

Water supply engineering training

Course guide

September 22 – October 29/2009

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1.0 introduction

The ministry of water resources (MOWR) and Japan international cooperation agency (JICA) welcome you to participate the water supply engineering training course program in Ethiopia water technology center in Addis Ababa.

We sincerely guide is aimed at providing you with information of training course as well as other matters concerning about your stay in the training center. We believe that the information given would help you to make you aware about the image of the course.

2.0 back ground

The potable water supply coverage of Ethiopia is low as to compare to sub-Sahara countries. Hence, to improve the low waters supply coverage in terms of quality and quantity through capacity building of regional engineers, the training center has established in 1997 by the federal ministry of water resources (MOWR) in collaboration with Japan international agency (JICA) in Addis Ababa at kality area.

3.0 objectives

The general objective of the course in this training is to improve the water supply and sanitation programs and projects by enhancing the ability of trainees to sustain adequate water supply facilities.

The specific objectives are

- To update knowledge on the planning, design, construction, operation and maintenance aspects of water supply and sanitation programs and projects.
- To reinforce management skills with regard to sustainable water supply and sanitation facilities.
- To develop the capacity of the engineers on planning, design, construction, operation and maintenance of water supply and sanitation facilities.
- To facilitate experience share between participants.

4.0 methods

To achieve the objectives, the training will be given in the form of theoretical lectures in the class room, using texts, hand outs. There is also a forum for group discussion for exchange of knowledge, ideas and opinions. A major time would be allotted for practical sessions which are interrelated with theoretical lectures. The instructors will give the lectures in the class and demonstrate in the field. the field trip may consist of visiting treatment plants which are already constructed (AWASSA, ZIWAY, LEGEDADE, GEFERSA, DEBREZEIT, MOJO, ADAMA AND METEHARA). the field visit for water supply projects which are under construction will include the projects which are handled with the MOWR and projects which are handled by JICA in oromiya region .(currently selected water supply projects are WALKITE and GIMBICHU-FENTALE water supply projects).

5.0 Content of the training

training module	content of modules	contact hour break down		
		suggested module time(hrs)	theoretical	practical
Module 1	planning of water supply	12		
Module 2	water sources	10		
Module 3	water pollution	4		
Module 4	water quality management and control	8		
Module 5	purification facilities	4		
Module 6	basic design criteria of water supply facilities &	8		

	tender document preparation			
Module7	introduction to construction materials	24	4	20
Module8	application of software	40		40
practical site visit		13 days		13 days
total training time		41 days(164hrs)		164hrs

6.0 languages

English shall be the primary language used during lecture .but Amharic language shall be talked during group discussion.

7.0 participant's qualification

Invitation to participants in the training is extended to a maximum of 20 trainees based on the following criteria.

Education: Bsc or diploma graduates in civil or related fields shall be invited.

Experience: 2 years for Bsc & 5 years for diploma graduates may be required.

8.0 Training period

from September 22 to October 29, 2009

9.0 programs

- **daily class schedule :**

	Monday to Friday
1. Morning session:	9: 30 to 12:00 (AM)
2. Afternoon session:	2:00 to 4:30(PM)

10.0 EWTECH training staff members

No	Name	Position
1	Ato Abera Mekonnen	project director
2	Ato Teferi Menkir	Project manager
3	Ato Markos Tefera	Head of EWTEC
4	Ato shumet Kebede	GWI course coordinator
5	Ato Tameru Fekadu	Advanced course coordinator
6	Ato Mulugeta Kinfu	DT course coordinator
7	Ato Yilma Assefa	EMMT course coordinator
8	Ato Tensay Getnet	WSE course coordinator
9	Ato Melaku Nesibu	EMMT INSTRUCTOR
10	Ato Mekonnen Aweke	Dt. instructor
11	Ato Nigatu Adamu	Dt. instructor
12	Ato Sultan Kemal	training affairs
13	Ato Wasihun Aklilu	training affairs
14	Ato Habtamu H/michael	cashier
15	W/o Yirgedu Asefa	store keeper
16	W/o Sara G/ silase	librarian
17	S/r Tadelech Yesuf	clinical nurse
18	Ato Wondifraw Bekele	clinical nurse
	W/r Tesfaye Yirdaw & Mare Tujuba	copier machine operator
	W/0 Wude Tessema	secertary
	Ato Getahun Girma	general service technician
	W/o Elfresh Bekure	secretary

