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MEETING OF THE SIGNATORIES TO THE CONVENTION ON THE TRANSBOUNDARY EFFECTS OF INDUSTRIAL ACCIDENTS

MEETING OF THE PARTIES TO THE CONVENTION ON THE PROTECTION AND USE OF TRANSBOUNDARY WATERCOURSES AND INTERNATIONAL LAKES

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SEMINAR ON THE PREVENTION OF CHEMICAL ACCIDENTS AND LIMITATION OF THEIR IMPACT ON TRANSBOUNDARY WATERS
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EFFORTS AND ACHIEVEMENTS FOR THE PREVENTION OF CHEMICAL ACCIDENTS WITH TRANSBOUNDARY IMPACTS, FOR THE LIMITATION AND MITIGATING TRANSBOUNDARY EFFECTS OF THE ACCIDENTAL POLLUTION FROM CHEMICAL INDUSTRY

Discussion paper transmitted by the Government of Romania */

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1. Introduction

The environment pollution, by social-economic consequences nature which produces and by its wide spreading sphere is a problem both with national and international implications, specially when the pollution sources, closed to another country boundaries, bring about noxious effects upon the neighbour country.

The most serious and with the persistent effects are the accidental pollutions of the receiver waters by waste water which come from the chemical and petrochemical industry.

2. Technologies for the accidental pollutions prevention of the transboundary waters

All the technologies production from the chemical industry presents advanced risks of pollution.

The identification of potential industrial accident causes plays the decisive role in applying the prevention principle. The technical measures as well as the action plan for preventing industrial accidents are established on the base of the identified causes.

The most frequent causes of incidents or accidents are the following ones:

a) in the production processes

- in the chemical industry: obsolete technologies, natural events, ill-willed actions and deficiency in management;
- in the petrochemical industry: oil-extraction and refineries, main transport pipes of petroleum products, storage reservoirs and petroleum waste storage ponds.

b) in the technologies of waste water treatment coming from the chemical industry: missing, overloading or low efficiency of local or final waste water treatment plants.

2.1 Preventive technologies

Prevention of water pollution is approached in two correlated ways in Romania:

- by designing the low risk pollution technologies of production;
- by providing proper wastewater treatment plants located in the proper site.

Providing technologies of production with the minimum risk on water pollution is approached by:

- choosing the most suitable version as far as environment protection is concerned, when the project is at the inception phase;

- modernization and updating the existing technologies.

The wastewater treatment plants are designed to cover the following situations:

- the influent overloading;
- damages of technological installations which are emission sources;
- damages of some parts of wastewater treatment plants.

2.2. Technical measures and safety conditions of dangerous installations to be implemented

Safety systems are provided by the design of the dangerous technologies. These systems comprise safety operation means and measures to prevent the industrial or working accidents.

There are specific or general safety measures to prevent industrial accidents.

The specific measures are:

- cooling circuits to avoid overheating of some parts of the technological installations which are might cause fire, with the effect of uncontrolled chemicals discharge;
- provision of inert gas systems above the hazardous substances storage reservoirs to avoid explosion due to the contact with air;
- placement of storage reservoirs in special folded up areas provided with insulated walls the avoid dangerous substances spillage in case of accident;
- insulation of the solid and liquid waste dump areas.

The general measures are:

- provision of measurement and control equipments (flowmeters, manometers, pH-meters, level indicators, automatic chemical analyzers);
- permanent monitoring by laboratory analysis.

3. International alarming systems which include action plans for the situations when unexpected events occur

"The Alarming System in Case of Accidental Pollution of Romanian Waters (SAPA-ROM" is into operation.This system comprises two subsystems:

- the national subsystem which is referred to the local pollution accidents with local effects; these accidents are set off registered;
- the international subsystem related to the pollution accidents in the transboundary context; these accidents are controlled and registered.

The main water quality indicators are measured in so called "Section of Control".

In the transboundary context the following rivers are monitorized: Tisa, Somes, Crisuri, Mures, Bega-Timis, Nera-Cerna, Siret and Prut.

The inland rivers which might produce transboundary effects on the Danube river are: Jiu, Olt, Arges, Vedea, Siret, Prut.

To measure the effect of potential accidents of the above mentioned inland rivers the "Section of Control" are located upstream the point where the respective rivers are issuing their waters into the Danube River.

There is a special monitoring system organized for the Danube River (SAPAD). This system is based on a separated methodology and comprises 11 "Section of Control" extended in the framework

of the Transnational Monitoring Network (TNMN) of the international subsystem. In TNMN are included all the Danube riparian countries.

