

Promotion of Wide-area or International Collaborations, and Passing Down of Waterworks Technologies

Promotion of Wide-area or International Collaborations by Osaka City Waterworks Bureau

[Wide-area collaborations with other waterworks entities]

Starting from fiscal 2006, the Osaka City Waterworks Bureau has promoted wide-area collaborations with other waterworks service entities in both software and hardware aspects by utilizing the technology and human resources it has accumulated.

○Accepting consigned technological services

The Bureau undertakes consigned technical operations in response to the needs of other waterworks service entities, such as water quality testing and various other analyses, preparation of water safety plans and risk management manuals, and design and construction surveillance for facility renewal.

○Mutual support in a disaster

The Bureau works to establish mutual support systems for emergency restoration and emergency water supply in the event of a disaster, etc. and holds joint disaster drills.

○Human resources development

The experience-based training center that opened in 2010 is used as a "wide-area training base" for training of human resources, including not only the staff members of Osaka City but also those who are engaged in waterworks services in other municipalities both in Japan and overseas.

○Survey and research on water purification technologies

Since fiscal 2008, with the aim of contributing to the development of waterworks technology through technological collaborations, the Bureau has been engaged in joint research using optimum cutting-edge treatment technology testing facilities (new testing facilities). In fiscal 2018, the Bureau compiled an assessment of the hybrid membrane filtering system and an outlook for the future. After that, exchange of information has been continued on a periodic basis.

[Overseas deployment of water supply service]

The Osaka Municipal Waterworks Bureau has been promoting overseas deployment of water supply service business based on public-private collaboration by effectively using the technologies and know-how owned by the Bureau and for the purpose of helping the development of waterworks business in Asia, revitalizing the economy of Osaka and the Kansai region, and improving technological capabilities of its staff members.

○Technology exchange with Ho Chi Minh City waterworks

Challenges facing the waterworks of Ho Chi Minh City, Vietnam, are inevitable for a city that is in the process of development. Believing that the technologies and know-how of Osaka City, which has experienced and overcome similar challenges, will help Ho Chi Minh overcome them, the Osaka City Waterworks Bureau concluded a memorandum on technological exchange with the Ho Chi Minh municipal waterworks operator, or Saigon Water Corporation (SAWACO), on December 9, 2009 (updated on November 18, 2015 and December 3, 2018), aimed at the promotion of a friendly relationship and mutual development, thereby establishing a G-to-G collaboration system. Based on this memorandum, the Bureau has accepted staff members from SAWACO since fiscal 2010.

○Initiatives based on public-private cooperation

The Bureau has participated in and implemented the national government's research projects together with private companies.

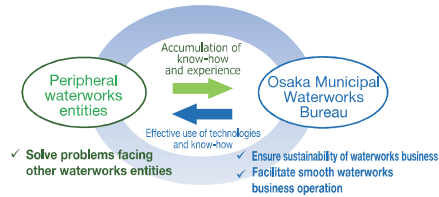
(1) Research project for improvement of water distribution plants

The Bureau conducted a research project for the improvement of water distribution networks of the city of Ho Chi Minh in collaboration with private companies.

(2) Project for improvement of construction technology related to water supply equipment

In collaboration with private companies based in Osaka, the Bureau conducted a project for improvement of construction technology for the installation of water supply equipment to eliminate water leakages of the Ho Chi Minh City waterworks system.

[Objectives of wide-area collaborations]



○Installation of connecting pipes for emergency

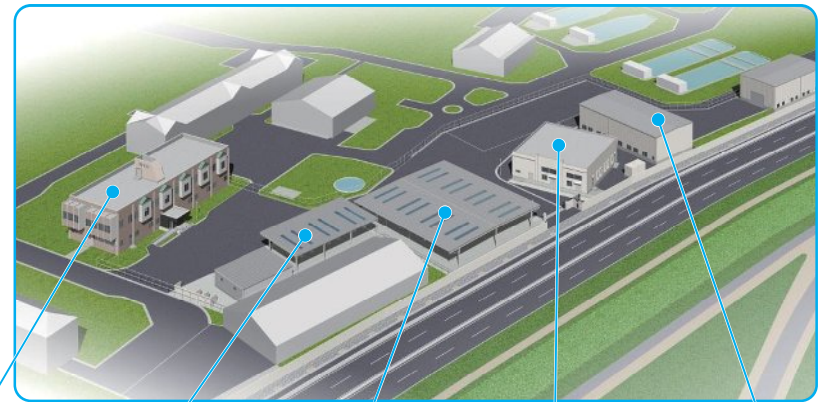
The Bureau, jointly with neighboring waterworks entities, has installed emergency connecting pipes to be used for mutual support water supply in an emergency or a disaster.

