DEPARTEMENT OF THE COMMISSIONNER - GENERAL FOR SUSTAINABLE DEVELOPMENT

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The new environmental liability mechanism:
Equivalence methods for "repairs in kind"

The "ELL" law 1 August 2008, creates a new environmental liability mechanism by which the operator of an activity that is targeted by the law, and that causes serious environmental damage, must henceforth repair it "in kind" (and no longer in the form of financial compensation), irrespective of whether there is any fault or not. In order to prepare a remediation project, the law recommends preference for the equivalency methods that allow compensation of the losses of resources and/or of ecological services arising from the damage, with quality, type and quantity that are equivalent to those of the environment before the incident. This therefore means a greater recognition of the importance of keeping these resources and services in operation.

By testing the application of these methods against a recent pollution case (but prior to entry into force of the law), one arrives at costs of restoration projects that are clearly higher than those of emergency measures that are taken immediately, and that were the only type effected up to then. This prospect of higher costs should therefore allow the operators concerned to have a better understanding of the stakes, and challenges as well as developing greater vigilance.

ECONOMY AND EVALUATION

The law on environmental liability (ELL), adopted on 1st August 2008, and its application decree dated 23 April 2009, transpose Directive 2004/35/CE (DRE) into French law, establish a framework of environmental liability that is founded on the "polluter pays" principle, and thus create a new environmental liability mechanism. The Erika case, a civil procedure, had already led to the recognition of ecological prejudice. Not only does the law confirm this recognition but it also introduces a legal liability framework that allows the environmental damage to be prevented by rendering the operator of a professional activity that is targeted by the ELL financially responsible for repairing the serious damage that it has caused to the environment. It also constrains the operators to adopt preventive measures in the event of an imminent threat of damage, in order that the damage should be avoided.

A mixed liability mechanism

The ELL is characterised by a mixed liability mechanism that can be either "without fault" or "with fault", according to the type of activity at the origin of the damage.

It subjects to the "without fault" liability mechanism the operators of professional activities that are dangerous or potentially dangerous listed by its application decree (article R 162-1), whether or not they have committed a fault or been negligent or. From amongst these activities one could mention:

- operation of installations of the IPPC type (Integrated Pollution Prevention and Control), such as the energy generation industries, the mining and minerals industry, etc.;
- any discharge into the surface and underground water that is subject to prior authorisation;
- the operations of collection, transportation, retrieval or re-use and elimination of wastes, with the exception of purification sludge spreading, management of wastes from the mining industry, and operations associated with the cross-border movement of wastes into and out of the European Union;

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- manufacture, use, storage, treatment, conditioning, discharge into the environment and transportation of certain dangerous substances;
- activities involving genetically modified organisms and micro-organisms.

The operators of these activities will have to repair, "in kind", the damage done, meaning that they finance the projects for remediation of the environment affected.

The operators that have an activity other than that mentioned in this article R 162-1 will be subjected to a "with fault" liability mechanism, and held responsible for the damage caused, if they are guilty of a fault or been negligent and only if the accident affects protected habitats and species.

The procedure will be conducted by the *Préfet* of the *Département* in which the damage has occurred (inset).

Three types of repairs to consider

The law specifies three types of remediation (see diagram) subsequent to serious damage (neither the Environmental Liability Directive (ELD) nor the ELL defines the seriousness of the damage):

- primary remediation covers all the emergency actions implemented in order to allow the affected environment to be returned to its baseline condition;
- complementary remediation is put in place when the environment has not been returned to its baseline condition despite the primary remediation, or if the return to this baseline condition is excessively slow;
- compensatory remediation is implemented in order to compensate for the interim losses of resources and/or of services that arise between the moment when the damage occurs and the moment when the environment returns to its baseline condition. This applies mainly to the affected site. On the other hand, if this remediation cannot be implemented in the damaged zone, then the ELL recommends that it should be done at an equivalent site. Note also that it cannot take the form of financial compensation.

