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**CONFERENCE OF THE PARTIES
TO THE CONVENTION ON THE TRANSBOUNDARY
EFFECTS OF INDUSTRIAL ACCIDENTS**

**WORKSHOP
ON THE FACILITATION OF THE EXCHANGE OF SAFETY
MANAGEMENT SYSTEMS AND SAFETY TECHNOLOGIES
(Chisinau, Republic of Moldova, 4-5 November 2002)**

Report

Introduction

1. The workshop on the facilitation of the exchange of safety management systems and safety technologies took place on 4-5 November 2002 in Chisinau, at the invitation of the Government of the Republic of Moldova.
2. The workshop was held under the auspices of the United Nations Economic Commission for Europe, within the framework of the Conference of the Parties to the UNECE Convention on the Transboundary Effects of Industrial Accidents.
3. It was co-organized by the Ministry of Ecology, Construction and Territorial Development of the Republic of Moldova and the German Federal Environmental Agency. The organization of the workshop was financed by the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety.
4. An open-ended group, with Germany as the lead country, made substantive preparations, including the programme and a background paper (CP.TEIA/2002/6).

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Objectives of the workshop

5. The key objective of the workshop was to contribute to the process of:
 - (a) Increasing the safety at hazardous activities, in particular those located in Central and Eastern Europe; and
 - (b) Harmonizing safety standards in the UNECE region by facilitating the exchange of safety technologies and related know-how.

Participation

6. The workshop was attended by some 80 participants from 20 UNECE member countries representing governments and industry: Armenia, Austria, Azerbaijan, Belarus, Czech Republic, Georgia, Germany, Hungary, Lithuania, Kazakhstan, Poland, Republic of Moldova, Romania, Russian Federation, Slovakia, Sweden, Switzerland, Ukraine, United States and Uzbekistan.
7. The workshop was also attended by a representative of the European Community, the European Bank for Reconstruction and Development (EBRD) and the European Chemical Industry Council (CEFIC).
8. The participation of the speakers and experts from countries with economies in transition was sponsored by the Government of Germany.

Opening - welcome addresses

9. The opening ceremony was chaired by Mr. Gheorghe Duca, Minister of Ecology, Construction and Territorial Planning of the Republic of Moldova, who welcomed all the participants on behalf of the Government of the Republic of Moldova. He expressed satisfaction that the workshop was taking place in Chisinau and that his country could contribute to the activities of the Convention in this way.
10. Mr. Ludwig Dinkloh (Germany), speaking on behalf of the lead country, and Mr. Ernst Berger (Switzerland), the Chairperson of the Conference of the Parties to the Convention, also addressed the workshop.
11. The speakers stressed the importance of the workshop as a forum for discussing how to bridge the gap between the levels of application of safety management systems and safety technologies in hazardous activities throughout the UNECE region and thus strengthen their safe performance. They underlined that one way of achieving this goal was sharing experience of establishing and implementing safety management systems and facilitating the transfer of safety technologies. Different workshops, training sessions and exchanges of experts would be important steps in a programme to build local capacities at hazardous activities and competent authorities in

some countries with economies in transition. The prevention of industrial accidents and especially their consequences for human health and the environment was considered as an issue of concern requiring the cooperation of all UNECE member countries.

12. Mr. Dinkloh and Mr. Berger expressed their appreciation to the Government of the Republic of Moldova for organizing the workshop. Mr. Berger also thanked the Government of Germany for its financial contribution to the workshop's organization.

13. The participants unanimously elected Mr. Dinkloh as the Chairman of the workshop.

Programme

14. Seventeen presentations were made by invited speakers during the course of three sessions (see annex II below):

(a) Session 1 – Bridging the information gap;

(b) Session 2 – Examples of the exchange of safety management systems and safety technologies among Parties to the Convention and other UNECE member countries;

(c) Session 3 – Creating more favourable conditions for safety technology exchange.

