

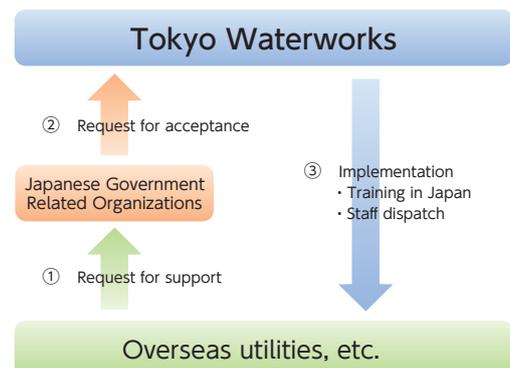
## 3-1 Human Resources Development – Trainings in Japan –

We provide trainings for overseas waterworks operators on overall water services from water resources to taps, e.g. functions of water storage facilities, measures for leakage prevention and management of water supply equipment.

We provide lectures on each field, tours at purification plants, and field practical trainings at the Training and Technical Development Center. Lecturers are our experienced staff.

### ● Schemes for human resources development

Based on requests from waterworks utilities in developing countries, we provide training in Japan for their staff and dispatch instructors abroad.



### ● Training Menu

Field	Training Subject	Details	
Water Resources	Functions of water storage facilities	Lecture	Roles and histories of dams and reservoirs
		Tour	Surrounding facilities of the dam
	Functions of water conservation forest	Lecture	Roles and management practice of water conservation forest
		Tour	Water conservation forest owned by us
Water Purification	Water treatment	Lecture	Outline of our purification plants Water treatment methods (advanced water treatment, etc.)
		Experiment	Coagulation-sedimentation and ozonation
		Tour	Water Purification Plant
	Water quality management	Lecture	Comprehensive water quality management
			Water examinations of water resources, plants and hydrants
			Responses to water quality accidents
Water Distribution	Water supply control management	Lecture	Comprehensive water supply control
			Method of formulating operational plans
			Monitoring of water supply operations status, practice of operations instruction
	Distribution pipe replacement	Lecture	Distribution pipe replacement plans based on priority
	Maintenance of Distribution pipe	Lecture	Development status and maintenance method
			Construction management, quality and safety control
	Works for distribution pipe replacement	Tour	Worksites for distribution pipe replacement Sites of installed bridge-attached pipes
Practice		Pipe connection	
Mapping system for water services	Lecture	Efficient management of data on water pipe routes	
Leakage Prevention	Leakage prevention measures	Lecture	Leakage prevention work Method of formulating plans for leakage prevention
		Practice	Leakage detection using leak sound bar and electric leakage detectors, Leakage repair
Water Supply Equipment	Management of water supply equipment	Lecture	Basic knowledge, verification system and practice
		Practice	Diverging / plumbing water supply equipment
	Water meter management	Lecture	Management method of water meters
		Tour	Water meter testing facilities
Customer Service	Customer Service	Lecture	Collection of water charges, Meter reading
Others	Emergency water supply tanks for disaster measures	Lecture	Structure and management of emergency water supply tanks for disaster measures
		Tour	Emergency water supply tanks installed at parks for disaster measures

\* If you wish to know the information about our training courses, please contact the following e-mail address.

[Contact] [international\\_affairs@waterworks.metro.tokyo.jp](mailto:international_affairs@waterworks.metro.tokyo.jp)

● **Lectures and facility introductions done by experienced staff**

Experienced staff who work in Tokyo waterworks serve as instructors, conducting lectures and introducing facilities based on requests from trainees.

