TRAINING AND DIALOGUE PROGRAMS

GENERAL INFORMATION ON

GROUP TRAINING ON OPERATION AND MAINTENANCE OF URBAN WATER SUPPLY SYSTEM

集団研修「都市上水道維持管理」

JFY 2009

<Type: Trainers Training / 類型：人材育成普及型 **>**

NO. J09-00608

From May 2009 to December 2009

Phases in Japan: From June. 22nd, 2009 to August. 8th 2009

This information pertains to one of the Training and Dialogue Programs of the Japan International Cooperation Agency (JICA), which shall be implemented as part of the Official Development Assistance of the Government of Japan based on bilateral agreement between both Governments.

I. Concept

Background

It has been recognized that more than 1.1 billion people around the world have no access to safe drinking water.

In Millennium Development Goals (MDGs) target to halve, by 2015, the proportion of the people who are unable to reach or to afford safe drinking water. In March 2003, Japan hosted the Third World Water Forum. Participants identified water governance, capacity building, financing and participation as some of the major issues for the water crisis. In other words, they recognized the need for an integrated approach.

Osaka City Waterworks Bureau (OMWB)has accumulated various experiences in operation and maintenance of urban water supply system, through the trial end error in the modernization and recovery process after WWII. The accumulated technique and knowledge shall contribute to secure the safe and sustainable water supply in developing countries.

For What

This program aims to contribute the improvement of the techniques and knowledge of **counterpart organizations and their related organizations of Japan's bilateral cooperation program.**

To whom

Engineers in charge of operation and maintenance of urban water supply system **in counterpart organizations and their related organizations of Japan's bilateral cooperation program.**

How

(1) Participating organizations are required to have discussions about the issues on operation and maintenance of urban water supply system in the organizations, and give the participants clear mission or assignment to acquire in the program, before their departure.
(2) Participants will learn and observe the urban water supply system in Osaka City, and analyze what can be applied to their organization in order to improve the issues of the organization.
(3) Participating organizations are required to have a program by their own initiative to disseminate the technique and knowledge brought back by the participants.

II. Description

1. Title (J-No.): Operation and Maintenance of Urban Water Supply System (J09-00608)

2. Training Period
(1) Duration of whole program: May, 2009 to December, 2009
(2) Preliminary Phase(in a participant's home country): May, 2009
(3) Core Phase in Japan: 22nd June, 2009 ~ 8th August, 2009
(4) Finalization Phase(in a participant's home country)**: August, 2009 ~ December, 2009**

3. Target Countries: Bangladesh, Bolivia, Cambodia, Democratic Republic of the Congo, Fiji, Pakistan, Philippines, Turkey, Zambia,

4. Overall Goal:
Capacity for operation and maintenance of urban water supply system in counterpart organizations or their related organizations of Japan's bilateral cooperation program will be improved.

5. Outcome:
Applicable techniques or knowledge acquired in the program will be shared among engineers in participating organizations.

6. Eligible / Target Organization: Counterpart organizations or their related organizations of Japan's bilateral cooperation program.

7. Total Number of Participants: 12

8. **Language to be used in this program**: English (Including Japanese with English interpretation.)

9. Contents:
This program consists of the following components. Details on each component are given below:

(1) Preliminary Phase in a participant's home country (May 2009) *Participating organizations make required preparation for the Program in the respective country.*		
Output	Contents	Method
1) Issues of participating organizations and what participants should acquire in training in Japan will be clarified.	(1) Preliminary discussion in the organizations	Discussion in the organization
	(2) To give participants clear assignment and tasks for the training program.	Discussion in the organization
	(3) Submission of Inception Report	Report preparation

All the participants are required to present the inception report in the core phase in Japan. It is advisable for participants to prepare audio-visual aids such as slides, pictures, maps, PowerPoint, etc., for more efficient presentation.

(2) Core Phase in Japan
(June 22, 2009 to August 8, 2009)
Participants dispatched by the organizations attend the Program implemented in Japan.

