- ORAL PRESENTATIONS -

CONCEPTS REGARDING THE ENVIRONMENTAL INTEGRATED ASSESSMENT

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Summary

The establishment of the relationship with the environment of social-economic activities has become a concern since the last decade of the last century and has evolved in complexity and shapes, according to the evolution of the law and the interest in environmental compliance requirements and demands.

The work reviews synthetically the scientific fundaments of the compulsory provisions and regulations for obtaining the environment permit, agreements and authorizations from the habilitated environment institutions and of the voluntary procedures for the ISO14001 certification and the registration with the EMAS register.

Abstract

Environmental relationships with socio-economic activities has become a concern since the last decade of the last century and has evolved in complexity and shapes according to evolutionary laws and interest in environmental compliance requirements and demands.

The work reviews synthetically the scientific fundaments of the compulsory provisions and regulations for obtaining the environment permit, agreements and authorizations from the habilitated environment institutions and of the voluntary procedures for the ISO14001 certification and the registration with the EMAS register.

Keywords: evaluation, environment, integrated system

The approach of the Environment Integrated Evaluation concept (EIM) can me bade at least from two perspectives:

- the first, the appreciation of the characteristics, qualities, services, utilities, offered to the companies, organizations existing in a geographic area, in an ecosystem, in order to develop or promote a certain activity;

- the second, the determination of the parameters, specific indicators of a location or site, in order to establish the transformations suffered from the natural, initial condition, due to an anthropical activity performed in that area, in a certain present or prior time interval .

This *evaluation* can create images, more or less precise, by studies, analyses, determinations, integrated models regarding:

- the functionality of the ecosystem, of the respective geographic space, in its natural state, unaffected by human activity;
- the economic, social, touristic, ambient, environment value of the ecosystem;
- the impact suffered, with temporary or permanent consequences in relation to one activity or another, performed in the area, in a previous period;
- the extent in which these degradations can represent the object of an ecologic reconstruction, the extent of the effort, the measures and methods which can be applied, the expected efficiency;
- the establishment of the sustainability of the ecosystem or of the geographic space analyzed, evaluated in relation with an activity which is intended to be promoted.

The evaluation has to be made in a bi-univocal vision, in which on the one hand is appreciated the ***environment – human*** relationship (extent in which the ecosystem can sustain, support the respective existing or perspective activity, impresses its specifics on the performance of the activity), and on the other hand the ***human - environment*** relationship (the positive or negative impact incurred by the environment because of the respective activity). The approaches in this evaluation will have different visions and results according to the social-economic activity of reference: industry, agriculture, transport or tourism.

After the 1990s, the evaluation of the relation with the environment was used on a large scale, the evaluation of the relationship with the environment being used extensively to the extent that the environment issues imposed itself as an important component in the development of society. The concepts evolved from "*impact analysis*", "*environment audit*" to "*environment balance*" or "*lifecycle analysis*". Irrespective of the shape in which the environment relationship establishment concept or a certain activity or project is presented, the stages crossed are in principle the same: identification, estimation, evaluation, integration, interpretation. Today, no social-economic activity can be performed and no project can be promoted any longer, without an analysis from the point of view of the environment relation. The evaluation takes the shape of an Integrated Evaluation of the Environmental Impact of the respective action, which is completed by different types of Reports and based on these the habilitated institutions issue or not: *the environment agreement, authorization or permit.* In other words, a revision of these steps, these procedures, which need to be passed, can clear the manner in which today is legislated the recording of any social-economic activity in the environment criteria, requirements and demands.

It has to be said from the beginning that from this point of view there are two approaches:

- a compulsory one, through legislation, which requires a certain minimum regarding the environmental requirements and demands which need to be observed, and
- a voluntary one, by which an organization undertakes to impose superior standards in relation with the environment.

In the scheme below it can be noticed that, in the case of the ***evaluation of ecologic impact*** is applied the type of compulsory procedures which is completed as we had mentioned by permits, agreements and authorizations. Also, it is to be noted that for the same evaluation of the ecologic impact can also be applied the voluntary procedures which are performed based on ISO 14000 standards, the EMAS Directive and the undertaking of responsibility by *ecologic labelling*.