15. Each session was led by a chairman and summarized by a rapporteur (see annex II).

Conclusions

16. During the concluding session on the second day, the workshop's conclusions were presented by the sessions' rapporteurs and the Chairman. The conclusions are addressed mainly to the operators of hazardous activities and to the competent authorities in the UNECE member countries. The conclusions, as contained in annex I to this report, were discussed and endorsed by the workshop's participants and submitted to the Conference of the Parties to the Convention for further consideration at its second meeting on 6-8 November 2002.

Closing

17. The workshop was closed by Mr. Dinkloh, who expressed his appreciation and that of all the other participants to the Government of the Republic of Moldova for organizing the workshop and for providing excellent facilities for it. He also thanked the speakers, the sessions' chairmen and rapporteurs as well as all the participants for their valuable input to the discussions and the event's final outcome. He also expressed his appreciation to the UNECE secretariat for making its own input to the workshop and participating in its preparations.

Art exhibition “Man, technology and nature”

18. An art exhibition entitled “Man, technology and nature” was organized at the workshop venue to link the workshop and the second meeting of the Conference of the Parties to the Convention on the initiative of the delegation of Germany and the EcoArt Association of the Republic of Moldova. The exhibition was inaugurated by Ms. E. Antochin (German Embassy in Chisinau), Mr V. Mungio (President of the EcoArt Association) and Mr. E. Berger. Then followed a presentation on “Art – bridge between technology and nature” by Ms. U. Miksche (Germany).

Annex I

CONCLUSIONS

OF THE WORKSHOP ON THE FACILITATION OF THE EXCHANGE OF SAFETY MANAGEMENT SYSTEMS AND SAFETY TECHNOLOGIES

TO BE SUBMITTED TO THE CONFERENCE OF THE PARTIES TO THE UNECE CONVENTION ON THE TRANSBOUNDARY EFFECTS OF INDUSTRIAL ACCIDENTS FOR CONSIDERATION AT ITS SECOND MEETING

I. GENERAL REMARKS

1. Industrial accidents and related safety problems are mainly caused by ineffective safety management, insufficient human resource development, and obsolete or poorly maintained technology. Other important reasons may be a lack of proper regulations, inspection systems and penalty systems which have to be implemented by the operators of hazardous establishments and the responsible authorities.
2. Technology transfer, including building up innovative safety management capacities and improving human resource development in hazardous establishments and the responsible authorities, can significantly reduce the risk of industrial accidents and their effects on humans and the environment.
3. The countries with economies in transition especially need both a transfer of know-how on technical safety measures and organizational capabilities to improve production efficiency and risk management. These are key issues in achieving a high level of safety and a good economic performance to enable them to compete on the world market. In this respect, it is of great importance to create favourable conditions for the required transfer of technology and for encouraging outside investment.

II. DEVELOPMENT AND APPLICATION OF HARMONIZED TECHNICAL STANDARDS AND GUIDELINES ON SAFETY

4. Harmonized technical standards and guidelines on safety should be applied and the mutual recognition of such standards and guidelines amongst Parties to the Convention should be promoted to reduce trade barriers between them.
5. Documentation on existing standards, e.g. established safety management systems and the BAT (best available technique) notes for the implementation of the Integrated Pollution Prevention and Control (IPPC) Directive (96/61/EC), which include also safety technology standards, could serve as a basis for technology transfers.

6. In addition, guidelines developed by international commissions for the protection of rivers (e.g. Rhine, Elbe, Danube) to establish safety and accident prevention standards for authorities and operators should be used by countries with economies in transition as preliminary standards. These can be implemented as guidelines to comply with the safety requirements of the Convention on the Transboundary Effects of Industrial Accidents.
7. Existing advanced process, management, and product standards such as those of the International Organization for Standardization (ISO) or the European Committee for Standardization (CEN), should be recognized to accelerate this development.