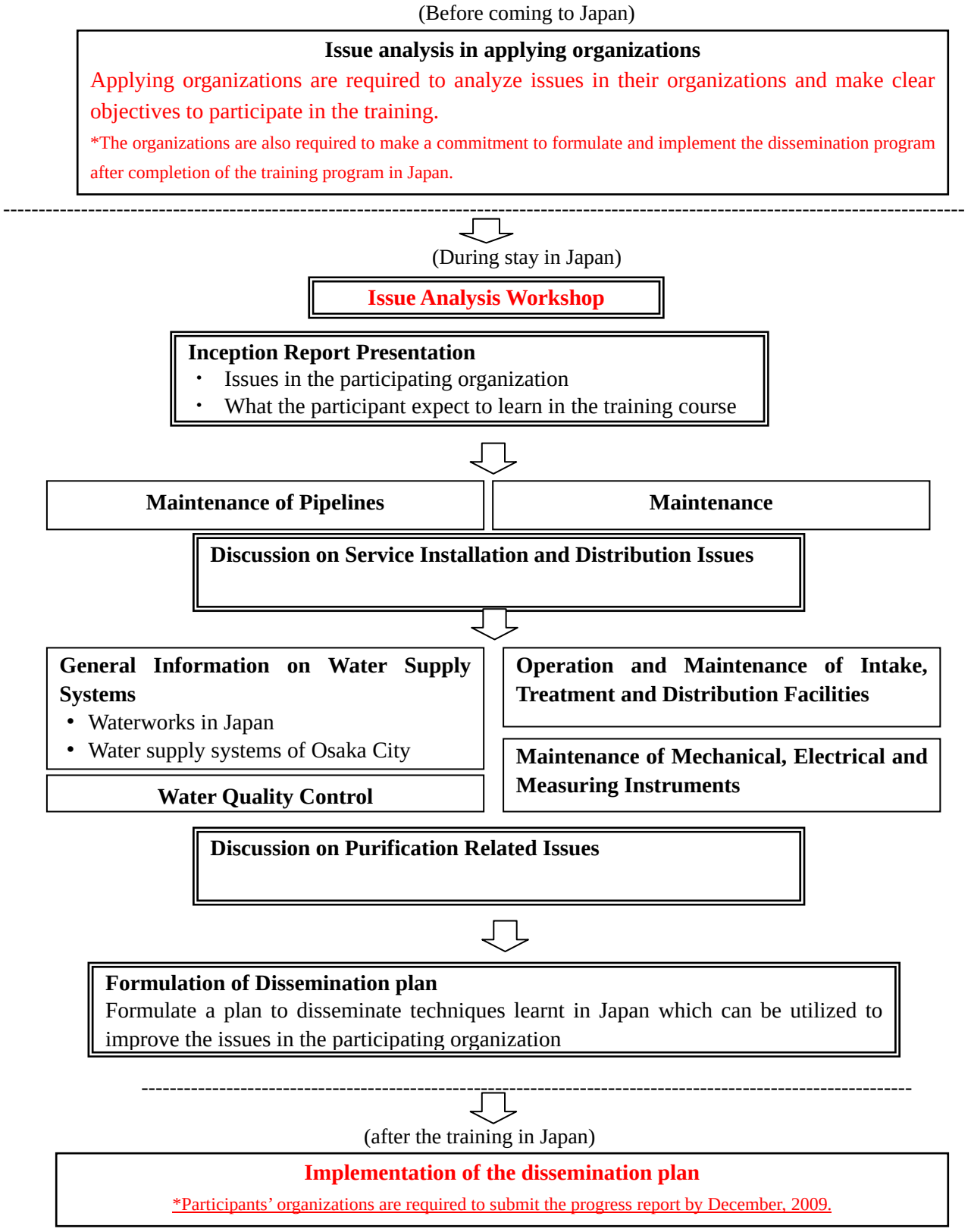
Output	Contents	Method
2) Participants will be able to explain operation and maintenance techniques of pipelines and service installations utilized in OMWB and other organizations.	(1) **Maintenance of Pipelines (outline, leakage detection,** attachments and joints, piping practice, management of drawings and data)	**Lecture/Practice**
	(2) **Maintenance of Service installations (outline, water meters, piping and branching, activities of service offices)**	**Lecture/Practice**
	(3) **Review of the learning**	**Discussion**
3) Participants will be able to explain operation and maintenance techniques of Intake, Treatment and Distribution Facilities utilized in OMWB and other organizations	**(1)** operation and maintenance of Intake, Treatment and Distribution Facilities	**Lecture/Practice /Observation**
	(2)Water Quality Control	**Lecture/Practice /Observation**
	(3) Maintenance of mechanical, electrical and measuring instruments	**Lecture/Practice**
	(4) Review of the learning	**Discussion**
4) Plan to disseminate operation and maintenance techniques which is applicable to participating organizations will be formulated	**(1) Plan formulation**	**Self-learning/Discussion**
	(2) Plan presentation	**Presentation/ Demonstration**

(3)Finalization Phase in a participant's home country
Participating organizations produce final outputs by making use of results brought back by participants. This phase marks the end of the Program.
Participating organizations are required to submit progress report by December 2009.

Output	Contents	Method
Dissemination program will be implemented in participating organizations within four months after participants' return.	Implementation of dissemination program	Dissemination program
	Progress Report on dissemination program	Submission of the report to JICA local offices

∗In case the final report is not submitted from some organization, JICA will suspend acceptance of participants from the organization.

10: Course Structure



11: Schedule: Please find a attached schedule of JFY2008 (For your reference) The schedule of JFY2009 is now under consideration.

III. Conditions and Procedures for Application

1. Expectations for the Participating Organizations:

(1) This program is designed primarily for counterpart organizations of Japan's bilateral organizations that intend to address specific issues or problems identified in their operation. Participating organizations are expected to use the project for those specific purposes.

(2) This program is enriched with contents and facilitation schemes specially developed in collaboration with relevant prominent organizations in Japan These special features enable the project to meet specific requirements of applying organizations and effectively facilitate them toward solutions for the issues and problems.

(3) As this program is designed to facilitate organizations to come up with concrete solutions for their issues, participating organizations are expected to make due preparation before dispatching their participants to Japan by carrying out the activities of the Preliminary Phase described in section **II** -9 .

(4) Participating organizations are also expected to make the best use of the results achieved by their participants in Japan by carrying out the activities of the Finalization Phase described in section **II** -9.

2. Nominee Qualifications:

Applying Organizations are expected to select nominees who meet the following qualifications.