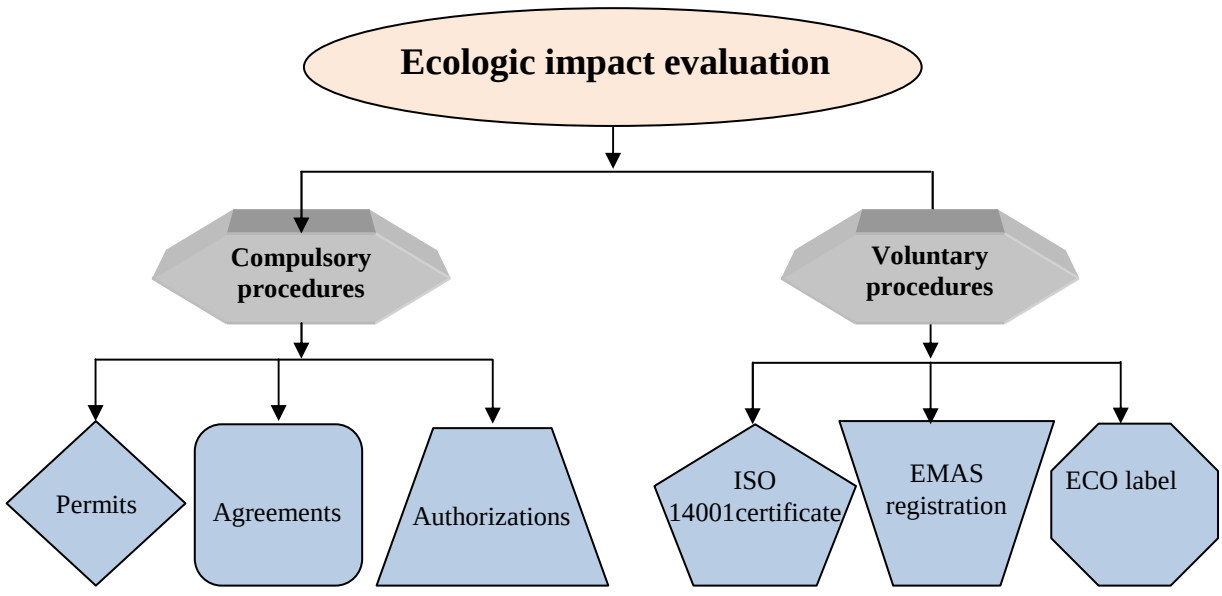

Fig. 1 - *Evaluation of the ecologic impact*

If we are referring to the types of compulsory procedures their assembly, the regulatory acts applicable, the specific of the activities taken into consideration are presented in the matrix below.

