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ARAB REPUBLIC OF EGYPT

**ALEXANDRIA GENERAL
ORGANIZATION FOR
SANITARY DRAINAGE**

**US-BASED (TWINNING)
TRAINING PLAN REPORT**

TWINNING PROGRAM EVALUATION

August 17, 1993

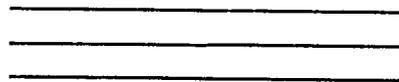


Table of Contents

<u>Section</u>	<u>Page</u>
1 INTRODUCTION	1
2 PURPOSE OF THE REPORT	2
3 PROGRAM DESIGN	3
4 PROGRAM IMPLEMENTATION	8
5 PROGRAM EVALUATION	12
APPENDIX A: PARTICIPANT JOB TITLES	
APPENDIX B: INSTRUCTORS	
APPENDIX C: ORIENTATION HANDOUT	
APPENDIX D: TECHNICAL SCHEDULE	
APPENDIX E: EVALUATION QUESTIONNAIRE	

1 INTRODUCTION

1.1 JUSTIFICATION

In 1990, Wastewater Consultant's Group (WWCG) was given a mandate by the United States Agency for International Development (USAID) to assist the management and staff of the Alexandria General Organization for Sanitary Drainage (AGOSD) to effectively operate and maintain their newly rehabilitated and constructed wastewater collection and treatment facilities. Facilities include a collection system, six pump stations, two primary treatment plants, a mechanical dewatering facility, and a landfill/composting facility.

The goal of the project was to train AGOSD employees to perform their tasks correctly and efficiently. This was an attempt to protect USAID and AGOSD investments through effective operation and maintenance of the facilities.

To fulfill the mission of this comprehensive operations and maintenance project, multiple types of training were necessary. Formal classroom training, based on written documents, was given on general technical topics, and standard operations and maintenance procedures. This training provided prerequisite cognitive knowledge necessary to performing tasks correctly. Additional training on standard procedures was given at the work sites as "hands-on" training. This allowed employees to apply their cognitive comprehension to their facilities and practice necessary psychomotor skills.

Finally, to help AGOSD employees gain long-term success, twinning activities were arranged with compatible organizations in the United States. The twinning activities were designed to give the AGOSD employees tangible, practical models of successfully managed wastewater utilities, and to reinforce the skills which were attained through the WWCG training program.

1.2 CONTRACT REQUIREMENTS

Modification No. 05 of Contract 263-0100-C-00-6051-00 required the training through twinning activities of 29 AGOSD employees. Twenty twinning participants were specified as engineers who support operations and maintenance at the pump stations, treatment plants, and solids handling facilities. Five more were to come from the training group. The final four were to come from the Central Maintenance Unit.

Because the project was funded by USAID, the twinning program was administered to meet USAID policy as written in Handbook 10, Participant Training. Requirements for selection criteria, reporting, and travel policies are set forth in this document.

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2 PURPOSE OF THE REPORT

The purpose of this report is to outline the elements of a twinning project which resulted in improved operation and maintenance of the AGOSD facilities through the transfer of technical information from American utilities to AGOSD personnel. This report includes a conceptual summary of twinning activities in program design, implementation, and evaluation. The conceptual summary is supported by descriptions of the first three of six twinning programs sponsored by WWCG and USAID.

Based on occurrences in the first programs, adjustments were made to facilitate the subsequent programs. As these adjustments were made, they were also evaluated and further changes made as necessary. This process allowed WWCG and AGOSD to improve program experiences and develop a list of observations which will be helpful in future twinning activities.

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3 PROGRAM DESIGN

Comprehensive program design begins the process of developing a twinning program which results in learning by the participants. By definition, learning is a permanent change in behavior. Therefore, planning ensures participants are exposed to need-to-know information and the methods of instruction are conducive to learning--a permanent change in behavior.

The two major areas of program design are program planning and logistics. Program planning ensures the need-to-know information is presented in a manner which provides the necessary experiences for the participants to learn. Logistical planning ensures the participants are comfortable and receptive to learning new information.