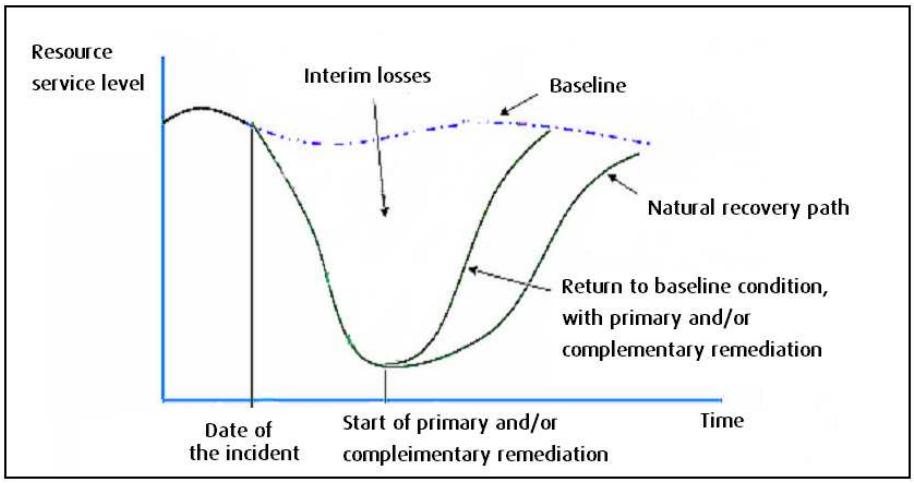
Essential determination of the baseline condition before the incident

The baseline condition of the site is defined by the law as "the state of the natural resources and of the services, at the moment of the damage, which would have existed if the environmental damage had not occurred, assessed by means of the best information available". Its determination is vital to identification of the different remediation projects to be proposed. It will be the outcome of collaboration between the various stakeholders involved in the procedure (see inset).

The approaches employed in order to dimension the complementary and compensatory remediations

The approaches employed in order to dimension the complementary and compensatory remediations are those "tending towards a resource-resource or service-service equivalence [and] are to be used in the first instance". In these approaches, the actions must supply natural resources (resource-resource approach) or ecological services (service-service approach) of a type, quality and quantity that is equivalent to those of the environment prior to the accident. However, when these approaches cannot be applied (for lack of data for example), the law recommends, as an alternative, the approach determined by the value (value-to-value and value-to-cost approaches), a more conventional method of environmental valuation (such as contingent assessment, the transportation costs, the hedonistic prices, etc.). In this case, the restored services and/or resources will be of a type and quality that are close to (a species of the same genre and similar in terms of habitats) but not necessarily identical to those damaged.

Diagram of the different types of remediation within the framework of the "ELL" law



Source: REMEDE, 2007

Inset : The stakeholders and the procedure

This concerns a mechanism of administrative liability, and in the case of environmental damage that is covered by the ELL, the competent authority is the *Préfet* of the *Département* in which the damage has occurred. The *Préfet* is responsible for assessing the nature and the consequences of the damage. He may also ask the operator that is at the origin of the damage to carry out its own assessment. It is then up to the operator to propose repair/remediation projects to the *Préfet*. After it has sought the opinion of the regional authorities concerned, of the public establishments, and of the associations for protection of the environment, the *Préfet* then indicates the repair measures to be implemented.

The necessary process of cooperation and negotiation between the stakeholders

The equivalence methods involve a process of cooperation and negotiation between these various stakeholders. It consists of determining the level of services and/or of resources both in their baseline condition and following the accident, and the shape of the natural recovery curve based upon data that are frequently indeterminate or incomplete. In particular, the stakeholders concerned will have to specify the indicators that best represent the level of services and/or resources (in our case study, this is the brown trout, the Pyrenean desman, etc.). Collaboration will therefore be a decisive element of the process.

Remediation necessarily "in kind"

In essence then, the repair of the damage involves remediation in kind, and not in the form of financial compensation (as in the Erika case), for which the obligation to repair the losses incurred is not required. The equivalence methods therefore also address the overall objectives of sustainable development. In addition, the law favours remediation of the impacted site in the first instance.