(1) Essential Qualifications

1) To **be engineers responsible for operation and maintenance of urban water supply**

2) To be currently engaged in urban water supply field offices, such as water treatment plants, operation and maintenance offices, and have at least five (5) years' practical experience in that area,

3) To have a strong commitment and capacity to disseminate acquired techniques and knowledge after return

4) Language: have a competent command of spoken and written English which is equal to TOEFL CBT 250 or more (This workshop includes active participation in discussions, action plan (interim report) development, thus requires high competence of English ability. Please attach an official certificate for English ability such as TOEFL, TOEIC etc, if possible)

5) Health: must be in good health, both physically and mentally, to participate in the Program in Japan

6) Must not be serving any form of military service.

(2) Recommendable Qualifications

Age: be under forty-five (45) years of age,

3. Required Documents for Application

(1) Application Form: The Application Form is attached to this General Information.

(2) Nominee's English Score Sheet: to be submitted with the application form. If you have any official documentation of English ability (e.g., TOEFL, TOEIC, IELTS), please attach it (or a copy) to the application form.

(3) Inception Report and Questionnaire: to be submitted with the application form. Please refer to the ANNEX of this General Information, and submit it **along with the application Form**.

4. Procedure for Application and Selection:

(1) Submitting the Application Documents:

Closing date for application to the JICA Center in JAPAN: **May 1st, 2009**

Note: Please confirm the closing date set by the respective country's JICA office or Embassy of Japan of your country to meet the final date in Japan.

(2) Selection:

After receiving the document(s) through due administrative procedures in the respective government, the respective country's JICA office (or Japanese Embassy) shall conduct screenings, and send the documents to the JICA Center in charge in Japan, which organizes this project. Selection shall be made by the JICA Center in consultation with the organizations concerned in Japan based on submitted documents according to qualifications.

The organization with a detailed plan to utilize the opportunity of this program will be highly valued in the selection.

(3) Notice of Acceptance

Notification of results shall be made by the respective country's JICA office (or Embassy of Japan) to the respective Government by **not later than May 22nd, 2009.**

5. Conditions for Attendance:

(1) to observe the schedule of the program,

(2) not to change the program subjects or extend the period of stay in Japan,

(3) not to bring any members of their family,

(4) to return to their home countries at the end of the program in Japan according to the travel schedule designated by JICA,

(5) to refrain from engaging in political activities, or any form of employment for profit or gain,

(6) to observe the rules and regulations of their place of accommodation and not to change the accommodation designated by JICA, and

(7) to participate in the whole program including a preparatory phase prior to the program in Japan. Applying organizations, after receiving notice of acceptance for their nominees, are expected to carry out the actions described in section Ⅱ-9(1).

IV. Administrative Arrangements

1. Organizer:

(1) Name: JICA Osaka

(2) Contact: Training Program Division, JICA Osaka （osictt1@jica.go.jp）

2. Implementing Partner:

(1) Name: Osaka City Waterworks Bureau

(2) URL: http://www.water.city.osaka.jp/english/index.html

Remark: The city of Osaka is situated at the heart of the Japanese archipelago. It has been developed over the centuries as a center of Japanese political and economic life. The city's water supply system became only the fourth modern supply system in the country when it was inaugurated in November 1895. Numerous expansion programs in line with the growth of the city's area and population have since brought the system's supply capacity up to its current daily level of 2.43 million m^3. The system's organizational structure includes a head office, branch offices (customer service centers, water rate collection centers, pipe laying, maintenance units, etc.), water treatment works, and engineering offices (for maintenance and new construction projects), giving a total employee figure of approximately 2,180.

3. Travel to Japan:

(1) Air Ticket: The cost of a round-trip ticket between an international airport designated by JICA and Japan will be borne by JICA.

(2) Travel Insurance: Term of Insurance: From arrival to departure in Japan. *the traveling time outside Japan shall not be covered.

4. Accommodation in Japan:

JICA will arrange the following accommodations for the participants in Japan:

JICA Centre international de Osaka (JICA Osaka)
Adresse : 25-1 Nishi-Toyokawa-cho, Ibaraki-shi, Osaka 567-0058, Japan
TEL : 81(*)-72(**)-641-6900 FAX : 81(*)-72(**)-641-6910
(where "81" is the country code for Japan, and "3" is the local area code)

If there is no vacancy at JICA Osaka, JICA will arrange alternative accommodations for the participants. Please refer to facility guide of JICA Osaka at its URL, http://www.jica.go.jp/branch/osic/english/training/index.html

5. Expenses:

The following expenses will be provided for the participants by JICA:

(1) Allowances for accommodation, living expenses, outfit, and shipping

(2) Expenses for study tours (basically in the form of train tickets.

(3) Free medical care for participants who become ill after arriving in Japan (costs related to pre-existing illness, pregnancy, or dental treatment are not included)

(4) Expenses for program implementation, including materials

For more details, please see p. 9-16 of the brochure for participants titled "KENSHU-IN GUIDE BOOK," which will be given to the selected participants before (or at the time of) the pre-departure orientation.

6. Pre-departure Orientation:

A pre-departure orientation will be held at the respective country's JICA office (or Japanese Embassy), to provide participants with details on travel to Japan, conditions of the workshop, and other matters.

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ANNEX I

Operation and Maintenance of Urban Water Supply Systems

Inception Report

Name : _____

Country : _____

*In the core phase in Japan, participants will make a presentation on the Inception Report. It is advisable for participants to prepare audio-visual aids such as slides, pictures, maps, PowerPoint, etc., for more efficient presentation.

1. General information on your city/town
   (geographical features, total population, social and economic status, climate, etc.)

2. Name of organization : (organization chart, number of employees, etc)

3. Please describe the relationship of your organization with Japan's bilateral cooperation program.
   (ex: Counterpart organization of Technical Cooperation Program titled "xxxxxx".)

