

AWARENESS AND PREPAREDNESS FOR EMERGENCIES AT LOCAL LEVEL (APELL) FOR THE MINING INDUSTRY AND ITS APPLICATIONS IN ROMANIA

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Abstract

The paper approaches in more details one of the applications of the APELL Programme, the component of the mining industry. APELL represents the acronym for Awareness and Preparedness for Emergencies at Local Level, which is a programme initiated by UNEP (United Nations Environmental Programme) with the purpose to help communities to prevent and respond appropriately to accidents and emergency situations. "APELL for Mining" is a guide for the mining industry facilitating the increase of the population awareness degree regarding the local level emergencies. There will be presented also the steps made in Romania towards the understanding and implementation of this guide. The major mining accident in Baia Mare, Romania (2000) which had a significant negative environmental impact (transboundary) was considered a warning signal for the mining operators, public authorities, Government and the public. The implementation of the APELL Programme in Romania is thus necessary and the first steps have been made.

Introduction

The mining industry is a major source of environmental concern due to the risks it induces upon the local population and to the transboundary risks resulted from a major mining accident. Let us not forget the Baia Mare accident in 2000 which affected several countries along the Tisza River.

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This event has highlighted the significance of the operation monitoring and checking for emergency warning and the need to respond to an abnormal situation; the need to elaborate plans even if the possibility of accident occurrence is low, but the consequences potential is high; the need for efficient planning and communication beyond the national and administrative borders; the need to implement communication before the occurrence of an accident; the awareness of the population regarding the nature of operations, of risks and properties of the used chemical substances; the significance of an efficient, open and in-time communication with the mass-media and the stakeholders. Mining is thus confronted, as many other industrial activities, with the necessity to make more efforts in order to prevent accidents and mitigate their impact by planning, awareness and communication.

Such efforts are the main purpose of the APELL Programme initiated by UNEP. APELL is a process helping the communities to prepare and respond in an appropriate manner to accidents and emergency situations.

In Romania, there are felt the consequences of past irrational mining. Some mines still carry on their activity, many of them being unprofitable; many others were inappropriately closed due to lack of funds and concern. In the past, one fact was not taken into account: that when the mining activity has stopped the problems related to pollution have not disappeared. However, the abandoned mining sites deposit large quantities of wastes with a significant content of mobile metals and suspended particles, which, by their drainage by rivers or rainfall, are carried and introduced into the aquatic circuit. This is the reason why the abandoned mining sites represent large scale potential pollution sources, affecting the environment and especially the watercourses.

The local community is greatly affected by the mining activities, subjected to pollution risks causing health problems and to property loss due to unexpected incidents. This is the case of the subsidence event in Field II Ocele Mari, when 2 million m³ of brine, diesel and mud swept away 22 houses and damaged many others down the valley.

Communication with the public in time of an emergency situation is a critical element of the emergency response procedures which the mining companies should approach in a professional manner. The continuous communication even in the absence of some concrete data is vital for the maintenance of public trust and for the avoidance of the panic situations.

This is one of the main objectives of the APELL Programme, initiated by UNEP. APELL is a process helping the communities to prepare and respond in an appropriate manner to accidents and emergency situations.

The importance of APELL

- Implementation of regional policies at community level and the provision of informational flow for all the stakeholders
- Integrated application of the European legislative provisions (SEVESO)
- Identification and awareness of risks within the industrial communities
- Improvement of the mechanisms of crisis management
- Development of some strong local relationships involving different groups of interest in mutual actions, developing structural relationships
- Preparedness of an Integrated Emergency Response Plan to be used by all the stakeholders
- Initiating the risks mitigation measures and coordination of the preparedness activities regarding industrial risks

Scope and application

In the mining industry, the problems related to mining operations imply major environmental risks, which are completed by serious social connotations. APELL has developed the programme for mining in close cooperation with the International Committee for Mining and Minerals (ICMM), gathering a valuable experience in matters specific to the mining operations: tailing ponds, tailings dumps, transfer and transport activities of the dangerous

substances to and from the sites, pipes cracking, soil subsidence, spill of chemical substances, fires and explosions, risks associated to mine closure. The APELL approach intends to improve the response capacity of all those involved in risk situations, achievable by means of a direct communication structure between the partners, by actions which reduce the occurrence probability of hazards in mining.

