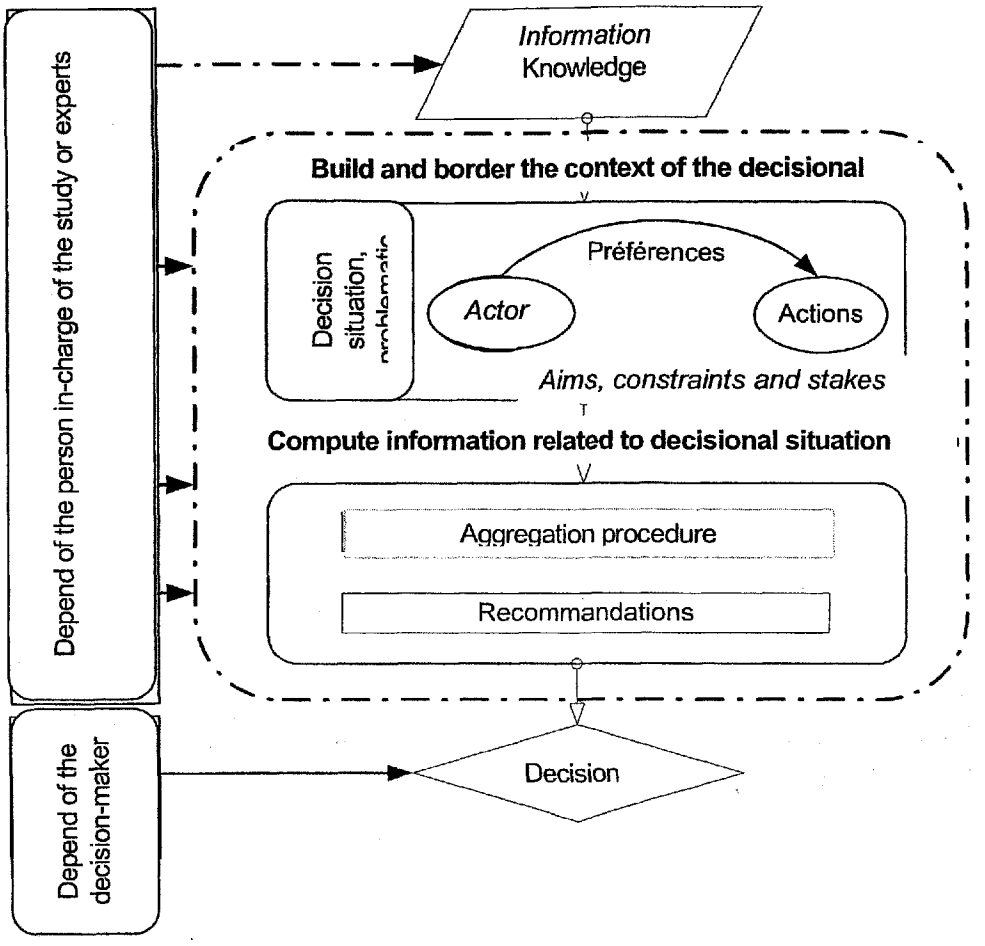


Figure 1. Multiple-criteria decision-making methodology for risk study (Merad, 2003)

This first phase will have a significant influence on the way decision-making support is elaborate and will then have an impact on the way conclusion and solutions are structured.

The second phase is a more mathematical one. The phase known as "exploitation phase" consists in choosing the most adapted " aggregation procedure " to move from a partial evaluation of a potential action (according to a criterion) to a global evaluation of an action with an aim of providing a total conclusion (recommendation) which will be used as support for the decision. Bernard Roy (1993) proposes a four steps methodology, which allows the mediator, facilitator or expert to determine his problem of decision as well as possible:

- Level I: Subject related to the decision and the spirit of the recommendation.
- Level II: Consequences analyses and criteria elaboration.
- Level III: Modeling the global preferences and operational approaches for preferences aggregation.
- Level IV: Investigation procedures and framing of the recommendations.

This last level, less mathematical, is the so-called "recommendation phase". This one includes the sensitivity analyses as well as robustness analysis. During this phase, it is possible to adjust the phases of decision-making approach. if the context requires it.

The multiple-criteria decision-making approach can help to argue and justify the choice of a measurement on a zone where PPRT constraints must be imposed. That can be possible taking into

account the criteria which characterize the risk, the criteria which characterize the stakes as well as other sets of criteria which reflect the economic consequences, social, legal... etc. aspects due to the implementation of the PPRT preventive measures.

Moreover, these steps make it possible to clarify the "preferences" of the various actors involved in dialogue process.

The two typologies of methodology presented above are not exclusive one of the other; they are often complementary: the qualitative approach must be used preferably before the quantitative approach. They can be used at different times during the mediation or expertise procedure according to the nature of the problem.

Conclusions

Strongly regulated, the dialogue in France is dependent on the various laws, decrees and circulars which define the moments, the methods and the shapes which must cover these times of exchange and coordination between the various actors of the risks prevention process.