*This training program targets on counterpart organizations or their related organizations of Japan's bilateral cooperation program only.

4. Your present position

5. Technical issues your organization has and subjects your organization particularly requires you to learn in the training course.
   (Please have a discussion in your organization and fill the chart on the next page with the consensus of your organization.)

*You are advised not to focus on financial issues, but to technical issues, since this training program shall not contribute to improve financial issues.

	technical problems	measures currently being taken	your expectation for the training
*organization			
*water resource *water pollution *water quality control			
*water treatment facilities			
*mechanical and electrical facilities *measuring equipment			
*pipelines			
*service Installation			

ANNEX II Operation and Maintenance of Urban Water Supply Systems

Questionnaire

on current situation of water supply system in your town or city

(1) Information on the organization

A.	Year of water supply inauguration	
B.	Served population	
C.	Water supply capacity	m^3/day
D.	Supply type	☐1.gravity system ☐2.pump system
E.	Management system	☐1.national government ☐2.local government ☐3.public corporation ☐4.private enterprise ☐5.other( )
F.	Accounting system	☐1.government accounting ☐2.enterprise accounting (independent)
G.	Main items of annual income and expenditure and their percentage	income 1. (%) 2. (%) expenditure 1. (%) 2. (%)
H.	Main source of finance for water resource development and facility maintenance cost	1. 2.
I.	Water tariff	(Please attach water tariffs.)
J.	Outline of metering and water bill collection	

(2) Water Resource Development

A.	Water resource	☐1.surface water (river/lake/spring) ☐2.ground water (shallow well/deep well) ☐3.dam ☐4.seawater desalination ☐5.other ( )
B.	Water resource development body	☐1.national government ☐2.local government ☐3.public corporation ☐4.private enterprise ☐5.other( )
C.	State subsidies for water resource development	☐1.yes ☐2.no

(3) Pollution of water resource and water quality control measures

A.	Water quality-related problems	1. 2. 3.
B.	Main sources of water pollution	☐1.household wastewater ☐2.industrial wastewater ☐3.livestock wastewater ☐4.other ( )
C.	Water quality control measure	☐1.introduction of sewage system ☐2.separate wastewater treatment ☐3.wastewater quality regulations ☐4.protection of water resource (such as prohibiting entry or waste discharge to water resource areas) ☐5.other ( )

(4) Intake Facilities

A.	Intake volume	☐1.surface water m^3/day ☐2.ground water m^3/day ☐3.dam m^3/day ☐4.other m^3/day
B.	Intake facilities	
	1) Intake type	☐1.intake tower ☐2.intake weir ☐3.intake gate ☐4.pump ☐5.other ( )
	2) Raw water main	☐1.intake pipe ☐2.intake conduit ☐3.other ( )
	3) Grit chamber	☐1.exist ☐2.not exist

(5) Treatment Facilities

A.	Number of treatment plants	
B.	Capacity	m^3/day
C.	Sedimentation type	☐1.high rate coagulo-sedimentation ☐2.horizontal flow type sedimentation ☐3.slant-board type sedimentation
D.	Filtration type	☐1.rapid sand filtration (gravity system/pressure system) ☐2.slow sand filtration
E.	Filter media	☐1.sand (cm thick) ☐2.gravel (cm thick) ☐3.anthracite (cm thick) ☐4.other (cm thick)
G.	Coagulant	☐1.aluminum sulfate (solid/liquid) ☐2.poly aluminum chloride ☐3.other ( )
H.	Alkali	☐1.caustic soda ☐2.soda ash

		☐3.slaked lime
I.	Disinfectant	☐1.liquid chlorine ☐2.sodium hypochlorite ☐3.chlorinated lime
J.	Wastewater treatment	☐1.sun drying bed ☐2.dehydrator ☐3.heat desiccation ☐4.untreated ☐5.other ( )

(6) Mechanical and Electrical Facilities and Measuring Equipment

A.	Electrical facilities	
	1) Receiving voltage	V
	2) Number of input circuits	
	3) Input transformer capacity	( ) kVA ( ) unit ( ) kVA ( ) unit ( ) kVA ( ) unit
	4) Power consumption of last year	kWh
	5) Manufacturer	☐1.domestic manufacturer ☐2.foreign manufacturer
	6) Operation and maintenance staff training facilities	☐1.exist ☐2.not exist
B.	Power Generators	
	1) Purpose	☐1.main operation ☐2.reserve ☐3.other ( )
	2) Capacity	kVA
	3) Type	☐1.diesel ☐2.gas turbine ☐3.other ( )
	4) Manufacturer	☐1.domestic manufacturer ☐2.foreign manufacturer
	5) Staff training facilities	☐1.exist ☐2.not exist
C.	Motors	
	1) Capacity	( ) kW ( ) unit ( ) kW ( ) unit ( ) kW ( ) unit
	2) Manufacturer	☐1.domestic manufacturer ☐2.foreign manufacturer
	3) Staff training facilities	☐1.exist ☐2.not exist
D.	Pumps	
	1) Pumping capacity	( ) m^3/min. ( ) unit ( ) m^3/min. ( ) unit ( ) m^3/min. ( ) unit