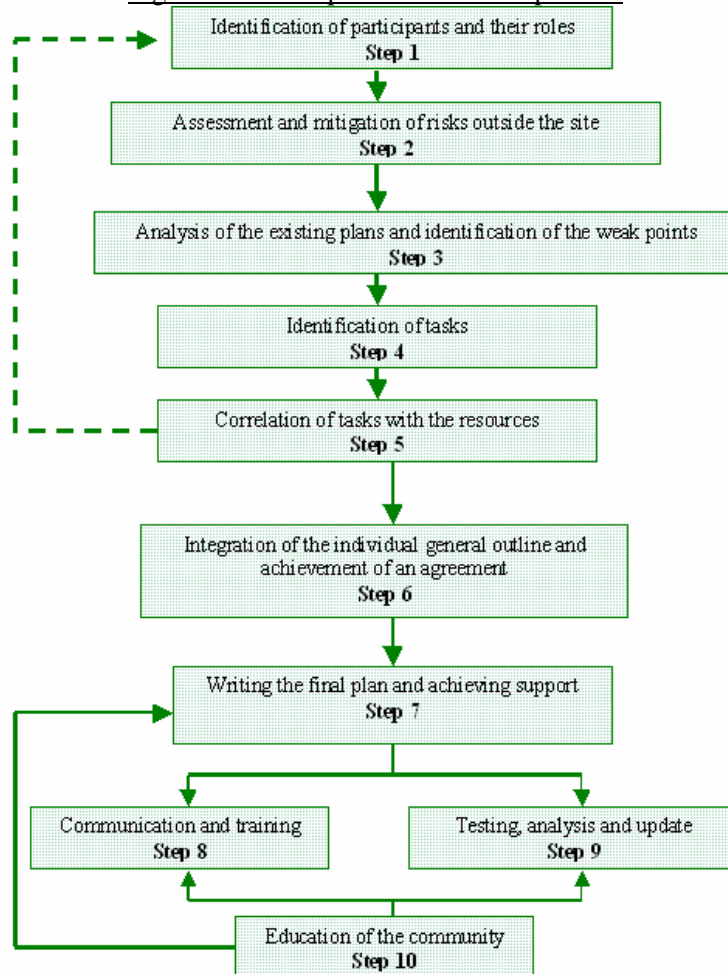
The “APELL for Mining” guideline approaches the risk factors specific to the mining industry and presents the way in which the UNEP’s APELL Programme may be applied in this field of activity. This helps to elaborate an emergency response plans applicable in the process of management of mining sites.

The ten steps of the APELL process regarding the communication in case of emergency

The APELL Programme is a management instrument acting at local level to support the information and decision structures regarding potential hazards that threaten the community.

This following ten-step process that intends to elaborate integrated emergency response plans at community level, by involving the stakeholders in a mutual dialogue and cooperation. In many cases, the companies make most of the efforts necessary to prepare and successfully develop an APELL Programme. These develop several correlated activities, such as: risk management; community consultation and communication; social and environmental impact assessment, and that means that most of the information and relationships necessary for implementation of APELL already exist. Some governments require development of preparedness planning actions for emergency response, which include the site-emergencies impact on the off-site areas.

Figure 1: The steps of the APELL process



The results of APELL

With the implementation of the APELL process, the expected results are:

- Institutional and practical preparedness for the assurance of the emergency response
- Integrated plans for community response to environmental situations
- Information and coordination system in case of emergency
- Good practice guidelines for various industries
- Handbooks
- Technical Reports
- Informative booklets

Beneficiaries

The main beneficiary of this guide is the management system of the mining exploitation, by offering assistance to executive managers, as well as the associated personnel, responsible with the emergency planning.

Another beneficiary is represented by the emergency response services and the groups within the communities, which can use this handbook in developing the APELL Process, as a result of the documentation regarding the mining accidents.

The Governments may use this Guide as an educative tool, in order to improve the degree of awareness and to facilitate and encourage the revision of plans and programmes from the mining sector or from the areas with high risk operations.

