

## **Construction of Maishima Sludge Center as a Strategy for Upgrading Osaka City's Sewerage System**

Kamada, Hirosuke

Environment and Sewerage Bureau, Osaka Municipal Government, Japan

Modern sewerage system of Osaka City started not less than a hundred years ago. Now the rate of the served population has reached almost 100%. We make the secondary treatment (partly the tertiary treatment by sand filtration) process for wastewater by activated sludge method, and dispose all the sludge cake produced in the treatment by incineration or melting. And these days, stepping up from where it has been to conserve water quality in public water body, sewerage system is hoped to restore lost waterfront and to contribute positively to create aquatic environment extensively.

March 1995, the Osaka City legislated "The Basic Environmental Regulation" and provided for a basic idea on conserving and creating environment and a new scheme of environmental policy. Moreover, May 1999, in order to carry out a plan of aquatic environment field of this regulation, we provided for "The Aquatic Environmental Plan." Specifically, the plan has three key points; conservation and creation of comfortable waterfront, conservation of water quality and utilization of water as a resource.

In order to realize these measures, it is necessary to decrease not only effluent load of BOD, COD, SS, nitrogen and phosphorus by introducing advanced wastewater treatment but also pollutant load which overflows into combined sewers with storm wastewater when it rains. And it is expected that introducing advanced wastewater treatment method could lead to increase sludge generation. However, it is extremely difficult to acquire some sites for facilities, which exclusively deal with them in the neighborhood of existing sewage treatment plants.

On the other hand, the oldest one of existing sewage treatment plants has operated since 1940, which has already needed renovation. Facilities of other plants, which were constructed after World War Two, will be expected to need renovation at the same time from 2020 to 2030. As to renovation of large-scale plants, we have to acquire the space for it anew because it is hard for us to do it within the existing sites.

Then, in order to solve these problems, we are promoting construction of Maishima Sludge Center aiming for commencing the operation in 2004. The plan is that by integrating sludge treatment functions of all the sewage treatment plant, in Osaka City and making a treatment intensively, we will aim to raise efficiency of treatment, and by dismantling sludge treatment facilities at existing plants to acquire some spaces, we will construct advanced wastewater treatment facilities at there. We adopt sludge melting system for this center. The objectives of this measure are to increase the energy efficiency and to recycle the melted slag, the final product as back filling material for sewers. Maishima Sludge Center plan, aimed at reorganizing the sludge treatment system, will greatly contribute to improve Osaka City's sewerage in qualitative terms.