3.1 PROGRAM PLANNING

Key elements of program planning include:

- ▶ defining the program goal,
- ▶ identifying a United States base for local arrangements,
- ▶ selecting twinning partners,
- ▶ structuring and scheduling the technical program, and
- ▶ selecting the participants.

3.1.1 Program Goal

The twinning program was included in WWCG's contract to aid AGOSD in learning to successfully operate, maintain, and manage their new facilities. As was found in the early 1980's in the United States, design and construction of new wastewater facilities does not, without further attention to operation, maintenance, and management, ensure a cleaner environment or protection of the infrastructure. Therefore, twinning was intended to provide AGOSD personnel with information vital to the appropriate use and care of their new facilities. The program goal was stated as follows:

"The AGOSD/USAID Twinning Program is designed to provide AGOSD staff with the opportunity to observe and learn how U.S. utilities organize, manage, and operate facilities, equipment, and systems which are similar to those for which they are responsible in Alexandria. Participants will learn how their job affects the rest of the facility and how other components of the facility affect their own work assignment. The twinning experiences will not only prepare participants for their present work assignment but will also help prepare them for future assignments by familiarizing them with other systems and components of the AGOSD facilities."

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3.1.2 Base of Operations

To meet the twinning goal, WWCG needed a US-based company to make local arrangements with hotels, work closely with the twinning partners to plan and implement the program, and provide constant contact and support with the twinning participants. The project budget specified a subcontractor to fulfill these roles.

Once the program goal was defined, the search began for a US-based subcontractor to provide this local planning and support. Criteria used to select an appropriate firm included:

- ▶ wastewater operations, maintenance, and management experience;
- ▶ a nationwide network of technical and management experts;
- ▶ conference management experience; and
- ▶ availability of multi-lingual staff.

After reviewing the proposals submitted in answer to the Request for Proposals, WWCG selected International Studies & Training Institute (ISTI) as the subcontractor.

3.1.3 Twining Partners

WWCG and ISTI discussed various US twinning partners who could help the AGOSD employees meet the twinning goal. Among the criteria for selecting twinning partners was:

- ▶ similarity of physical facilities to those at AGOSD,
- ▶ sufficient staff and local expertise to provide meaningful classroom and field experiences,
- ▶ location close to a major international airport,
- ▶ the willingness and ability of the utility to host such an activity, and
- ▶ weather similar to that in Egypt.

It was felt that although the physical facilities and expertise were overriding factors, it would increase the comfort level and receptivity of the participants if travel could be streamlined and the local weather not too dissimilar from their home. Also, it was decided that more than one twinning site would be used since one site could not satisfy all elements of the twinning program.

The location for the first and third twinning experiences was Orlando, Florida. Orlando is near the University of Florida's Environmental Training Center (TREEO). This facility provided classroom space for some of the knowledge-based sessions. Nearby access was also available to the City of Orlando and Orange County collection systems, pump stations, and solids handling facilities. Local experts were also available to discuss topics such as pretreatment programs, sewer line pressure cleaning, TV inspections, and belt filter press operation.

The second group travelled to Los Angeles, California, a large coastal metropolitan area, in an arid environment with a large concentration of major industries. The profile of the

city and wastewater utility very closely resemble that of Alexandria and AGOSD. The training center at the Hyperion Treatment Plant provided classroom space and easy access was available to both City and private wastewater facilities for demonstrations and field exercises.

3.1.4 Technical Program

WWCG communicated the program goal to ISTI so the team could plan all events and activities effectively. ISTI worked with the twinning partners to finalize the schedules and programs which were developed jointly by AGOSD and WWCG.

A draft agenda was developed jointly by ISTI twinning partners, using a technical program provided by WWCG. The final technical agenda was submitted to and approved by WWCG and AGOSD. WWCG then translated the schedules into Arabic for use by the participants.

A typical day began at 8:00 a.m. with classroom discussion and preparation for field exercises. The field exercises which followed the classroom sessions were designed to demonstrate the application of classroom principles and theories. The afternoon sessions involved additional field exercises and demonstrations. This schedule applied to Monday through Friday morning. Friday afternoons were arranged to accommodate a prayer schedule. Cultural events and personal shopping trips for groceries and daily necessities were scheduled for evenings and weekends.