The industrial associations use the guidelines of this handbook in order to highlight the significance of the emergency preparedness and to provide assistance to the companies in approaching these works.

The companies may train specialists in relationships with the economic partners, with the community, communication, environment, health and safety, for emergency situations, using this guide which approaches issues referring to communication, as an important part of the emergency response strategy.

In Romania, among the beneficiaries and users of this Guide there are The Ministry of Environment and Sustainable Development, the National Agency for Environmental Protection; the Ministry of Interior and Administration Reform, The Environmental National Guard; Romanian Red Cross Society; local authorities and communities.

Benefits of the APELL implementation in the mining industry

The benefits of implementing this program in the mining industry are outspread on three directions:

- 1) mitigation of the probability of accidents and the mitigation of their impacts. Even if the risks are considered to be low, the consequences of a major accident on a company may be severe from the physical, financial or notoriety point of view. APELL may help to protect the company, as well as the community. The mining facilities have usually large sizes, with a specific interaction with the environment and the community. They may be located in remote areas or near localities, in unaffected or damaged areas, in areas with a historical and cultural background or with a remarkable biodiversity in all the climatic areas and in various geomorphologic units. The accident risks and their impact range a lot from a mining operation to another. This offers an even higher significance to the process of risk identification and preparedness for on-site emergencies. Also, there should be taken into account the dynamics of the mining operations and communities, which involves the revision, testing and communication of the emergency plans.
- 2) in helping to build the relationships between the mining operation and community, which will have long term benefits. The mining companies become more and more transparent, more active and more responsible regarding the relationships with the

stakeholders. The emergency response planning requires an efficient communication between all the stakeholders, helping to the strengthening of the relationships based upon common interests.

- 3) in favoring the awareness of the community and the understanding by the population of the operation and its management, which should generate trust and support of the companies' needs, whether they are confronted with an accident or not. This aspect will be seriously tested if a major accident occurs, but if there is trust, the company will find it easier to communicate in an efficient manner in case of an emergency, as well as to come back more quickly to the normal state after such a situation.

Implementation activities in Europe

During the last 5 years, the activities for the implementation of APELL in Europe were not so intense. However, there were developed significant APELL actions in Russia, the Baltic countries the Czech Republic, France and Poland.

The action of the APELL Programme in the Baltic countries has started in 1992. This was supported by the emergency response professional services and was transposed into practice by several pilot projects, training demonstrations and workshops. Also, there was implemented an environmental safety and protection programme in the region of the Blatic Sea.

In Russia, there was developed a series of four APELL workshops. The main activities in this country have focused on the transboundary cooperation within the arctic region and the problems raised by the nuclear power plants.

In 2003 there began also the implementation actions of APELL in France. In the first place, this led to an improvement of risk communication and public information, as well as to a closer cooperation between the industry, community and local authorities.

APELL for Mining in Romania

The need to apply this guide in the mining industry in Romania is highlighted by the visible regress that the mining industry has been undergoing since 1990. This situation still carries on. The socialist period (1944-1989) has left us as inheritance the effects of intensive exploitation, practiced with the purpose of the yield increase. Nowadays, these exploitations are economically inefficient and non-profitable; many of the deposits have been depleted even since the former period. The closed mines do not benefit of appropriate ecological rehabilitation and conservation programmes, having negative environmental influence.

Thus, these environmental and sustainable development problems related to the mining industry should receive a correct resolution, according to the European regulations. In this respect, with the support of the Division of Technology, Industry and Economics within UNEP (United Nations Environmental Programme) the "APELL for Mining" guide has been translated. The Romanian version was presented to the public on the occasion of the Vth edition of the International Conference ELSSEDIMA (Environmental Legislation, Safety Engineering and DISaster MAnagement) on the topic "Environmental safety Management" (31 July 2006, Baia Mare).

The volume has appeared in July 2006 at the Accent Publishing House in Cluj-Napoca, translated, revised and disseminated by the Environmental Partnership for Mining – EPMining in Cluj-Napoca. The translation of the volume was reviewed and coordinated by a team of experts within the United Nations Environmental Programme, coordinated by Mrs. Ruth Coutto.