	Objectives, remarks
Enrichment of the research and study structure	
Osaka Municipal Water Bureau Technical Research Committee	Improvement of waterworks technology and study and consideration of items relating to development (Launched in 1970. Themes to date: advanced water purification, acquisition of ISO9001 accreditation, etc.)
Osaka City Waterworks Water Purification Technology R&D Program	Research and study on overall technical issues of each department of waterworks service, from the challenges currently faced to medium- to long-term issues, and improvement of technological capabilities (revised in April 2018)
Osaka Municipal Water Bureau Technical Development Joint Research Review Board	Joint implementation of research, study, and tests relating to waterworks technology with personnel from outside the Bureau (Launched in July 2001)
Establishment of efficient technology training structure	
Technical training by the specialized field at the Bureau (New, basic, applied)	Training technical staff and improving technical standards by providing lectures and hands-on technical training
Promotion of technical exchanges	
Technical consultations	Presentation of various expert opinions and technical achievements accumulated so far to contribute to improvement of the technical skills of personnel (Launched in 1950, held 210 times as of August 2019)
Reiwa Academy	Forum for human resources development and technical succession through lectures based on academic expertise of staff members
Waterworks business research	Implementation of waterworks business management and technical research with the aim of promoting and improving practical work guidance and abilities of bureau personnel (First issued in 1949)
Participation in international conferences and workshops, including IWA international meetings	Technical exchanges between staff members and skill improvement

Experience-based training center - Base for passing down of technologies and wide-area training -

This is a comprehensive education and training facility where trainees can learn the know-how of the total operation of waterworks, from water intake to water supply. It opened the seminar building and the water supply facility building in fiscal 2010, the water distribution facility building in fiscal 2011, and the mechanical and electrical building and the water purification facility building in 2012. The center offers effective training programs consisting of lectures and hands-on exercises in each field relevant to waterworks service. It is used as a forum for training of human resources, including not only the staff members of Osaka City but also those who are engaged in waterworks service in other cities in Japan and overseas.

■ Experience-based training center buildings



Passing Down of Waterworks Technologies

Osaka City is supported by waterworks technologies that have been accumulated over the 120 years of history since the foundation of waterworks. The City has led the waterworks industry nationwide by incorporating in business the technological achievements it has obtained through many surveys and research activities and putting them into practice to date. To ensure sustained and effective waterworks services, not to mention a stable supply of safe, high-quality water, to meet the demand of the times at a high standard level, the maintenance and development of waterworks technologies is important. It is therefore necessary to ensure that waterworks technologies of Osaka City will be passed down to subsequent generations by such means as establishing a practical research and study structure for the development of waterworks technologies and an efficient technical training system and promoting technical exchanges both inside and outside Japan.

The Waterworks Bureau is making constant efforts to develop technologies that lead the waterworks industry in Japan. While seeking a broader range of industry-government-academy collaborations, the Bureau is working in comprehensive and advanced research and study frameworks, such as the Waterworks Bureau Technical Research Committee and water business R&D programs, using optimum cutting-edge technology testing facilities, which were completed in fiscal 2009. The Waterworks Bureau has opened an experience-based training center, where trainees can learn technologies related to construction of water supply/distribution pipes, water treatment, etc. through hands-on experience of the processes, thereby enabling the valuable technologies it has developed and accumulated to be effectively and efficiently handed down to subsequent generations. Through these initiatives, technological exchanges not only within the Bureau but also with other waterworks business entities both in Japan and overseas have been promoted, contributing to the succession of waterworks technologies.



Optimum cutting-edge technology testing facilities

■ Information on technical training and facility leasing for waterworks business operators

Osaka Municipal Waterworks Bureau website
 Application for Technical Trainees: <http://www.city.osaka.lg.jp/suido/page/0000125043.html>
 Leasing of experience-based training center facilities: <http://www.city.osaka.lg.jp/suido/page/0000266607.html>