

WHAT CAN YOU LEARN ABOUT WATER RESOURCES IN MOSCOW, U.S.S.R.?

James V. Walters
Department of Civil Engineering
University of Florida

Introduction

During June of last year the author, with his wife, joined a small group of members of the American Society of Civil Engineers on a trip to the Soviet Union. The purpose was to attend a three-day, bilateral, water-quality conference in Moscow, the first joint conference sponsored by the USES of the U.S.S.R. and the ASCE. USES is their Union of Scientific and Engineering Societies. About two weeks of travel and inspection of some of their civil engineering facilities was planned for the American participants following the conference.

The Union of Scientific and Engineering Societies

As might be anticipated in the U.S.S.R., their organizations have more central coordination than do our professional societies in the United States. If there were a near counterpart here for the USES, it would be a formal union of all of our technological societies. It would have to include and serve the members of all of the Engineering Founder Societies such as the American Society of Civil Engineers, the American Society of Mechanical Engineers, the American Society for the Advancement of Science; and such scientific disciplinary associations as the American Chemical Society and the American Association of Petroleum Geologists, and the many interdisciplinary organizations such as the American Water Works Association and the Water Pollution Control Federation. Our differentiation allows us a high degree of specificity and a richness of detail in the activities of the various organizations. Their centrality of organization allows them a greater ease in achieving interdisciplinarity in their considerations of subjects.

The First Joint Bilateral Water Quality Conference

Apparently as the Soviet society in recent years has been being altered and reorganized away from the inflexible collective system it was, the leading technologists have seen the need to reevaluate their techniques and procedures and to seek cooperative ties with their counterparts in other countries. Several years before the conference, Dr. Alexandre Y. Ishlinsky, then president of USES, began the search for an American organization through which such

cooperation could be initiated. In his search, Academician Ishlinsky found in Mr. William J. Carroll, past president of ASCE, the person willing to work toward such cooperation. (The title, Academician, represents the highest titular honor available to university educators in the U.S.S.R.) Together with the help of many others they selected the topic, the presentation subjects, and the speakers to address each of them.

Subjects for the Conference Presentations

It was amazing how broadly the subject of water resources was covered and how detailed was the information in the presentations that had been fitted within the three-day program. The opening papers described, in turn, the water supply perspectives of the two nations. They were followed by descriptions of representative municipal water supply systems for each of the countries. The system for Moscow was chosen because it later would be visited by conference attendants.

Water quality, water treatment systems, disinfection, problematic coagulative treatment, filtration practice, and sludge management next were addressed, in turn, by speakers of both nationalities. Subjects more directed toward water resources management that followed pertained to surface water supplies, aquifer protection, artificial groundwater recharge and conjunctive use, water use rates (agricultural, municipal, and industrial), and water conservation practices.

Conference Speakers

Perhaps, as few Americans understand in detail the organization of Soviet technology, an optimal manner in which to describe the nature and quality of all of the presenters at the conference is to specify partially the American speakers because it seemed that great care had been given to select Soviet speakers who were as nearly as possible the counterparts of the Americans selected.

The most senior and best engineers and managers from large municipal systems, state agencies, and privately owned municipal water suppliers were selected to describe our national water supply

perspective, typical water supply systems, water conservation practices, and surface and groundwater supplies. Similarly, well qualified senior engineers from appropriate federal agencies, university faculties, and the managements of several of the leading environmental engineering consulting firms in the United States were recruited to provide the presentations on water quality, treatment design and practice, aquifer protection, and water use.

Among the Soviet speakers, it is not possible to make similar such affilial classifications because design, construction, operation, management, and educational functions all are performed by various portions of the organization, that is, the national government.

Opportunities for Participation by Attendants

Several of the Americans, in private discussions of their observations, concluded that many of the Soviets at the meeting seemed to be enjoying freedom of self expression after having lived in a less open society for a long time. They wanted to discuss many things. The different languages prevented the occurrence of as great an exchange as they wished, but they did find a way to accomplish some. Several of them formally requested of the conference leaders that they select participants and arrange for two discussions upon the respective topics of fluoridation and disinfection by international attendants.

The conference planners apparently had not anticipated such desires and seemed to be surprised by the request, but they acceded and arranged those fora. It was not apparent how the Soviet participants were selected, but the American tour leaders asked for volunteers who would like to discuss either of the two subjects. The author agreed to participate in the forum on fluoridation and found it to be one of the most enlightening portions of the entire tour. Translators were available to provide sentence-by-sentence translation so that dialogues among the dozen or so participants could proceed. It required extreme patience and restraint of everyone present because as soon as the exchange was initiated everyone wished to participate.

Fluoridation is not practiced widely there. They are now in the debate about it that we experienced in the United States thirty to forty years ago. The Americans were able to describe the conditions under which the debate occurred, how the decisions were made, and how the treatment is practiced here now. It was stressed that the Americans were not arguing for or against fluoridation but were happy to share their past experience and wished the Soviets well as they debated whether and how they should adopt the practice.

The personal conversations in the discussions were friendly, perceptive, well received, and observably appreciated.

We Share Many Common Problems

The single most general conclusion possible from the information presented during the conference is that Soviets and Americans who deal with water resources management, water supply, and wastewater treatment face approximately the same problems and opportunities. The needs for quantity and quality and geographic incompatibilities of supply and demand in the two countries are very similar. Generally, the approaches of both nations to problem solutions are very similar also.

We View Some Problems and Opportunities Differently

More interesting than the similarities were the differences in perspective that were detectable. Probably most of the variances of viewpoint derive from the vastly different ways that the two societies have organized to operate.

A very interesting contrast between the market-driven and centrally planned systems appeared in the presentations on water usage rates. The presenter describing the Moscow water supply system listed the raw water source, the four water treatment plants, the population served currently, the projected population to be served later, and the plan for reducing water usage per person so that the future population can be served. The gentleman describing the system for Los Angeles covered most of the same points for his system through the projected population, but then he started describing planned new construction to meet the projected increased demand of the projected population.

"You Can Observe A Lot Just By Looking"

Yogi Berra, the baseball coach, was quoted as saying that "you can observe a lot just by looking." The author has verified the applicability of Mr. Berra's observation. The conference presentation that this paper accompanies can benefit from many photographic transparencies that cannot be included in this format. Those images allow their viewers to share the sights that aided the photographer as he came to develop the belief that the U.S.S.R. is a country that faces many challenges and that it is trying to change its nature at an extremely rapid rate. Water resources policy and problems represent one of many such considerations that have inertial characteristics of extremely great magnitude. Those considerations will make the desired rapid change very difficult. News of how they are progressing in that change will continue to be of keen interest to those American engineers who attended the first bilateral USES-ASCE conference.