

TRIP TO KYIV

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**International Affairs Department**

As I reported in the October 2015, International Affairs Office has started contract research activities for Japan International Cooperation Agency (JICA) this year. In the contract research, JS provides technical support for a private consultant that the JICA headquarters orders design. The countries and regions JICA supports are Erbil, Iraq, and Kyiv, Ukraine.

I joined a research tour to Kyiv, the capital of Ukraine, and stayed for a week at the end of November. Here is a Kyiv report.

In Kyiv, having a population of 2.5 million, Bortnychi WWTP accepts and processes all wastewater that these people produce. It is a large WWTP with a capacity of 1.57 million m<sup>3</sup> per day. The operation started during the Soviet era (bring back a memory, doesn't it?), and WWTP had been expanding with a capacity of about five hundred thousand tons every ten years. This time's project is for a complete retrofit and rehabilitation. The phase of the design process is now going on.

Bortnychi WWTP has old-fashioned facilities we have seldom seen recently in Japan: an aerated grit chamber, an enormous circular settling tank, and sludge are withdrawn using water-level difference instead of a sludge pump. When I visited Bortnychi WWTP, the temperature was zero. The settling tank was steaming and looked like a "hot spring." Seagulls come to the hot spring for warmth and eat the suspended solids of the settling tank. It is like "a spa with meals" for seagulls, "Seagull Spa," so to speak. A digestion tank that processes primary sludge is covered with "soil" for heat insulation. Bortnychi WWTP has a hill on its property. The hill has an operation room of the digester on its top, which is the view we also seldom see in Japan.

In Kyiv, WWTP is a critical facility requiring tight security. Concrete walls surround Bortnychi WWTP, the administration building has a key card lock system at its entrance, and some soldiers holding automatic weapons guard the entrance. I wanted to take a picture of this heavy security, but I hesitated. When a member of our party asked if he could take a picture of a soldier, he shook his head no. I knew it.

The hotel we stayed at faces "Independence Square," the center of Kyiv. Independence Square is a place of people's revolution where the current Ukraine government was born. Since Kyiv is in the cold region, Independent Square has an underground shopping complex with everything you need, such as exclusive stores, food courts, supermarkets, etc. Independence Square, the heart of Kyiv, is a bustling area with hotels, restaurants, Roshen, a famous chocolate shop, etc. Kyiv was quite different from Iraq, which I visited two months ago.

Ukraine is famous for borscht. Though people recognize borscht as traditional Russian food, I heard it is Ukraine cuisine. I had a few chances to have borscht during my stay: they were business dinners at a Ukraine restaurant with Waterworks and Sewerage Bureau of Kyiv, another Ukraine restaurant at the hotel, and a local self-service restaurant. I paid about a thousand yen at the hotel restaurant and only 150 yen at the self-service restaurant! I was full; I missed the Kyiv-style cutlet (chicken cutlet with butter).

I experienced two extreme kinds of weather in two months. In Iraq, which I visited in September, we had a temperature of 42 °C and a clear, arid climate. In Kyiv, where I stayed two months later, the temperature was three degrees below zero, and we had snow. These two business trips were valuable lessons to me. My experience will help JS provide the best solutions to design their WWTPs. I hope to revisit Kyiv sometime in better weather.



Photo 1: Seagull Spa



Photo 2: Two kinds of a manhole cover: wastewater and rainwater



Photo 3: A building covered with the national flag of Ukraine

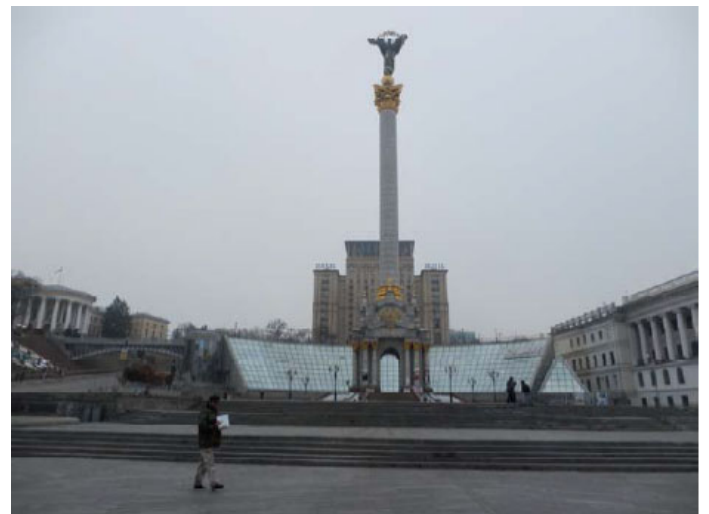


Photo 4: Quiet Independent Square on Sunday morning