

## **UNECE CONVENTION ON THE TRANSBOUNDARY EFFECTS OF INDUSTRIAL ACCIDENTS**

## **UNECE CONVENTION ON THE PROTECTION AND USE OF THE TRANSBOUNDARY WATERCOURSES AND INTERNATIONAL LAKES**

### **SEMINAR ON THE OCCASION OF THE TWENTY-FIFTH ANNIVERSARY OF THE SANDOZ ACCIDENT**

**8 and 9 November 2011**

#### **REPORT**

#### **I. INTRODUCTION**

1. The seminar on the occasion of the twenty-fifth anniversary of the Sandoz accident was held on 8-9 November 2011 in Bonn, Germany. The event was organized under the leadership of the Government of Germany, with the support of the UNECE secretariat of the Industrial Accidents and Water Conventions.

2. The workshop was attended by seventy five experts from twenty five countries of the pan-European region. Representatives of the following international organizations and non-governmental organizations were also present: International Meuse Commission (IMC), International Commission for the Protection of the Danube River (ICPDR), International Commission for the Protection of the Elbe River (ICPE), International Commission for the Protection of the Odra River (ICPO), International Commission for the Protection of the Rhine (ICPR), Commission for the Navigation of the Rhine, Association of Rhine Water Works (RIWA), and Caucasus Environmental NGO Network (CENN). Other participants representing academia and research institutes - Non-profit analytical agency "Ynanch-Vepa" (Turkmenistan), Technical University of Ostrava (Czech Republic), University of Stuttgart (Germany), Institute for Water Problems of the Russian Academy of Sciences, as well as private sector - Cefic European Chemical Industry Council (represented by BASF SE), GCE Group (City Centre of Expertise, Russian Federation) and GFI Umwelt (Germany) - also attended the seminar.

#### **II. OBJECTIVES**

3. The objectives of the seminar were the following:

- (a) Reflect on the work carried out and progress achieved in the area of prevention of accidental water pollution in the UNECE region;
- (b) Examine existing deficits in prevention of water pollution by chemical substances, and formulate the way forward to address these deficiencies;

(c) Reflect on the results to be presented by the Joint Expert Group on Water and Industrial Accidents with regard to the methodology for harmonized contingency planning for accidents with potential impacts on transboundary watercourses.

### **III. SUMMARY OF THE DISCUSSIONS**

4. The seminar was opened by Mr. Jochen Flasbarth, President of the Federal Environment Agency of Germany, who drew attention to the crucial role of the transboundary water cooperation in the prevention of accidental water pollution. Mr. Sergiusz Ludwiczak, Deputy Director of the UNECE Environment Division, Chief of Transboundary Cooperation Section, provided an overview of ECE activities since the Sandoz accident and related to the prevention of accidental water pollution, including the negotiations of the existing legal framework.

5. The scene for the seminar was set by recalling the Sandoz accident and presenting a summary of the developments after the accident, in particular, with regard to international law aimed at protecting transboundary watercourses from the effects of industrial accidents.

6. The introductory session was followed by presentations on the progress achieved and existing deficits in protecting the international watercourses, in particular Rhine, Danube, Chu-Talas, Kura and Amur river basins, from pollution by chemical substances. Experts from different governmental institutions, international and non-governmental organizations, as well as from private sector provided evidence on progress achieved and shared their concerns with regard to the areas where further improvement is needed.

7. In particular, the presentations unveiled how the negative impact of the Sandoz accident was turned into a discussion and an opportunity for better risk and hazard management. The accident triggered a wave of publicity as well as powerful political attention which, as a result, led to the establishment of far-reaching long-term political targets, adoption of improved legislation, establishment of early warning and alert plans, installation of better technical equipment and many other safety measures. The experience of more advanced countries was taken up by the countries with economies in transition, where the situation with management of emergency situations and prevention of accidental water pollution has significantly improved in the last years.