III. EMPHASIS ON WATER

8. The Convention covers industrial accidents that may have transboundary effects either on the air or on water. Past experience shows, however, that accidents with transboundary effects through the contamination of rivers and lakes are the most frequent.
9. Consequently, cooperation with the relevant working groups of the UNECE Convention on the Use and Protection of Transboundary Watercourses and International Lakes and the different expert teams on accident prevention of the above-mentioned international river commissions should be intensified to develop harmonized safety and accident prevention standards which could also serve as an important basis for technology transfer.

IV. SPECIAL DEMANDS OF EXISTING HAZARDOUS ESTABLISHMENTS

10. Older hazardous establishments are of great importance for the economy and in particular for employment, especially in countries with economies in transition. Because financial resources are generally limited, advanced techniques can be adopted only step by step in these countries. Good results have been achieved by starting with low-cost measures followed by more sophisticated technologies over a period of 5 to 10 years. Some tools for this approach were presented during the workshop.

V. SAFETY MANAGEMENT SYSTEMS

11. Safety management systems for hazardous activities are necessary for operators to outline, implement and enforce their safety policy. Measures to prevent or mitigate the impact of criminal and unauthorized actions on hazardous activities should be considered as part of the safety management systems.
12. Experts should transfer information on the ecological and economic advantages of safety management systems within the scope of the Convention.

VI. SAFETY AND CLEAN TECHNOLOGY LEAD TO MORE EFFICIENCY AND ECONOMICAL PRODUCTION

13. The application of safety technology in hazardous establishments fosters the development of a more efficient and more economical production, which is necessary for sustainable development.

14. In the long run economic gains can be obtained only on the basis of sustainable development. Therefore, it is necessary to use the potential of clean technology transfer to combine economic growth with environmental protection. The development of strategic programmes relating to clean technology should be promoted within the scope of the Convention.

VII. PARTNERSHIPS AND EXCHANGE OF EXPERTS

15. The transfer of safety technology or clean technology must be accompanied by the transfer of knowledge and expertise, i.e. by experts. This is an important contribution to creating a self-sustaining capacity and capability to ensure progress.

16. For the countries with economies in transition, partnership-based systems for training programmes and exchanges of experts on different levels should be developed among the Parties to the Convention. For example, a group of representatives of the business community might be established within the framework of the Convention to help the UNECE countries in the creation of an enabling environment for the transfer of safety technologies and know-how. The development of national industry federations should be encouraged to facilitate this networking and transfer of expertise.

VIII. ROUND TABLES AND EXPERT MEETINGS

17. Regular meetings and round tables of experts should be held more often both nationally and internationally. They are important tools for improving cooperation and enabling a faster exchange and use of knowledge, e.g. on improved safety, environmental performance and production efficiency. Such meetings of experts from selected branches of industry or different regions with common interests are relatively easy and inexpensive to organize.

IX. DEVELOPING INTERNATIONAL PROGRAMMES

18. Safety technology transfer within the framework of the UNECE Convention on the Transboundary Effects of Industrial Accidents should be as efficient as possible. This requires coordination, which can only be done on an international level and should be supported by the more advanced industrialized countries. It is in the interest of all UNECE countries to improve their relationship by creating similar economic and living conditions. This opens up the prospect of new markets.

19. It is therefore recommended that international financial institutions and the European Commission, together with the EU member States, should use existing instruments and/or initiate new programmes to facilitate the introduction of best available technologies into hazardous establishments in Eastern Europe. This should also comprise effective instruments for ensuring for instance:

- a) Financial support;
- b) An attractive enabling environment for investors;
- c) Low-interest credits; and
- d) Enforcement, e.g. adequate training for project preparation and management.

X. FURTHER UNECE WORKSHOPS

20. Further workshops on the facilitation of the exchange of safety management systems and safety technologies should take place within the framework of the Convention to stimulate their continuous application and to decrease the risk of industrial accidents. The Parties are invited to take the lead for such workshops.