	2) Type	☐1.vertical shaft type ☐2.horizontal shaft type ☐3.inclined shaft type
	3) Use	1.raw water ( ) units 2.transmission ( ) units 3.distribution ( ) units 4.other ( ) units
	4) Manufacturer	☐1.domestic manufacturer ☐2.foreign manufacturer
	5) Staff training facilities	☐1.exist ☐2.not exist
E.	Measuring equipment	
	1) Water level gauge Type	( ) units ☐1.immersion ☐2.pressure ☐3.float
	2) Flowmeter Type	( ) units ☐1.ultrasonic ☐2.electromagnetic ☐3.Venturi tube or Orifice
	3) Measurement type	☐1.analog ☐2.digital

(7) Water Quality

A. Water Quality Data	raw water	finished water
1) Turbidity (NTU or Kaolin turbidity unit)		
2) Color (Pt-Co unit or others)		
3) pH		
4) Iron (mg/l)		
5) Manganese (mg/l)		
6) Hardness (mg/l)		
7) Ammonia (mg/l)		
8) Nitrite (mg/l)		
9) KMnO4 consumption (mg/l)		
10) BOD (mg/l)		

B. Water Quality Monitoring System

1)	Water quality standards	☐1.yes (set by) ☐2.no
2)	Laboratory staff and facilities for monitoring	☐1.own facilities (number of staff) ☐2.subcontracted to other organizations
3)	Monitoring points and measuring frequency in treatment process	☐1.raw water(times/day,week,month) ☐2.settled water(times/day,week,month) ☐3.filtered water (times/day,week,month)

		☐4.finished water (times/day,week,month)
4)	Monitoring stations and frequency on tap water	☐1.number of stations ( ) ☐2.measuring frequency (times/day,week,month)
5)	Major laboratory equipment	1. 2.

(8) Maintenance of Pipelines

A. Length of pipelines by diameter

1) raw water pipelines

Ø mm _____ km

Ø mm _____ km

Ø mm _____ km

2) transmission pipelines

Ø mm _____ km

Ø mm _____ km

Ø mm _____ km

3) distribution pipelines

Ø mm _____ km

Ø mm _____ km

Ø mm _____ km

Ø mm _____ km

Ø mm _____ km

B. Length of pipelines by material

1) grey cast iron pipe _____ km

2) ductile iron pipe _____ km

3) galvanized iron pipe _____ km

4) steel pipe _____ km

5) asbestos cement pipe _____ km

6) concrete pipe _____ km

7) PVC pipe _____ km

8) other _____ km

C.	Type of internal lining		
	1) grey cast iron pipe	☐1.Cement ☐3.Others	☐2.Epoxy resin ☐4.None
	2) ductile iron pipe	☐1.Cement ☐3.Others	☐2.Epoxy resin ☐4.None
	3) galvanized iron pipe	☐1.Cement ☐3.Others	☐2.Epoxy resin ☐4.None
	4) steel pipe	☐1.Cement ☐3.Others	☐2.Epoxy resin ☐4.None

D.	Leak rate	%
E.	Leakage control measures	☐1.implemented ☐2.no
F.	Use of split repair sleeves for leak repairs	☐1.yes ☐2.no

(9) Maintenance of Service Installations

A.	Service method	☐1.direct connection ☐2.tank system ☐3.combination of direct connection and tank system
B.	Service type	☐1.individual connection ☐2.common tap system
C.	Service pipe material	☐1.lead ☐2.copper ☐3.steel pipe ☐ galvanized steel pipe ☐ lined steel pipe ☐ stainless steel pipe ☐4.iron pipe ☐ gray cast iron pipe ☐ ductile iron pipe ☐5.PVC pipe ☐6.polyethylene pipe ☐7.asbestos cement pipe ☐8.other ( )
D.	Service pipe diameter	☐ 13mm ☐ 20mm ☐ 25mm ☐ 30mm ☐ 40mm ☐ 50mm ☐ 75mm ☐ 100mm ☐ 125mm ☐ 150mm ☐ 200mm ☐ 250mm ☐ 300mm
E.	Connection methods of service lines to distribution mains	☐1.direct tapping ☐2.corporation stop with saddle ☐3.plit tapping sleeve ☐4.other ( )
F.	Storage of drawings	☐1.yes (☐ paper ☐ microfilm) ☐2.no
G.	Water meters	☐1.yes (%) ☐2.no
H.	Meter type	☐1.inferential ☐2.analog ☐3.digital
I.	Repair of service pipe leaks	
	1) Please list main causes of leaks.	1. 2.
	2) Method of repair	☐1.by direct staff ☐2.by subcontractors

Note: Applications without a duly completed Inception Report and Questionnaire shall not be accepted.

Training Program JFY2008 (FOR YOUR REFERENCE)

Course (Group) : Operation and Maintenance of Urban Water Supply Systems 5/21/2008