There have been made important steps towards the implementation of the APELL Programme by the initiation and development of the project entitled DENATEH - Mitigation of vulnerability and consequences of natural and technological disasters. The DENATEH Project is structured on two essential components: Implementation of the APELL Programme

in Romania, for disaster management, APELL-RO, and Impact assessment of dangerous substances by means of GIS and ACR technologies, in order to support local communities, GISAR. The first component of the DENATEH Project is focused on APELL - natural and technological risks and hazards management and mitigation.

The purpose of this project is to introduce the APELL-RO concept and to set the basis for a technical APELL-RO platform, so that the environmental issues are efficiently controlled and mitigated. The integrated approach of the measures provided by the priority directions of the APELL Programme contributes to the mitigation of chain effects generated by the manifestation of each type of risk that might seriously damage the environmental safety.

Within another Romanian project, there was organized the International Workshop “The Need and Importance of Implementing the APELL”, developed on the 27th of June 2006, within the Faculty of Environmental Sciences in Cluj-Napoca, Romania. The workshop presented the United Nations APELL Programme, as well as the ongoing national projects, debating important aspects regarding the emergency plans, risk communication activities and education of the population in case of environmental emergencies. The workshop has gathered experts in the academic environment, central and local authorities, industrial operators and NGOs, in order to create an institutional APELL network.

Another measure to implement the APELL Programme in Romania was the creation of the “National APELL Centre for Disaster Management” Foundation. This is a private, independent and non-governmental entity whose purpose is to prevent technological risks, by taking protection measures to respond to emergencies, and by implementing methods to mitigate the risk, as well as to promote environmental policies and strategies, in the context of sustainable development by information, documentation, training, research, consultancy and dissemination activities. The activities of the foundation are based on the unitary structure of the sustainable growth and development, on the environmental safety management, as well as on the welfare of the local communities in the context of accidental pollution prevention and emergency preparedness.

The objectives of the foundation are to educate, prepare and improve the specialists in the field of technological risk management and analysis; to prevent technological and natural accidents; to promote experimental and applicative research in the environmental protection field; to coordinate the programs necessary for the implementation of good policies in the field of environmental risk and safety; to integrate its activities within an international experts network.

Activities of the Foundation

Elaboration of environmental studies and assessment reports to examine the possibilities for rehabilitation and/or to secure the environmental integrity;

Co-operation with universities, research institutes, information offices, technical publishers, professional organizations, as well as governmental and non-governmental organizations and businesses;

Coordinating and/or implementing relevant research and development projects of regional/national/local interest;

Organizing lectures, courses, workshops, symposiums and conferences;

Promotion of techniques, technologies, products and equipments required by international standards, in order to optimize the informational flux, raise the quality of the services in all socio-economic-administrative branches;

Generate significant interdisciplinary research/development projects;

Cooperation with companies and governmental and non-governmental organisms in the country and abroad;

Raise financial support for required professional activities;
Printing magazines and books on relevant and/or supportive topics.

Conclusions

APELL is recognized as a significant process or tool to create the adequate awareness and preparedness. This programme should be maintained to a high level of implementation and enhanced by activities such as:

improvement of the relationships with the private sector, including the industrial and insurance branches, taking into account the increase of the social responsibilities in the common agenda;

work with more practical demonstrative projects in cooperation with the national governments, national platforms or APELL centres for the institutionalization of APELL at national level;

Elaboration of the regional strategies for expanding the APELL implementation in other regions of the country.

Consequently, the NGOs and local community should get involved as much as possible in assessments, and the local needs and causative factors should be integrated in a coherent disaster methodology. The relevant international organizations involved in disaster management are encouraged to eliminate the overlapping and double efforts by means of knowledge and respect for the competent authorities, enhancement of the dialogue and practical projects which unify the phases of the disaster management cycle.

The learning of the incidents' lessons is of utmost importance in improving the policies and future mitigation actions of the similar incident consequences. One should pay a great attention to the process of ensuring the dissemination and practical implementation of the lessons learnt.

It is intended to disseminate this guide and the APELL concept applicable to the mining industry, pursuing the increase of the degree of local population awareness exposed to the risks generated by these activities and the improvement of communication among all the stakeholders in the emergency situations management.

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