8. With regard to the remaining concerns, the presenters pointed out the following issues that should attract attention and be addressed in the near future:

1. Risk coming from shipping;
2. Definition of pollution and new sources of risk;
3. Communication technologies and information to the public;
4. Risk of complacency in ensuring prevention and maintaining high level of safety.
5. Inventory of risk sources, including abandoned sites;
6. Enforcement of procedures and safety standards;

9. Following the presentations the floor was opened for discussing the challenges identified by speakers as still existing in the area of prevention of accidental water pollution.

10. During two subsequent panel discussions, focusing on the specificities of the Western European and Eastern European countries, the participants of the seminar analyzed the challenges and reached a series of conclusions and recommendations that were agreed upon during the last session of the seminar.

11. The Co-Chairs of the Joint Expert Group on Water and Industrial Accidents presented the Group's work aimed at elaborating a methodology for contingency planning and crisis management in the context of transboundary waters. They also presented the outline of the methodology,

including: (i) principles for contingency planning and crisis management in transboundary context, (ii) recommendations for action by ECE members states, competent authorities and operators of industrial installations hazardous to waters, as well as (iii) annex describing crucial issues of hazard and crisis management as relevant for the content of the methodology. The participants expressed their support to the work of the Joint Expert Group. At the same time, they requested that the methodology primarily focuses on giving guidance on how to handle aspects that are specific to contingency planning in a transboundary context. The methodology should also make clear which requirements in terms of safety management must be fulfilled as a prerequisite for effective contingency planning

12. A series of thematic presentations focusing on the topics such as threshold value for water pollution, flow time model, early warning systems and differences in the Eastern and Western approach to the risk management, were also delivered during the seminar.

13. The participants had also an opportunity to listen to a presentation on addressing risk governance and management from a sociological perspective. Mr. Orwin Renn from the University of Stuttgart discussed in his presentation the complexity, uncertainty and ambiguity as aspects on the basis of which the risk management strategies should be designed. He also introduced the three aspects in relation to the involvement of different stakeholders for effective risk management process. Mr. Renn concluded his presentation by underlining the role of policy makers to help people to develop coping mechanisms to deal prudently with the necessary uncertainty that is required for societies to progress.

14. All presentations are available on the UNECE website:

[http://www.unece.org/sandoz25\\_seminar.html](http://www.unece.org/sandoz25_seminar.html)

#### **IV. CONCLUSIONS OF THE SEMINAR**

15. The participants of the seminar agreed on the following conclusions and recommendations:

- Challenge 1: Risk coming from shipping

Conclusion:

25 years after the Sandoz accident, the transport of hazardous goods by ships, but also by other means of transportation (railway, pipelines, road), poses a risk potential for water pollution that is higher than the one from fixed major industrial installations, in case of accidents. To this end, a study suggesting possible policy or governance solutions for decreasing the risk potential should be prepared. .

Recommendation:

The Joint Expert Group on Water and Industrial Accidents should be tasked by the Bureaux of Industrial Accidents and Water Conventions, in cooperation with the Section of the Transport of Dangerous Goods of the UNECE Transport Division, with carrying out a relevant study and preparing a set of recommendations.

- Challenge 2: Definition of pollution and new sources of risk

Conclusion:

After the Sandoz accident there had been a number of accidents coming from fixed industrial installations that do not fall under the scope either of the UNECE Industrial Accidents Convention or the EU Seveso Directive, such as the tailing management facilities. Nevertheless, these installations are posing a high pollution risk to the watercourses.

Also the micropollutants – emerging and unknown substances, especially pharmaceuticals or nano particles – create new risks to the maintenance of a good condition of transboundary waters, although not related to accidental pollution.

Both issues need to be addressed.

Recommendation:

The Bureau of the Industrial Accidents Convention should initiate the discussion on tailing management facilities, with the focus on how to increase prevention of accidents related to them. Including the tailing management facilities explicitly in the scope of the Convention, through a relevant amendment, could be considered as possible solution. Development of checklist for tailing management facilities should also be considered.

Regarding the new risk sources, such as micropollutants, it was suggested that the Working Group on Integrated Resources Management of the Water Convention considers this issue after the ongoing work in this area is completed by ICPR.