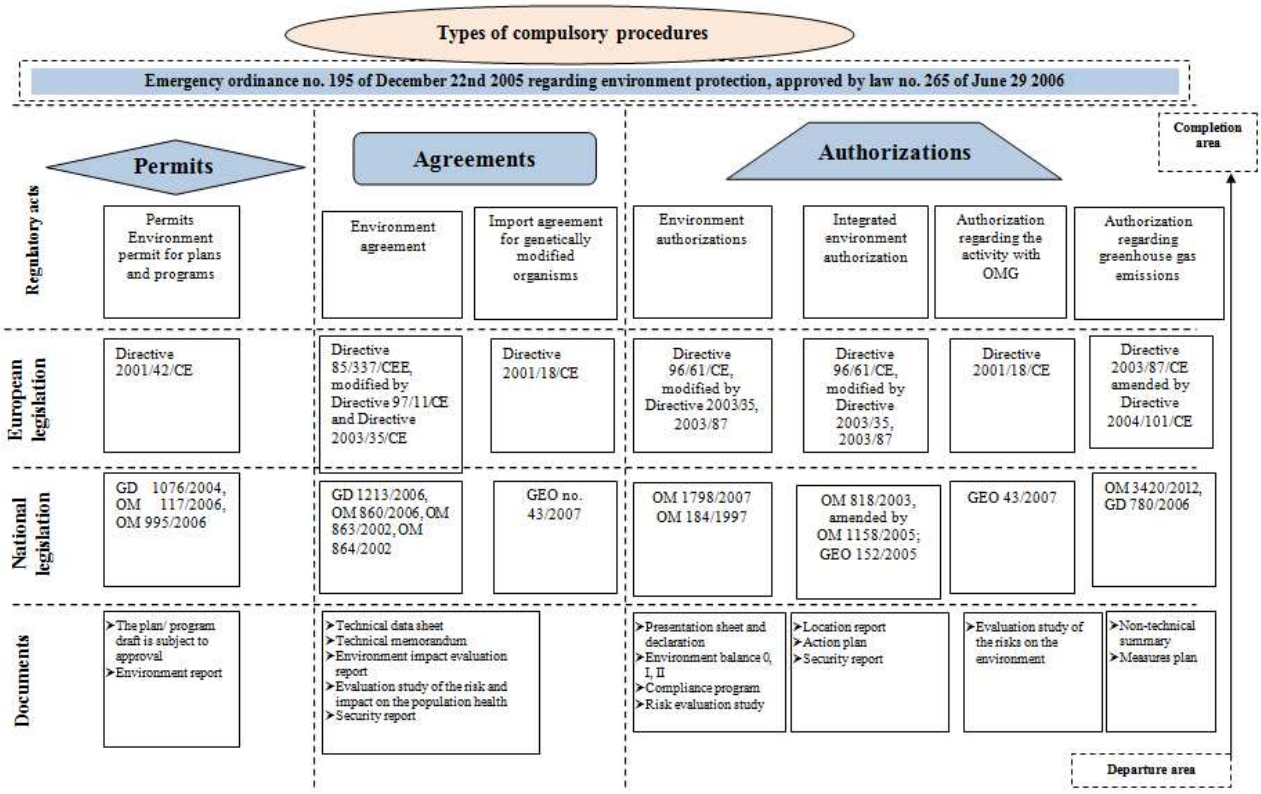

Fig. 2 - *Assembly of compulsory procedures*

The environmental permit is issued for plans and programs. The elements triggering the action of obtaining the permit consists of the presentation of the Project of Program / Plan which is subject to approval and an "Environment Report".

In case of agreements, they are of two categories:

- environment agreement;
- agreement for the import of genetically modified products

For both types of agreements it is necessary to submit a file which consists of multiple documents, as it results from the table above:

- technical sheet;
- technical memorandum;
- impact evaluation report;
- study of risk assessment and impact assessment on population health;
- security study.

Obtaining the authorizations is necessary for existing activities when the environment authorization considers it is necessary:

- the environment authorization in this case is submitted with a documentation consisting of the Presentation sheet and Declaration,

Environment balance 0, I, II, Compliance program, Risk compliance study;

- the integrated environment authorization, for which the following are necessary: Location report, Action plan, Security report;
- the authorization for activities with Genetically Modified Organisms (GMO), based on a Risk assessment study;
- authorization for greenhouse gas emissions, for which are necessary a Non-technical summary and an Action plan.

In the case of the voluntary procedures, the ISO 14001 certification has an international character, while the EMAS registration has European character and is regulated by a EU Directive and taken over by internal regulations in Romania. It can be noticed the chain of procedures for each of the two voluntary engagements are presented in the graph below and a close corroboration between them. There is a certain additional demand from the point of view of the EMAS certification, within the meaning of an obligation to draft an Environment report by the respective organization, which is made public. The respective report is also remade periodically (every 2 - 3 years).

The undertaking on sole responsibility of the requirements imposed for the right to have an "eco label" for goods, products or services offers the right to have such an environmental image, which can offer additional chances on the market. Here too there is also a procedure of obtaining the eco label which is made by the National Commission for Granting Eco Labels.