Training Period : May 19 - July 26, 2008

Date		Time	Type	Subject	Position & Organization	Place to Visit	Place to Stay & Phone No.
5/19	MON			Arrival in Japan			JICA, OSAKA
20	TUE			Briefing		JICA, OSAKA	"
21	WED		L	General Orientation (as mentioned in Message Sheets Of Briefing Unit)		"	"
22	THU			Program Orientation (15:00 ～ at Seminar Room 15)	JICA OSAKA		"
23	FRI		L	General Orientation (as mentioned in Message Sheets Of BU)		"	"
24	SAT		N	Holiday			"
25	SUN		N	Holiday			"
26	MON	10:00		Intensive Japanese Language Class			
|	|	|	L			JICA, OSAKA	"
30	FRI	16:00					
31	SAT		N	Holiday			
1	SUN		N	Holiday			"
2	MON	PM	O	Opening Ceremony(13:30-14:00) / Orientation, etc.	Personnel & Human Resource Development Sec.(OMWB)	WTC(8F), Osaka	"
3	TUE		D	Country Report Presentation	(OMWB)	WTC(8F), Osaka	"
4	WED	AM	L	Waterworks in Japan	Ministry of Health, Labour & Welfare	OMWB Staff Training Center	"
		PM	L	Outline of Water Works of Osaka City	(OMWB)		
5	THU		O	Observation of Water Source (Biwa Lake, Kuzuha Intake, Pump Station.)	OMWSA	Kusatsu, Shiga & Hirakata, Osaka	"
6	FRI		L	Management of Water Supply System in Osaka City	Planning Sec., (OMWB)	OMWB Staff Training Center	"
7	SAT		N	Holiday			"
8	SUN		N	Holiday			"
9	MON	AM	L	Opening Ceremony of Technical Training In Kunijima Purification Plant/Outline of Purification Plant Facilities	Kunijima Water Purification Plant (OMWB)	Kunijima Purification Plant, Osaka	"
		AM	L	Outline of Coagulo-Sedimentation, Sand Filter			
		PM	L&O	Observation & Explanation of Purification Facilities			
10	TUE		P	Operation Control of Purification Facilities (Sampling of Filter Media, Test Sand Filter)	"	"	"
11	WED	AM	L	History of Water Treatment	Niwakubo Water Pufification Plant	"	
		AM	P	Operation Control of Purification Facilities (Jar Test)	Kunijima Water Purification Plant (OMWB)		"
12	THU	AM	O	Operation Control of Purification Facilities (Sludge Treatment-Sun Dry Bed)			"
		PM	L	Operation Control of Intake, Treatment, and Distribution Facilities (Control Facilities)	Toyono Water Pufification Plant	Toyono Water Purification Plant, Hirakata	
13	FRI	AM	L	Operation Control of Distribution Facilities	Niwakubo Water Purification Plant (OMWB)	OMWB Staff Training Center	"
		PM	P	Observation of Distribution Facilities		Nagai Distribution Plant, Osaka	
14	SAT		N	Holiday			"
15	SUN		N	Holiday			
16	MON	AM	L	Water Quality Control (Basics, Method))	Water Examination Laboratory (OMWB)	Kunijima Purification Plant, Osaka	"
		PM	L	Water Quality Control (Theory of Chlorination, Various Treatment Method)			
17	TUE	AM	L	Study of Quality Control Related Issues & Incidents	"	"	"
		PM	L	O&P of Electrical &Mechanical Facilities	Facilities Sec. (OMWB)		
18	WED	AM	O	Observation of PP(Ground Water)		Suita City Waterworks Bureau (Katayama PP)	"
		PM	O	Pump Factory Visit (Observation)		Torishima Pump MFG, Takatsuki	
19	THU		T	Observation of Small & Medium Size Purification Plant	OMWSA	Hiroshima Municipal Waterworks Bureau, Hiroshima	to be confirmed

