



A serious, long term, health threat is the high level of dissolved aluminum detected in the treated drinking water. This is the result of the treatment method used and high concentrations in river water. Changes to treatment techniques are necessary to improve drinking water quality.

The city of Zaporizhia consumes about 546,000 m³ of water per annum. Estimates are that up to 50% of the waste water collected bypasses the existing treatment plants, dumped directly into the river. Just as big a concern is the fact that treated effluent is still highly chlorinated which leads to the development of carcinogenic substances. Another problem is the handling, storage, drying and disposal of sanitary sludge. At this time, it is estimated 150,000 tons of sludge covering some 37 hectares of land at the left bank waste treatment plant alone is leaching into ground water.

In light of these enormous problems, the EMDU Program has been active in helping to develop and implement low-cost solutions for water conservation. On



Members of Ukrainian delegation in Edmonton with Myron Lahola (left)

the practical level, conserving water is advantageous because of reduced production requirements and less sewage to treat. This reduces the demand on overworked plants and proposed plant expansions can be postponed. Experience shows that where water metres are installed, consumers are more likely to conserve water and pay their bills, while the distributor has more incentive to detect and repair leaks in water mains.

Based on this rationale, the EMDU Program promotes water metering in Zaporizhia. The City of Edmonton donated 1,400 reconditioned water metres which will allow for the collection of reliable data on water consumption. With Mr. Lahola's help, the installation of the first hundred metres as a pilot project was started in the middle of March. It is expected that the metres will prove that an average household uses only around 250 cubic metres/person/day of water rather than 400 cubic metres calculated and billed by Vodokanal. Another benefit of the installation is that the city's obligation for full cost recovery is one step closer to fulfilment. The city is proceeding with cost recovery pricing of treated water by increasing water tariffs. Currently, the rate stands at 60% of cost of production, up from 20% in January, 1995. For the efforts to be successful, consumers have to pay their bills. Experience shows that where water is metered, nearly 100% of the bills are paid. Presently, Zaporizhia has a serious problem in this regard, with non-payment in un-metered areas running as high as 50%.

Another EMDU Program is introducing an accurate method of leak detection for pipe repair. At the moment, Vodokanal keeps water pressure low in order to reduce loss through leakage. Still, it is estimated by Vodokanal that as much as 40% of treated water is lost during distribution. Detection is often difficult in Zaporizhia where porous soils soak up water seeping from pipe ruptures. To facilitate quicker, more effective action, IDRC supported the purchase of a state-of-the-art leak detecting equipment. Five Vodokanal employees travelled with Mr. Lahola to Edmonton for an in-depth training course on how to operate the detector. This will cut the time of the detection of water main breaks significantly.

The next step would be the purchase of Insituform which would enable the Vodokanal to do trenchless pipe repairs. But Insituform is extremely costly. One solution would be a joint venture between a Canadian producer and a Ukrainian company, to produce Insituform locally, at

a more affordable price. A joint venture has already been established between a German company and a Ukrainian firm in Lviv, now producing high-quality, low-cost water metres.

THE FUTURE OF ZAPORIZHIA VODOKANAL

The general impression of Zaporizhia Vodokanal is that the management is comprised of genuinely dedicated professionals with a high level of knowledge about their work. However, Vodokanal is constantly struggling with the demands of its customers, politicians and numerous other agencies from all levels of government which have financial and regulatory control over most aspects of operation.

Vodokanal is striving for "privatization," to transfer water plants from federal to municipal jurisdiction. Transferring control would be highly desirable for the vodokanals which, in reality, are already responsible for the day-to-day running and financing of operations. Ukrainian managers do not consider "Western style" privatization (where the plant is operated by a private company on behalf of the municipality) viable at the moment.

Uncertainty surrounding federal expectations prevents cities from benefiting from the transfer of authorities. Currently, the Association of Vodokanals is lobbying on behalf of Vodokanals for privatization. This would enable them to apply for development loans from the World Bank and the European Bank for Reconstruction and Development (EBRD). Both banks have either already supplied or expressed interest in giving loans for infrastructure development in Ukraine. To support the efforts of vodokanals, future plans of IDRC include the organization of a training seminar on how to prepare and apply for large loans from international financial institutions.

It is hoped that the success of IDRC's activities will make Zaporizhia an example of better management of water supplies that can be copied in other cities all over Ukraine. Information collected in Zaporizhia could be made available to interested organizations in an effort to help the development of the country and the improvement of the lives and environment of its people.