Total 41 working days (52hrs+20hrs+40hrs+13 days=164 hrs=41 days)

11.0 SCHEDULE FOR WATER SUPPLY TRAINEES

(September 5/2009-October 24/2009)E.C

No.	Date		Subject	Contents	Lec. Hr.	Pra Hr	Lecturer in charge	
1	22/Sep./2009 (Tuesday)	am	Course guidance and brain storming	Course guidance & orientation	1		Markos	
				Brain Storming	1		Markos	
		pm	Introduction to water supply Engineering	Introduce the basic water supply components & operation & maintenance of water supply schemes	2		Tensay	
2	23/Sep./2009 (Wednesday)	am	Planning of water supply	Introduce planning processes & review population forecast methods	2		Tensay	
		pm		Introduce water demand analysis & reservoir determination methods	2		Tensay	
3	24/Sep./2009 (Thursday)	am		Carry out an exercise	2		Tensay	
		pm		Carry out an exercise	2		Tensay	
5	25/Sep./2009 (Friday)	am		water sources	Introduce the water occurrence & Hydrology			Tensay
		pm	Water Sources	Introduce the types & selection of water sources	2		Tensay	
6	28/Sep./2009 (Monday)	am	Water resource	Introduce well design methods	2		Zenawi	
		pm						
7	29/Sep./2009 (Tuesday)	am		Introduce the selection of Akaki area	2		Zenawi	
		pm		Conduct practical pumps test analysis in the compound of training center	2		Zenawi	
8	30/Sep./2009 (Wednesday)	am		Conduct site visit at Akaki Well field	2		Zenawi	
		pm		Introduce the cause of water contamination			Tensay	
9	1/Oct./2009 (Thursday)	am		Water pollution	Introduce sanitation facilities	2		Tensay
		pm			Field observation of waste water treatment facilities (at Kalite)		2	Tensay
10	2/Oct./2009 (Friday)	am	Water quality management control	Introduce water quality management & control	2		Dawit	

		pm		Introduce disinfections methods & water chemicals	2		Dawit
11	5/Oct./2009 (Monday)	am		Demonstrate water quality instruments	2		Dawit
		pm		Demonstrate water quality instruments	2		Dawit
12	6/Oct./2009 (Tuesday)	am	Purification facilities	Introduce the types of purification facilities & operation & maintenance of treatment processes	2		Tensay
		pm		Introduce the types of purification facilities & operation & maintenance of treatment processes	2		Tensay
13	7/Oct./2009 (Wednesday)	am	Basic design criteria of water supply facilities & tender document preparation	Introduce basic design criteria of water supply facilities	2		Tensay
14	8/Oct./2009 (Thursday)	am		Introduce Bid document preparations /civil and supply of pipes & fittings	4		Tensay
		pm		Introduce the design criteria for components & materials for water supply systems	2		Tensay
15	9/Oct./2009- 18/Oct./2009	8 days	field	Field visit at Ziway treatment plant, Walkite water supply project, Gimbichu-Fentale water supply project, Adama treatment plant, Metehara treatment plant, Mojo water supply.		8 days	Tensay
16	19/Oct./2009- 28/Oct./2009	8 days	Concepts of Softwares	Introduce software programs and practice with Epanet and auto cad		40	
17	29/Oct./2009 (Thursday)		Evaluation & Group Discussion	Give internal evolution forms to all participants Discuss with them about the general course process	1	1	Markos Markos

Training Time Morning

8:30 – 10:30 and 11:00 – 12:00

After noon

2:00 - 3:00 and 3:30 - 4:30