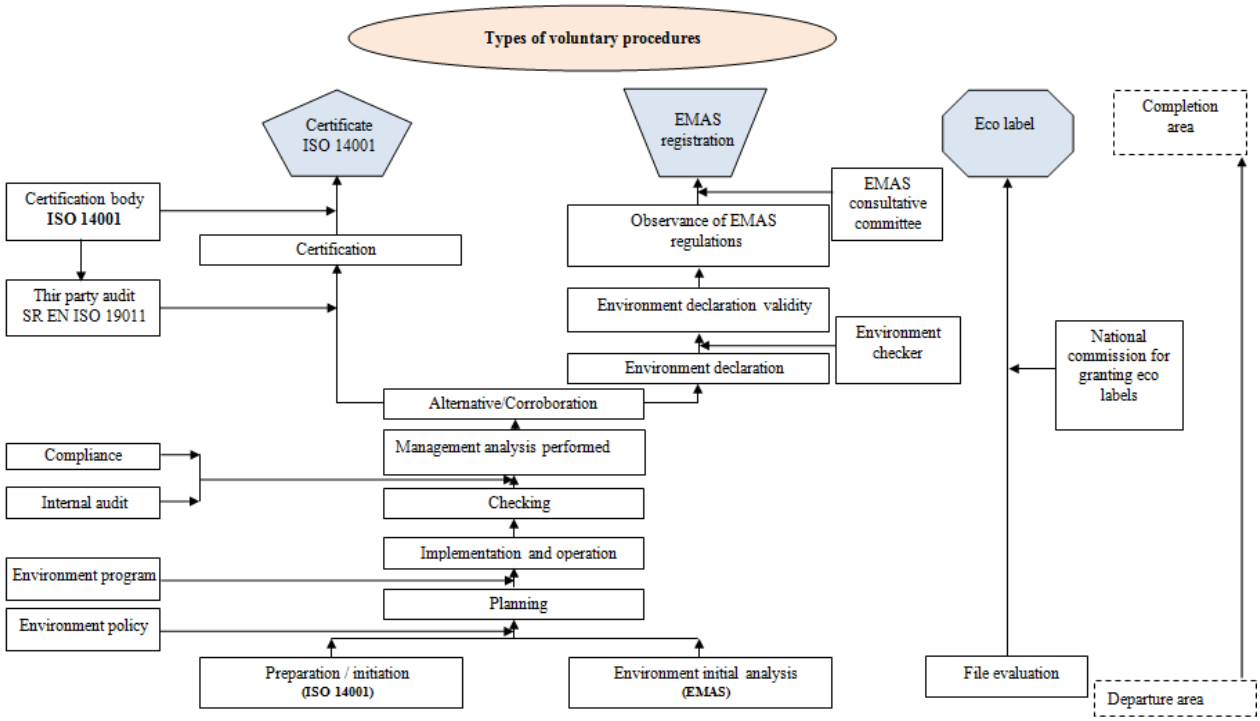

Fig. 3 - *Assembly of voluntary procedures*

From the performance of the procedures which need to be performed for the completion of an evaluation, one can notice the need to draft specific documentations for the environment problems which, according to the intended purpose, can be entitled, according to the regulations in force:

a. Environment report (RM);
b. Report regarding the impact on the environment (RIM);
c. Environment balance (BM);
d. Location report (RA);
e. Security report (RS);
f. Adequate evaluation study (SEA).

Each type of the above mentioned documentations has a certain specific approach, determinations, analyses, processing, interpretations, conclusions. These documentations are drafted by natural or legal persons, who are recorded in the National Register of Environment Protection Studies Elaborators, according to the Order no. 1026 of 2009. It is estimated to be defining for such documentations the manner of approaching the environment problems in the Environment Balance (BM). The functional scheme of the stages which are passed has to be regarded as a detailed analysis of the environment problems, from a BM 0 phase, representing a simple form, then passing through more and more detailed analysis stages like BM I, BM II, Risk evaluation and completed by Compliance program, representing a concept by which a connection can be made between the respective activity and the observance of the environment requirements and demands.

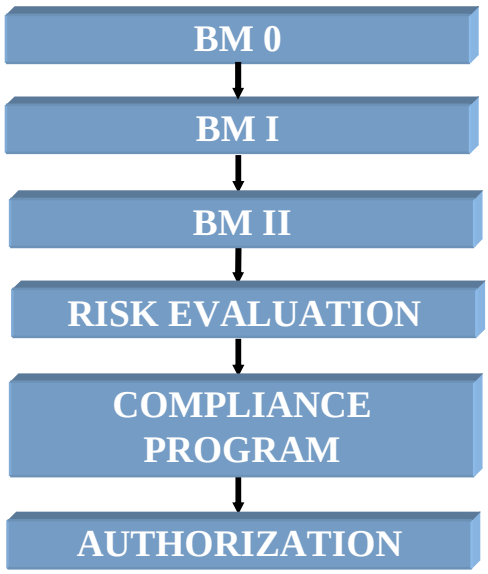

Fig. 4 – Environment balance - approach levels

Another manner of approaching the environment problems inside an organization is proposed by the provisions of ISO 14000 or EMAS III. They expressly condition the observance of certain more stringent environmental requirements and demands, more controllable and possible to be adapted in

time by the application of an Environment Management System implemented and certified inside the organization.

