NATIONS UNIES | ОБЪЕДИНЕННЫЕ НАЦИИ | UNITED NATIONS

COMMISSION ECONOMIQUE POUR L'EUROPE | ЗКОНОМИЧЕСКАЯ КОМИССИЯ ДЛЯ ЕВРОПЫ | ECONOMIC COMMISSION FOR EUROPE

SEMINAIRE | СЕМИНАР | SEMINAR

COMMITTEE ON ENVIRONMENTAL POLICY

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

Distr.
GENERAL

CEP/WG.4/SEM.1/1999/21
MP.WAT/SEM.1/1999/21

20 September 1999

ENGLISH ONLY

SEMINAR ON THE PREVENTION OF CHEMICAL ACCIDENTS AND LIMITATION OF THEIR IMPACT ON TRANSBOUNDARY WATERS
(Hamburg, Germany, 4-6 October 1999)

ASSESSMENT OF THE RISK TO TRANSBOUNDARY WATERS FROM HAZARDOUS ACTIVITIES

Discussion paper transmitted by the Government of Uzbekistan */

(Prepared by Mr. R. KARIMOV)

*/ This document has been translated by the secretariat from the Russian original.

GE.99-32826

1. The Republic of Uzbekistan is one of the leading regions for irrigated agriculture and a major supplier of raw materials for light and heavy industry. The climate and the ready availability of land, water and labour have been conducive to the development of such water-intensive industries as the growing of cotton, rice and other crops and that in its turn has necessitated the creation of large chemical and metals sectors.

2. The Uzbek chemical industry comprises 21 enterprises grouped in a chemical association. The enterprises produce mineral fertilizers, plant protection agents, acetate and acrylic fibres, rubber technicals, paints and varnishes, plastics, etc.. Many processes involve the use of toxic or highly toxic substances such as liquid ammonia, chlorine, toluene, hydrocyanic acid, or organic or inorganic acids.

3. The metals sector produces mainly non-ferrous and rare metals. Its activities involve chemical reactions employing acid, alkaline or organic reagents and adsorbents and giving rise to metalliferous effluent and the presence of large spoil heaps and tailings ponds.

4. All Uzbekistan's industrial and agriculture facilities directly or indirectly represent a potential danger for the ecology and healthiness of surface and ground waters, including transboundary waters. Uzbekistan's main watercourses are the rivers Amudarya, Syrdarya, Zaravshan, Kashkadarya, Chirchik, Angren and Surkhandarya. The total flow arising within the country amounts to 10 km^3 and the flow from adjoining areas to 89 km^3. The region's main watercourses are the Amudarya, which has a mean annual discharge of 2,500 m^3/sec, and the Syrdarya, which has a mean annual discharge of 1,200 m^3/sec.

5. As transboundary waters, the region's rivers are subject to human influence from their highest reaches and over their entire lengths. Within Uzbekistan, surface watercourses receive effluent from more than 5,000 water-using facilities accounting for 20% of the total drainage load of over 6,200 million m^3 per year. As the rivers of Central Asia flow through many States, it can easily be imagined how heavily the principal watercourses flowing into the Aral Sea are polluted and how much they are at risk from accidents at enterprises or storage facilities for toxic or hazardous substances.

6. Although the equipment at Uzbekistan's chemical and metals works is obsolete and elderly, there have been no major industrial accidents resulting in heavy pollution of transboundary watercourses in the past five years. Sporadic discharges of effluent into the River Chirchik from a fertilizer plant have caused some increase in the river's ammonia nitrogen and nitrite nitrogen contents, and in 1998 similar incidents raised the levels of sulphates and chlorides in the South Fergana Canal. The quality of the water in the River Zaravshan is adversely affected by the activity of the Navoi nitrogenous fertilizers plant, which is responsible for an increase of 0.08 mg/l in background saline ammonia and of 0.03 mg/l in background nitrates. Discharges in the event of accidents would increase those figures far more markedly. The Chirchik, Navoi and Fergana works are the most dangerous in the country's chemical industry; their counterparts in the metals sector are the Almalyk and

Uzbek combines, which process ore by hydrometallurgical methods. The fact that they have large tailings ponds puts them at the head of the list of dangerous industrial facilities in direct proximity to surface watercourses.