One PIAC - Principal International Alert Center - is organized in each Danube riparian country. One of the main role of PIAC is to assure the intercountries exchange of information regarding the transboundary pollution.

PIAC-08 corresponding to Romanian unit is located at the Ministry of Waters, Forests and Environment Protection.

All actions taken for inland rivers which, in fact, belong to the Danube River basin, as well as for the transboundary rivers are oriented to the target of minimization of pollution effects.

4. Notifying Proceedings and mutual assistance in case of industrial accidents

Notifying proceedings in case of the accidental pollution with transboundary impacts and also the mutual assistance which the countries involved give one to another in order to minimize the effects, make a separate chapter in frame of the bilateral hydrotechnical conventions with the neighborhood countries. The bilateral agreements with the Romania's neighbors situation are the following:

(1) With Hungary - there is in force "Convention between Hungarian People Republic Govern and Romanian Socialist Republic Govern for hydrotechnical problems regulations refer to the water which form or cross the boundary" signed at the Bucharest on 23-06-1986.

(2) With Yugoslavia: there is in force "Agreement between Romania People Republic Govern and Yugoslavian Socialist Federative Republic Govern about hydrotechnical problems on the hydrotechnical systems and the water running on the boundary or cross the boundary" signed at Bucharest in 1955.

(3) With Ukraine: there is in force "Agreement between Romania's Govern and Ukraine's Govern on the cooperation in boundary water management field" signed at Galati on 30-09-1997.

(4) With Moldavian Republic: there is on going process of negotiations of such agreement.

(5) With Bulgaria: an agreement on this problem has not been contracted yet.

The respective agreements provide about the mutual assistance drawing attention on the accidental pollutions, pollutant nature, evaluation about propagation speed of the pollution wave and the time when it might flow on the neighbor country territory, assessment upon the pollutant quantity and about giving help with necessary means for the pollutant substances recovery if they are solids or emulsions.

5. Methodologies for dangerous substances identification along the transboundary rivers

In Romania, the water resources monitorig is made in the framework of the National System for the Water Quality Monitoring (NSWQM). This system comprises about 300 the first degree of importance (that means important control sections located usually downstream the large pollutant sources - chemical integrated plants, animal breeding farms) and some tens of the second degree of importance control sections.

Groundwater and lakes belong to the same monitoring system.

Taking into consideration that the hole country territory belongs to the tributary area of the Danube river basin, NSWQM makes available its system of dangerous substances identification if accidental pollution with the transboundary effect occur. Pollutants identification is achieved in two ways:

1. By observers of the National Company "Apele Romane". These observers use to inspect the river sides and they have also other duties, e.g. to announce the state of the flood protection dikes. Besides, natural persons who observe the effects of pollution, like: floating materials, petroleum products, dead fish, etc, are supposed to announce the responsible authorities.

2. By analyzing water samples in the NMSWQ laboratories. The quality indicators which are to be analyzed are established depending on the specific activities in the respective zone. These indicators are divided in two categories: a restrictive number of the of very important indicators which give a rapid evaluation of water quality (rapid flux) by daily analysis and a higher number of indicators which are monthly or weekly analysis (slow flux).

5. National legislation

The national legislation provides the obligation of potential polluters to take measures for pollution prevention and for water quality improvement.

The main important legal acts into force are:

(1) Law on the Environmental Protection no. 137/1995;

(2) Water Law no. 107/1996;

(3) "Normative regarding establishment of the pollutant load limits from the waste water discharged into the natural water resources - NTPA 001/1997" approved by Government Decision no. 730/1997;

(4) "Normative regarding discharging conditions of waste water into the municipal sewage network - NTPA 002/1997" approved by ministerial order no.645/I.O.-5029/N.N.-7190/S.D.;

(5) Romanian standard (STAS) no. 4706/1988. "Surfaces Water. Categories and quality technical conditions".

6. Conclusions

Generally chemical accidents (especially those produced on the chemical platforms located near by the boundaries) will be prevented by taking the measures mentioned above. Romania being in the transition period to the marked economy where the supercentralized system is replaced and the privatizing process is going on, there are excellent conditions for the implementation of these measures.

Part of a conditions are created by environmental legislation. Restrictions related to the financial conditions hinders the application, generally, of the environmental legislation and concerning water, especially.

Practically it starts from the beginning- from the replacement of the obsolete pollutant technologies to modernization and improvement of the existing technological installations.

Romania shows continuously desire for to adopt the best available technics. There is a good data-base available related to the environmental protection. There are also research institutes, renewed legislation and a continuos activity for harmonization and approximation of European Union and international legislation in the water field and generally in the environmental field.

All these make Romania a country preoccupied for environmental protection.