The approach as environment management system has several advantages, which in time has led to an increased interest of the economic agents in this form of voluntary employment in minimizing the impact on the environment.

Among the advantages, the following can be cited:

- the engagement in the environmental problems of the entire personnel, from the general manager to the last employee;
- planning in time, in space of the resources, funds for solving all the problems in relation to the environment;
- drafting of guides, manuals, procedures by which all that is necessary to be performed in relation to the environment is applied unitarily, coherently, unanimously accepted.

Such an approach is not specific only to the environment aspects, but also to the quality management (ISO 9000) and occupational health and safety aspects (OHSAS 18001). In these conditions, more and more often the integrated approach of the three Management Systems mentioned above is applied for the interested organizations, according to the scheme below.

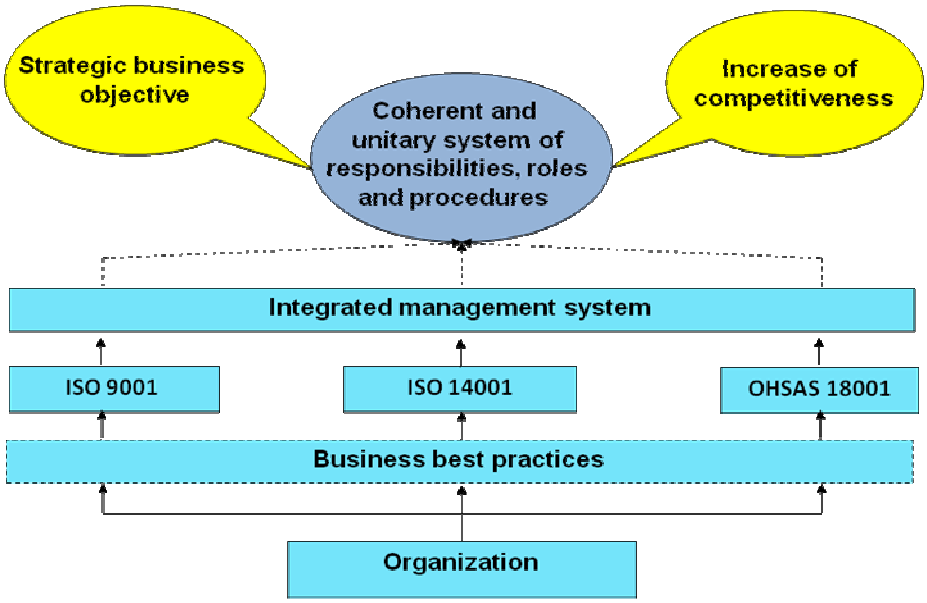

Fig. 5 – Integrated approach of management systems

It is ensured as follows:

- a unitary concept on the strategic objectives of the organization;
- the application of the best business practices;

- the rational distribution, according to competences and skills of the responsibilities per each employee and management personnel in relation to the three systems;
- the increase of the competitiveness of the organization on a more and more difficult market, in a continuous globalization.

The application of the management systems on each thematic, as well as of the integrated one observing the sequential evolution of stages: planning – performance - evaluation – improvement. These stages can be found detailed in the graph below.

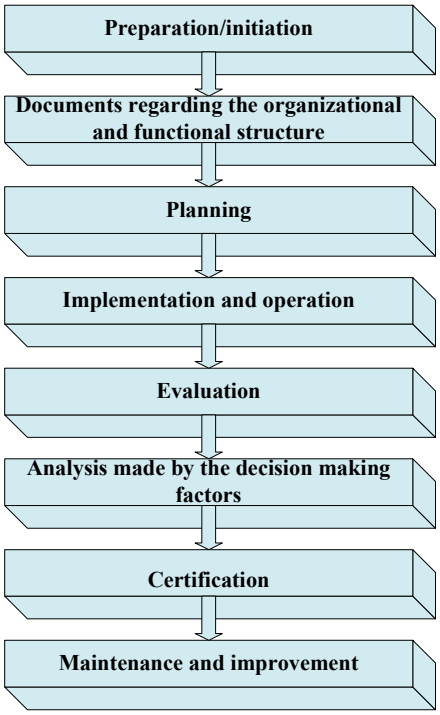

Fig. 6 – Stages in the systems implementation and certification

In the requirements of systems certification there are many elements which have to be taken into account. Among them the most important stage, at least in the beginning of the systems` implementation, is that of drafting the integrated management documentation. The construction of the documentation corresponds to a pyramid, presented below. The attention is drawn to the fact that, unlike the physical construction of the pyramids, starting from the base to the top, in the case of the system documentations the construction starts from the top, by declaring the "Policy" declared by the general manager to implement the Integrated Management System and continues to the base, passing through the "Integrated Management Manual" and continuing up to "Records of the Integrated Management System".