The law of July 30, 2003 is a good example. The French State gave both a place to the local actors (e.g. Communes, association, citizens) and means for a good dialogue by introducing the new framework of exchange "the Local Committee of Information and Dialogue" (CLIC) and by offering to this committee a place within the framework of the decision-making related to urbanization control around the High hreshtold Seveso industrial site,

In spite of a fixed definition of the CLIC structure within the framework of the decree of February 1, 2005, the effective working of the CLIC cannot be done without considering the history and the culture of dialogue and information established on a local scale. This observation is all most true when it came to urbanization control problems.

The experimental process sets up in 2004 and 2005 aiming at establishing a methodology for the Technological risks Prevention Plans of the (PPRT) revealed the determinant role of technical information in reglementary decisions about urbanization control. This technical information guides and determines the nature and way the meetings sessions and moment are between the actors.

Lets say finally that if the dialogue is an upstream process to the decision, it is necessary to think about the way this moment must be organized to make it became as efficient as possible. Beyond the organization of dialogue meetings, it is necessary to wonder about the emergence of a new kind of actors: the expert, the facilitator and the mediator.

These actors have the ability to prevent, avoid or clarify potential conflicts that can emerge due to the plurality of stakes and to the complexity of the technical aspects defining the major industrial accidents risks. Various approaches, some times qualitative and some times quantitative, can be used considering the relation nature between different actors and the group dynamic within the CLIC structure.

References

1. ACADEMIE FRANÇAISE. (1835). Dictionnaire de l'Académie française. Paris : 6me édition.
2. ACKOFF R. L. (1974). Redesigning the future. Wiley, New York.
3. BOVY M, LAES E. (2002). Comment le centre belge d'Etude de l'énergie nucléaire gère la culture de l'Expert ? Colloque européen sur la sûreté de fonctionnement , Cédérom.
4. Décret n° 2005-82 du 1er février 2005 relatif à la création des comités locaux d'information et de concertation en application de l'article L. 125-2 du code de l'environnement.

5. DECROP G, GALLAND, J-P. (1998). Prévenir les risques : de quoi les experts sont-ils responsables ?. France : Ed. de l'Aube, 200 p.
6. DECROP G. (1997). De l'expertise scientifique au risque négocié : Le cas du risque en montagne. France : Cemagref Editions, 102 p.
7. DGUHC-MAD/CERTU/CETE. (2001). Glossaire des concepts liés au développement durable. 30 pages.
8. DICTIONNAIRE HACHETTE. (1977). Dictionnaire Hachette en couleur. Hachette, France.
9. Eden C. (1989). Using Cognitive mapping. European Journal of Operational Research 36 51). pp 1-13.
10. EDEN C. (1990). Strategic thinking with computers. Long Range Planning 23 (6). Pp 35-43.
11. GODARD O, HENRY C, LAGADEC P, MICHEL-KERJAN E. (2002). Traité des nouveaux risques. Paris : Gallimard, 619 p.
12. GRIMA F. (2005). La médiation dans les relations professionnelles françaises : une relation à trois ?. Gérer et comprendre. Mars 2005. N° 79. Pp. 31-40.
13. HJORTSO C. N. (2004). Enhancing public participation in natural resource management using soft OR-an application of strategic option development and analysis in tactical forest planning. European Journal of Operational Research. N° 152. Pages 667-683.
14. Loi n° 2003-699 du 30 juillet 2003 relative à la prévention des risques technologiques et naturels et à la réparation des dommages.
15. MAZRI C. (2005). Rapport intermédiaire de thèse « Apport des méthodologie d'aide à la décision dans la gestion des risques industriels majeurs ». 32 pages.
16. MERAD M. (2003). Apport des méthodes d'aide multicritère à la décision pour la hiérarchisation du risque lié à la présence d'ouvrages souterrains.. Thèse de doctorat. Université Paris IX-Dauphine. 303 pages.
17. Ministère de l'Environnement et du Développement Durable (MEDD). (2001). Rapport de l'inspection générale de l'environnement. Usine de grande paroisse à Toulouse. Accident du 21 septembre 2001.
18. Ministère de l'Environnement et du Développement Durable. (2004). Dossier d'information : Toulouse, trois ans après l'explosion. Le point sur les actions menées par le Ministère de l'Environnement et du Développement Durable. 21 pages.. http://www.ecologie.gouv.fr/IMG/pdf/dossierinfoazf.pdf.
19. MUCCHIELLI R. (2002). La dynamique des groupes : Processus d'influence et de changement dans la vie affective des groupes. Collection formation permanente. Séminaire Mucchielli. ESF éditeur. 222 pages.
20. PPPI PACA. (2004). Présentation du SPPPI. http://81.91.65.207/paca_spppi/presentation.php.
21. ROY B. (1985). Méthodologie Multicritère d'Aide à la Décision. Paris : Economica, 423 p.
22. ROY B., BOUYSSOU D. (1993). Aide Multicritère à la Décision: Méthodes et Cas. Paris : Economica, 695 p.
23. WEBER M. (1959). Le savant et le politique. Paris : Union Générale d'Edition / Plon.