7. State control over potentially dangerous processes is exercised pursuant to the Nature Conservation Act, the Water and Water Use Act, the Ambient Air Protection Act, the Enterprises Act, etc..

8. Together with the State Committee for Nature, the Ministry for Emergency Situations, which came into being in 1997, has created an extensive warning system for industrial accidents. The system has a three-level control structure: facility, oblast and country. The national authorities hold a complete list of the dangerous facilities that have industrial-accident prevention and clean-up plans. The largest facilities have their own fire and health services specially trained to cope with emergencies, as well as ready-prepared scenarios for dealing with the most likely industrial accidents.

9. Since chemical and metals industry facilities are high-risk establishments, additional precautions have been taken in order to protect open water bodies: treatment plant has the capacity to deal with the full volume of an accidental discharge, and there are systems of dykes and drains and holding tanks. For example, a collecting main has been laid along the right bank of the River Syrdarya to capture washery and flood water containing pesticides and mineral fertilizers; measures to prevent seepage have been taken at many tailings ponds; methods and equipment are being designed for removing heavy-metal ions from water at municipal water-treatment (aeration) plants, etc..

10. There is a 10-point scale for assessing the risk of industrial accidents:

Involvement in a process of highly toxic substances;
Involvement in a process of storage tanks or settling ponds for chemical reagents ;
Location of an enterprise in a residential area;
Proximity of surface watercourses;
Presence of areas of formation of subterranean drinking-water resources;
Presence of treatment plant and reserve storage capacity;
State of equipment (obsolescence, condition);
Characteristics of energy supply sources;
Presence of roads and railways;
Modernness of the technology.

11. These are the factors that the authorities take into account in determining the need for additional accident-prevention measures and approving accident-prevention and clean-up plans, evacuation plans and measures for the prevention of transboundary air and water pollution.

12. International cooperation regarding environmental protection is among the principal features of Uzbekistan’s foreign policy. The priorities in this respect are:

Improvement of the environmental situation in the Aral Sea basin;
Prevention of water, soil and air pollution;
Achievement of ecological security and minimization of the environmental impacts of hazardous wastes and toxic chemicals and an end to the use of ozone-depleting substances;
Efficient use of natural resources.

13. Cooperation between Central Asian republics regarding information and mutual assistance observes the principles of the Convention on the Transboundary Effects of Industrial Accidents and is based on bilateral agreements between adjoining countries. There are also agreements relating to the transboundary watercourses, the Amudarya and the Syrdarya.

14. The Government of Uzbekistan is currently examining the question of accession to the following ECE Conventions:

The Convention on Environmental Impact Assessment in a Transboundary Context (Espoo, 1994);
The Convention on Long-range Transboundary Air Pollution (Geneva, 1979);
The Convention on the Transboundary Effects of Industrial Accidents (Helsinki, 1992);
The Convention on the Protection and Use of Transboundary Watercourses and International Lakes (Helsinki, 1992).

15. Resolution of this matter is, however, being delayed by the need for prior agreement on these Conventions by all five Central Asian countries: Kazakhstan, Kyrgyzstan, Tajikistan and Turkmenistan. Without such agreement the Conventions would be impossible to apply and no positive outcome could be expected regarding the protection of transboundary watercourses against pollution from industrial accidents or from productive activity in general.

16. It would be helpful if, within the framework of one of the Conventions (for example, the Convention on the Transboundary Effects of Industrial Accidents), a meeting of representatives of ministries of the environment and emergencies was held at Tashkent under the auspices of the secretariat of the Convention. International experts and all the countries that have already ratified the Convention or are preparing to accede to it should also be invited to attend. Such a meeting would bring very much nearer the achievement of the quorum needed for the Convention’s entry into force.