When the damage affects the soil, then necessary measures will be implemented "in order to guarantee, as a minimum, the elimination, the control, the containment or the reduction of the contaminant concerned, so that the contaminated soil [...] presents no further serious risk of negative incidence on human health". Natural reconstitution of the soil can also be considered in this case.

An example of application of the methods recommended by the ELL for assessing environmental damage

In 2007, a road accident in the *Pyrénées-Atlantiques* resulted in the spilling of 17,000 litres of Potassium Hydroxide into the *Gave d'Aspe* water course, destroying all of the aquatic fauna over a distance of 4 kilometres and leading to a fishing ban for between 3 and 5 years. Since this case of accidental pollution occurred prior to the entry into force of the ELL on 27 April 2009, the latter cannot be applied. This example has nevertheless been selected to test the two types of approach recommended by the law. The application of these methods leads to complementary and compensatory repair costs that are clearly greater than the costs of primary remediation alone (see table below).

The remediation projects determined by the equivalence methods would cost €97,000 to €121,000, while those estimated by the "by value" approaches would be between €36,000 and €51,000. To these remediation costs must be added about 160,000 euros for assessment of the damage and identification of the repair measures. If the ELL were to be applied, the total sum that would have had to be paid by the polluter, according to the project, would be of the order of €200,000 to €280,000. This amount is equivalent to 7 to 9 times the cost of the emergency measures alone – to which the repair of a damaged environment would most often be limited up to that time - put in place immediately (removal of dead bodies, cleaning of the water course, etc.) and described by the ELL as "primary remediation". In fact, the cost of primary remediation was assessed at €30,000.

The prospect of higher costs to be paid in the event of serious environmental damage should therefore allow the operators affected by the ELL to have a better understanding of the stakes and challenges and to achieve greater vigilance.

The importance of the stakes and challenges associated with application of the equivalence methods reveal the necessity to introduce monitoring indicators in order to assist with monitoring of the remediation projects by the staff of the *Préfet*.

Summary of the main conclusions of the Gave d'Aspe case study according to the methods for the assessment of restoration projects

	Estimate of the cost of the remediation project (compensatory and primary)	Principal results	Advantages	Limits
Equivalence methods favoured by the LRE				
Service-service approach - Remediation project on the affected site (or in situ)	97,000 euros	area to be restored 10.8 ha	Speed of evaluation and restoration	*Depends on numerous assumptions*
- Remediation project on another site (or ex situ)	121,000 euros	11.5 ha	Overall objectives of sustainable development	*No concrete application of the ELL (lack of perspective)*
Resource-resource approach	cost not calculated (lack of data)	years to restore 12 years	Process of cooperation and negotiation	*Significant mobilisation of scientific data*
Approaches by value (wellbeing) recommended as an alternative by the ELL				
Value-to-value approach	51,000 euros	area to be restored 1.6 km of banks	*Traditional and better-known methods*	*Anthropocentric value of the environment*
Value-to-cost approach	36,000 euros	losses of wellbeing = €6060 = cost of the remediation project		*and for value-to-cost, the risk of over or under compensating for the losses*

Abstract

The « ELL » Law adopted on the 1st of August 2008 creates a new environmental liability mechanism : an operator whose activity has caused significant environmental damages is to be held financially liable, whether he is or not at fault, to fully compensate damages occurred through a remediation project but never a financial compensation. To select the appropriate remediation projects, the Law recommends the use of equivalence methods. Under these approaches, actions have to provide natural resources and/or services of the same type, quality and quantity as those damaged. The main objective of the "ELL" Law is to maintain the good functioning of resources and services.

To make the equivalence methods more practical, they were applied to a recent pollution case (but prior to entry into force of the ELL implementation). Remediation projects costs are much higher than those induced by primary measures, the only ones implemented until now. The possibility of higher costs should encourage operators to be more familiar with the environmental liability stakes and to be more vigilant

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The full results of the study will be the subject of a publication in the *Etudes et Documents* collection of the CGDD.

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