Date		Time	Type	Subject	Position & Organization	Place to Visit	Place to Stay & Phone No.
20	FRI		T	Observation of Small & Medium Size Purification Plant	"	"	JICA, OSAKA
21	SAT		N	Holiday			"
22	SUN		N	Holiday			"
23	MON	AM	L	O&P of Electrical &Mechanical Facilities	Facilities Sec. (OMWB)	Kunijima Purification Plant, Osaka	"
		PM	O	Maintenance of Electrical Facilities (Observation)		Kunijima Purification Plant, Osaka	
24	TUE	AM	L	Discussion on Purification-Related Issues		Kunijima Purification Plant	"
		PM	D	Water Museum Observation		Water Museum	
25	WED	AM	L	Maintenance of Pipelines (Outline, Leakage Investigation･Repair)	Water Dist. Sec. (OMWB)	WTC(8F)	
		PM	L	Outline of Disaster Countermeasure of OMWB	In charge of Disaster Preparedness	"	"
26	THU	AM	P	Maintenance of Pipelines (Attachments and Joints)	Eastern Maintenance Office	Osaka Water Supply Technical Training Center, Osaka	"
		PM	P	Maintenance of Pipelines (Practical Piping Work)			
27	FRI	AM	P	Maintenance of Pipelines (Active Inspection & Maintenance)	Southern Maintenance Office	Osaka Water Supply Technical Training Center, Osaka	"
		PM	P	Maintenance of Pipelines (Leakage Detection Instrument)			
28	SAT		N	Holiday			"
29	SUN		N	Holiday			"
30	MON	AM	L	Maintenance of Pipelines (Leakage Investigation Planning)	Water Distribution Sec. (OMWB)	OMWB, Ohgimachi Office (1F)	"
		PM	L&O	Pipeline Maintenance (Management of Drawing/Correction/Storage)	OMWB OMWSA		
7/1	TUE		O	Observation of Plant of Waterworks-Related Materials (Cast Iron Pipes & Valves)	OMWSA OMWSA	Kubota Hirakata Plant & Mukogawa Plant	"
2	WED	AM	L	Maintenance of Service Installations (Outline)	Water Service Installation Sec. (OMWB)	Osaka Water Supply Technical Training Center, Osaka	"
		PM	P	Maintenance of Service Installations (Water Meters)	"	Osaka Water Meter Office, Osaka	
3	THU	AM	L	Maintenance of Service Installation (Maintenance Techniques)	Eastern Maintenance Office	Osaka Water Supply Technical Training Center, Osaka	"
		PM	P	Maintenance of Service Installation (Piping & Branching)	Southern Maintenance Office	"	
4	FRI	AM	L	Observation of Plant for Water Works Related Material & Equipment (Joint, Flange, etc.)	OMWSA	Sanda Plant, Taisei Kiko Co., Ltd., Sanda, Kobe City Waterworks Bureau, Kobe, Hyogo	"
5	SAT		N	Holiday			"
6	SUN		N	Holiday			
7	MON	AM	L	Outline 0f Service Operation	In charge of Custmer Service	Osaka Water Supply Technical Training Center, Osaka	JICA, OSAKA
		PM	D	Activities of Service Offices ,Maintenance of Service Installation Equipment	Northern Maintenance Office (Toyosato Branch)	Northern Maintenance Office (Toyosato Branch)	
8	TUE		T	Visit to Japan Waterworks Association		Japan Waterworks Associationi	(to be confirmed)
9	WED		T	Leakage Detection Training (Fuji Tecom)	Fuji Tecom	Fuji Tecom, Saitama	"
10	THU		P	Leakage Detection Training (Fuji Tecom)	Fuji Tecom	"	"
11	FRI	AM	P	Leakage Detection Training (Fuji Tecom)	Fuji Tecom	" (PM: Saitama to Osaka)	"
12	SAT		N	Holiday			"
13	SUN		N	Holiday			"
14	MON		P	Service Installation Works(Various Techniques for branching, corporation tap, etc.)	Eastern Maintenance Office	Osaka Water Supply Technical Training Center,	"
15	TUE		O	Observation of Water Works Related Material & Equipment (Pipes & Tubes)	OMWSA	Ritto Plant, Sekisui Chemical Co., Ltd., Ritto/Kyoto Biwa Lake Canal Museum	"
16	WED		P	Service Installation Works(Flexible joint, split tees)	Western Maintenance Office (Konahama Branch)	Osaka Water Supply Technical Training Center, Osaka	"
17	THU		P	Service Installation Works(Split sleeves, small pipes disassembling)	Northern Maintenance Office (Toyosato Branch)	"	"
18	FRI	AM	D	Discussion on Ditribution & Service Facility Issues	OMWB	OMWB Staff Training Center	"
		PM	D	Group Discussion, Preparation of Action Plan	JICA	JICA, OSAKA	
19	SAT		N	Holiday			"
20	SUN		N	Holiday			
21	MON		N	Holiday			
22	TUE			Preparation for Action Plan		JICA, OSAKA	
23	WED		D	Action Plan Presentation & Discussion	OMWB	WTC(8F), Osaka	"
24	THU			Closing Ceremony at OMWB, Interview,Farewell Party	Personnel & Human Resource Development Sec.(OMWB)	WTC(8F), Osaka	"
25	FRI			Evaluation Meeting and Closing Ceremony		JICA, OSAKA	"
26	SAT			Departure			
27	SUN			Departure			

Welcome to JICA Osaka

Osaka International Centre of Japan International Cooperation Agency (JICA Osaka) extends a hearty welcome to all JICA participants.

1. Location of the centre in the Kansai region

JICA Osaka is located in Ibaraki City, Osaka prefecture, in the heart of the Kansai region. Ibaraki lies close to the ancient cultural centers of Kyoto and Nara, and to the commercial, industrial and economic center of Osaka, and the city of Kobe.

2. Orientation Programme & Japanese Language Course

(1) The four days after arrival at JICA Osaka are dedicated to an orientation programme, during which participants are introduced to JICA Osaka and its facilities, attend lectures on Japan's economy, society and culture, and participate in an international exchange programme with local communities.

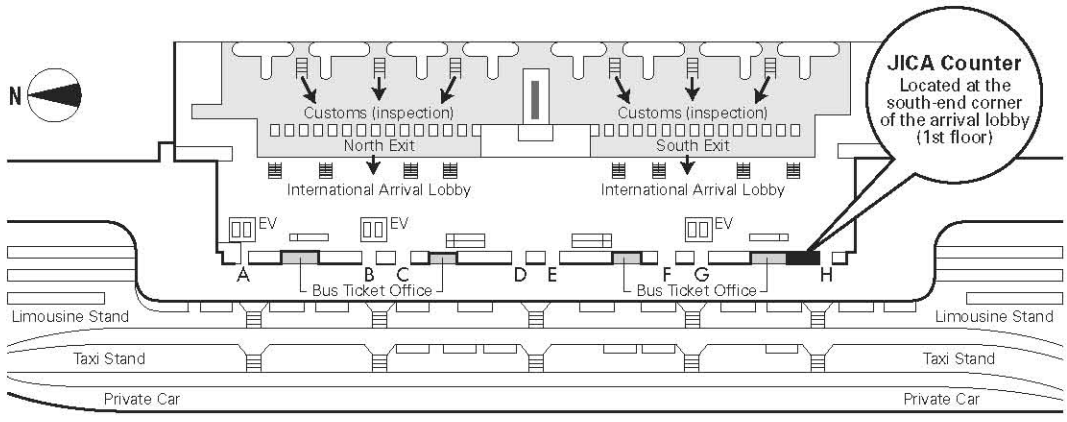
(2) It is desirable that participants acquire basic Japanese daily conversation for use in communication with training institution personnel and in other situations outside the scope of their technical training. JICA Osaka therefore offers:

1 an intensive Japanese language course as an integral part of the training programme in designated courses 2 an optional Japanese language course held in the evenings

3. Weekend Recreational Programme

Occasionally, at the weekends, JICA Osaka, in concert with community groups, organizes a programme of recreational activities and exchange events, including introductions to flower arrangement, tea ceremony, kimono wearing, handicrafts, and folk dancing, and visits to Japanese homes.