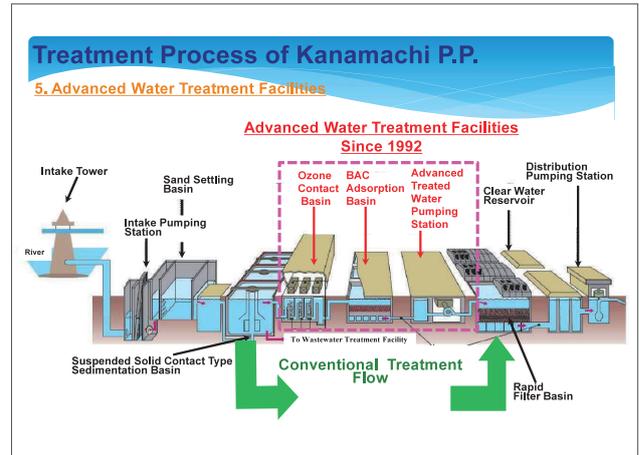
**Lectures and tours of purification plants**

- Instructors explain the mechanisms of purification at each purification plant, from water intake to water supply, as well as the flow of water from water sources to purification plants.
- After lectures, trainees can tour advanced purification facilities such as ozone treatment and biological activated carbon adsorption treatment, as well as standard purification facilities such as membrane filtration facilities that remove impurities from water using filtration membranes\*.

\* Facilities available for tours vary at each water purification plant.



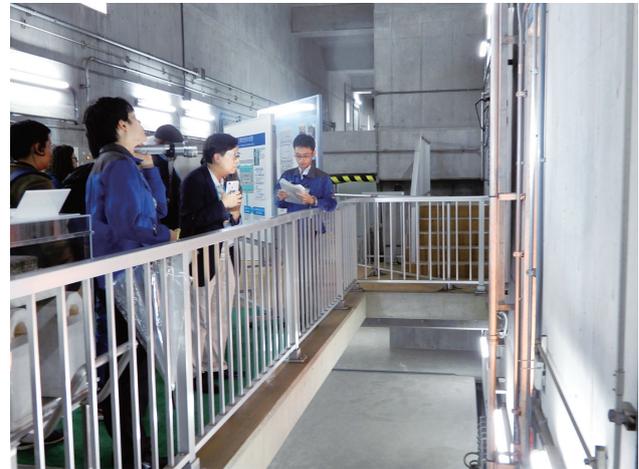
▲ Lecture on the outline of the purification plant



▲ Sample of our lecture material



▲ Tour of our purification plant



▲ Tour of our purification plant

**Lectures on our waterworks mapping system**

- We will give a lecture on our water supply mapping system, a water pipe data management system in Tokyo.
- We will give an overview of the water supply mapping system, which enables efficient maintenance of pipelines, as well as various functions used in actual business, such as simulation of the turbid water range.

### ● Practical training in training fields

We provide practical training menu so that overseas trainees can acquire waterworks techniques at the training field of the Training and Technical Development Center, in addition to facility tours such as at purification plants.

#### Training on connecting/branching distribution pipes

- We connect large-diameter ( $\phi 500$ ) water pipes in a pit with curves and steps modeled after actual work sites.
- Trainees use small diameter distribution pipes ( $\phi 100$  to  $\phi 150$ ) to do pipe installation and branching, connections from above ground into the pit, pipe relocation, and water flow tests after pipelines are completed.
- Using exposed water pipes ( $\phi 100$ ), we conduct practical training such as pipe installation from snap taps with saddles to faucets, and water pressure tests with manual test pumps.



▲ Pipe connection work

#### Leakage detection/repair

- Experience of hearing the sounds of leakage with different pipe materials and leakage points, using leak sound detection bar.
- Hearing of the sound of leakage and detection of leakage points with different pipe materials, using electronic leakage detectors.
- Providing practical and realistic trainings including those on emergency repair of leaking pipes, using exposed distribution pipes ( $\phi 100$ ).



▲▼ Leakage detection/repair



## ■ Understanding and utilizing overseas water supply conditions through training

We conduct interviews of foreign trainees who have come to Japan, and get opinions on training content in order to understand the challenges and needs of foreign waterworks companies. We use the results of these interviews to support overseas expansion of Japanese companies and to brush up future training of Tokyo Waterworks conducted in Japan.

Utilizing our human network cultivated through these initiatives, we are disseminating our advanced initiatives far and wide.