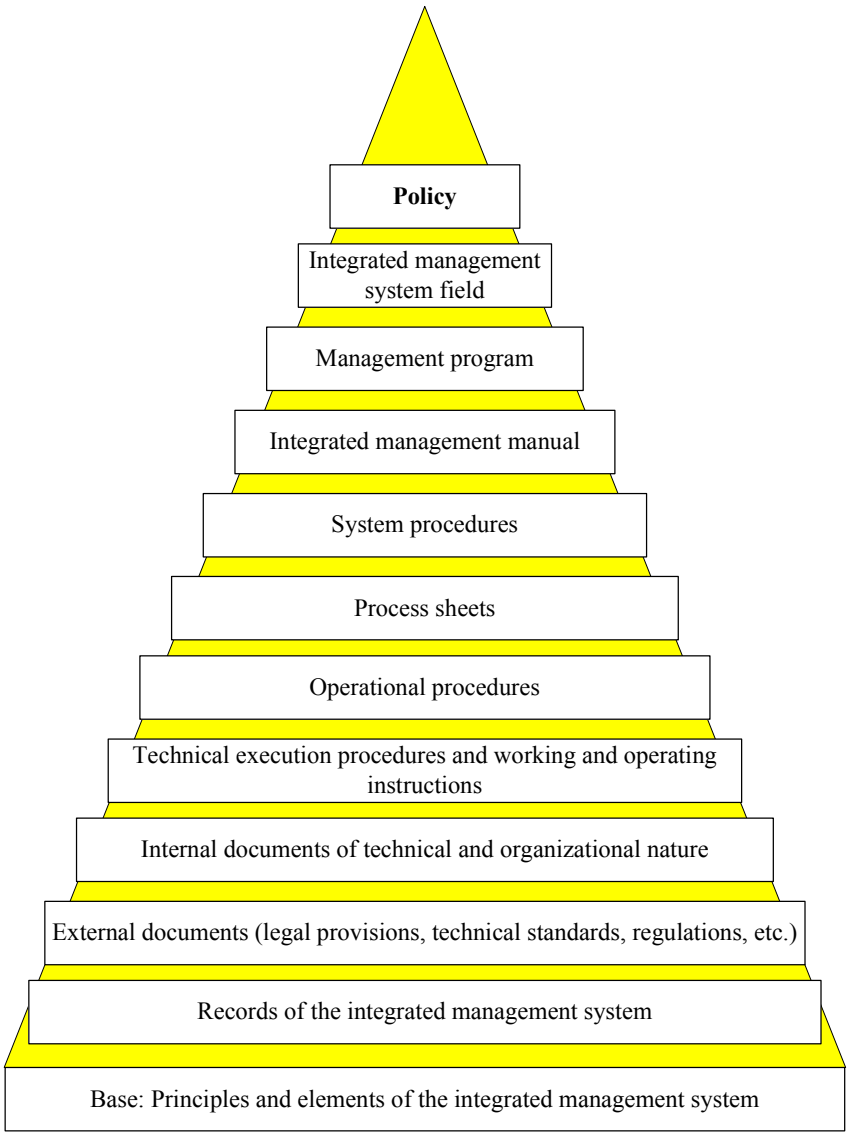

Fig. 7 - Structure of the integrated management system documentation

Conclusions

In the last twenty years there has been a significant evolution of the concepts regarding the environment evaluation. The reviewed concepts, both the compulsory ones based on the current legislation, and the voluntary ones, ensure to the extent that they are observed, the connection of all the social-economic activities with the requirements and demands regarding environment protection. The role of the central and local institutions consists on the one hand in checking the application of the environment law according to the agreements, authorizations or permits, and on the other hand in adapting the law to the evolution of the social-economic realities.

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