- Challenge 3: Communication technologies and information to the public

Conclusion:

The experience of the past years has shown that communication in case of accident continues to be a challenge. On one hand, communication problems arise from incompatibility of the systems used across different agencies (technical aspects in communication). On the other hand, in some cases the existing tools are not properly used or the information is not communicated properly due to the mistrust (human aspects in communication). In this context, efforts should be undertaken with the aim to increase compatibility of the systems and to build the trust among different stakeholders in transboundary context including the public in order to ensure an effective communication.

Recommendation:

The Conference and the Meeting of the Parties to the Industrial Accidents and Water Conventions respectively should encourage the exchange of experience and good practices among the Parties and promote the continuous organization of trainings and development of self-training kits aimed at improving communication in case of accident and building trust and understanding between different stakeholders in transboundary context.

- Challenge 4: Risk of complacency in ensuring prevention and maintaining high level of safety

Conclusion:

A relatively high level of safety achieved may give the impression of hazards and risks being under control and that no more substantial efforts are needed in this area. Such a perception - a complacency - could lead to deteriorating the safety level and consequently to the occurrence of accidents. It was also noted that due to the complacency phenomenon, the level of knowledge is being decreased and that the expertise is not transferred from one generation to another. These issues need, therefore, to be addressed. In addition, in the recent years more incidents have been detected at the processing plants rather than at storage plants of industrial facilities. This must be due to the fact that the primary attention after the Sandoz accident was given to the storage plants which have a higher risk potential and for which a catalogue of preventive measures has been elaborated and implemented. The work should continue with elaboration of a catalogue of preventive measures and its implementation at the processing plants.

Recommendation:

The Conference and the Meeting of the Parties to the Industrial Accidents and Water Conventions respectively should encourage awareness-raising campaigns to address complacency and to promote activities aimed at transfer of knowledge between generations of safety experts.

The Joint Expert Group on Water and Industrial Accidents should be tasked by the Bureaux of the Industrial Accidents and Water Conventions with the elaboration of the catalogue of preventive measures for processing plants, with special attention to handling fire waters at these plants.

- Challenge 5: Reliable and up-to-date inventories of risk sources

Conclusion:

The availability of inventories of activities that represent a hazard to waters and the exchange of inventories between the countries still seems to be a challenge. Countries should therefore be assisted in developing tools for ensuring exchange of inventories containing reliable and updated information.

Recommendation:

The Joint Expert Group should be tasked by the Bureaux of the Industrial Accidents and Water Conventions with analyzing the ways and means as well as suggesting solutions for availability of up-to-date inventories and their continuous exchange.

- Challenge 6: Enforcement of procedures and safety standards, including personnel and technical capacity,

Conclusion:

The prevention, preparedness and response to industrial accidents, in particular to those affecting waters, can only be effective if adequate policies are in place and if sufficient number of competent experts and the necessary equipment are available to implement and/or enforce these policies. Therefore awareness raising activities, in particular oriented to the policy makers and to the public, should be continuously performed to ensure the allocation of the relevant budgetary means and public acceptance, including for joint monitoring stations. The expert community should be promoting its work, especially with regard to the policy makers, by showing how the numerous small incidents are prevented from developing into major accidents. With regard to the strengthening of the competence of the relevant experts, sharing of experience, knowledge and best practices should be encouraged. This should be done, on one hand, across different generations of experts and, on the other hand, the knowledge and the expertise should be transferred to the countries with economies in transition. For the latter the organizations joint inspections should be promoted.

Recommendation:

The Conference and Meeting of the Parties to the Industrial Accidents and Water Conventions respectively should encourage and promote awareness raising activities in order to ensure the allocation of adequate budgetary means for prevention, preparedness and response to accidental water pollution. The governing bodies should also promote activities focused on sharing of experience, practices and knowledge.

16. The participants of the seminar requested that their conclusions and recommendations are submitted to the relevant bodies of the Industrial Accidents and Water Conventions for further decisions and action.

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