Annex II

TITLES OF PRESENTATIONS AND NAMES OF SPEAKERS

Session 1 - Bridging the information gap

Objective: Provide information on how the Convention on the Transboundary Effects of Industrial Accidents promotes the exchange of information and safety technologies, provide information on available methodologies and best practices and share experience related to improving safety at hazardous activities

Chairman: Mr. J. Michalik, Professor, Central Institute for Labour Protection, Poland

Rapporteur: Mr. A. Varduca, Director, National Research Institute for Environmental Protection, Romania

1. The Convention on the Transboundary Effects of Industrial Accidents and technology exchange – a short introduction
Mr. S. Ludwiczak, Secretary of the UNECE Convention on the Transboundary Effects of Industrial Accidents, United Nations Economic Commission for Europe
2. Implementing an effective safety management system
Mr. S. L. Cassidy, Issue Manager - Health, Safety and Environment, European Chemical Industry Council
3. Identification of problems in improving safety measures:
 - (a) Basic problems encountered in the Russian Federation
Mr. V. Panteleev, Risk and Safety Institute, Russian Federation;
 - (b) Basic problems encountered in Ukraine
Mr. Edouard Granovsky, Risk and Safety Institute, Ukraine
4. Assistance in local and national capacity building by the European chemical industry: establishment of a national response centre
Mr. S. Fiedler, BASF AG, Germany

Session 2 - Examples of the exchange of safety management systems and safety technologies among Parties to the Convention and other UNECE member countries

Objective: Share information and experience in bilateral and/or multilateral cooperation resulting in the exchange of safety management systems and safety technologies for the prevention of, preparedness for and response to industrial accidents. This session will consist of presentations by Parties and other UNECE member countries on their experience in participating in bilateral and/or multilateral projects aimed at strengthening safety measures and the safe operation of hazardous activities through the exchange of safety management systems and safety technologies

Chairman: Mr. A. Shatalov, Director, Federal Mining and Industrial Supervision (Gosgortekhnadzor), Russian Federation

Rapporteur: Mr. M. König, Berlin Wasser, Germany

1. Chlorine storage at the Moscow drinking-water facility
Mr. B. Jagoud, Chlorobesopasnost, Russian Federation
2. Plant-related water protection in the Republic of Moldova, Romania and Ukraine – development of a checklist methodology
Mr. R. Von Dincklage, R&D Industry Consulting, Germany
3. Cooling with ammonia in the Russian Federation
Mr. O. Borman, Director, Grasso AG, Germany
4. Hazard prevention through river basin management systems
Mr. A. Gunatilaka, Verbundplan, Austria
5. Pulp and paper technology in the Kaliningrad region
Ms. T. Usuva, Chlorobesopasnost, Russian Federation
6. Development of transboundary cooperation for hazard prevention in the Kura River basin
Mr. A. Dahn, Industrieanlagen-Betriebsgesellschaft (IABG), Germany

Session 3 - Creating more favourable conditions for safety technology exchange

Objective: Discuss and draw up conclusions on how the Conference of the Parties, in cooperation with other intergovernmental and non-governmental organizations (in particular, financial institutions and industry federations), can promote and create more favourable conditions for the exchange of information, know-how and safety technologies among Parties

Chairman: Mr. W. Finan, Chemical Emergency Preparedness and Prevention Office, Environmental Protection Agency, United States

Rapporteur: Ms. B. Polak, Adviser to the Chief Commandant of the State Fire Service, Poland

1. Issues related to technology transfer and foreign direct investment
Mr. G. Hamilton, Regional Adviser, United Nations Economic Commission for Europe
2. Role of an international financial institution in promoting health and safety
Mr. L. Blank, Head of Operational Support, Environment Department, European Bank for Reconstruction and Development
3. The European Union's TACIS Programme
Mr. J. Wettig, Administrator, European Commission
4. Preconditions to be fulfilled for technology exchange; role of technology providers and expectations of recipient countries
Mr. B. Goldfarb, EMERCOM, Russian Federation
5. National strategy and policy in the domain of industrial safety in the Republic of Moldova
Mr. V. Cuhai, Department of Standardization and Metrology, Republic of Moldova
6. Integrated cleaner production database for technology exchange in Germany
Mr. H-P. Damian, Federal Environmental Agency (UBA), Germany