Map of JICA Counter in Kansai International Airport (KIX)

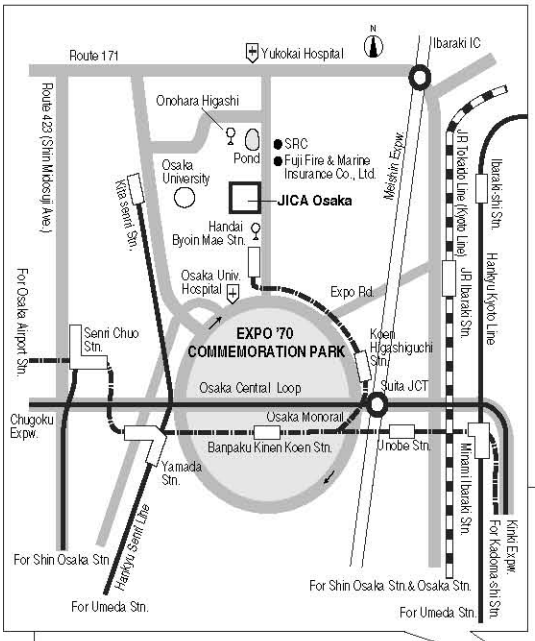


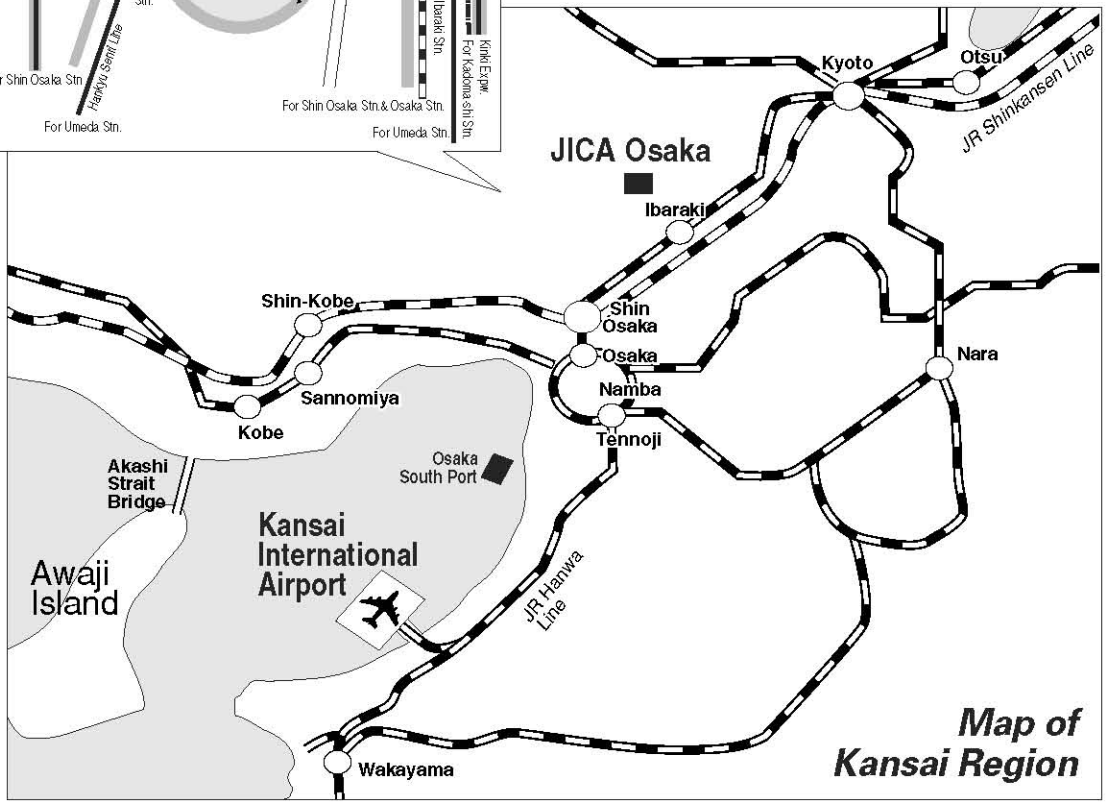
Upon arrival, participants should follow the procedure below:

1. Ride on Wing Shuttle (red elevated tram).
2. Pass through Immigration.
3. Collect baggage and pass through Customs Inspection.
4. Go to the JICA Counter located at the south-end corner of the arrival lobby (1st floor).

The staff at the JICA Counter will provide participants with a limousine bus ticket to Osaka Station
(alight at Hotel New Hankyu).
At Osaka Station, a representative of the travel agency designated by JICA will meet the participant. The participant will be taken to JICA Osaka by taxi (with a taxi ticket), which takes approximately 30 minutes.

Map of the JICA Osaka Vicinity





Map of Kansai Region

CORRESPONDENCE

For enquiries and further information, please contact the JICA office or the Embassy of Japan. Further, address correspondence to:

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