3.1.5 Participant Selection Criteria

As stated earlier, Modification 5 stipulates the twinning participants would include five individuals from the training unit, four from the Central Maintenance Unit, and 20 engineers from the O&M department. The 20 engineers were to be drawn from personnel working in the pump stations for the 1992 groups, treatment plants for the 1993 groups, and solids handling facilities for the 1994 groups. Complete lists of the participants in the first three groups and their job assignments is included in Appendix A.

Individuals were nominated by AGOSD for participation in the program. Criteria used to select the participants included:

- ▶ appropriate academic preparation,
- ▶ present position and professional advancement within AGOSD,
- ▶ a demonstrated leadership capability, and
- ▶ English language skills.

It was necessary for AGOSD to turn in the participants' names at least one month before the scheduled departure to ensure visas could be obtained in time.

Many of the potential participants qualified under the first three requirements but lacked English language skill. To overcome this problem, WWCG instituted formal English language training for potential candidates through the American Cultural Center in Alexandria. Students for the English language program had to meet the first three

requirements before they could be approved for English language training. English language training allowed potential participants to improve their English so they could participate in twinning if selected and also gave them improved English skills necessary to read and understand the manufacturers' manuals for their new equipment.

3.2 LOGISTICS

By completing the program planning elements discussed above, WWCG had ensured the correct information would be taught to qualified individuals. However, if planning stopped here, there would be no way to ensure the participants were comfortable and receptive to the new information. Logistical planning was completed to cover this issue.

Key elements of logistical planning include:

- ▶ travel arrangements,
- ▶ participant briefings, and
- ▶ identification and coordination of support services.

3.2.1 Travel arrangements

All travel reimbursement was according to U.S. Government travel, lodging, and per diem allowances. WWCG arranged the international flights and ISTI provided the necessary service of making local travel and hotel arrangements.

Flight arrangements, in keeping with USAID regulations, were made on US-owned airlines. To reduce the stress and fatigue inherent in international travel, the group travelled from Alexandria to Los Angeles with layovers minimized as much as possible. ISTI provided rented vans to transport the participants from the airport to the hotel.

Hotels were selected primarily for their proximity to the training site and a weekly rate which fell within the U.S. Government allowances. The hotels in Orlando and Los Angeles had suites with full kitchens (microwave oven, stove, and refrigerator). Laundry and grocery facilities were within walking distance of both hotels. These amenities were very helpful in allowing participants to stretch their per diem dollars to cover their basic needs. The hotel bills for rooms were paid directly by ISTI. Participants paid for additional services such as laundry, TV, telephone calls, and food.

Depending upon the city, participants received \$30 to \$35 per diem to cover their expenses. The money was given directly to participants and they were responsible for ensuring they had enough to cover necessary expenses. Minor problems were encountered with the first group not understanding the legal limit of the per diem. This issue was handled for later groups by ensuring the orientation covered a very clear description of the amount and regulations concerning per diem.

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3.2.2 Briefing participants

The twinning participants, before leaving Egypt, were briefed on:

- ▶ Program presentation;
- ▶ AID participant guidelines;
- ▶ Medication, prescriptions, and medical records; and
- ▶ Passports and visas.

3.2.3 Coordination with U.S. partners

During planning activities, the symbiosis of WWCG, ISTI, and the twinning partners provided a rich and varied twinning experience for the participants. The team stayed in frequent contact during the planning stages for both program and logistics. This open communication developed a solid team which was able to identify emerging problems and solve them immediately.

Coordination was also critical in selecting and implementing the cultural and leisure activities. These activities were selected to give the participants added insight into the American culture and allow them to visit internationally famous sites. For example, in Orlando the group spent a day at Disney World. In Los Angeles, they visited Universal Studio.

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4 PROGRAM IMPLEMENTATION

Solid planning, as discussed in the previous section, is critical to smooth program implementation. However, planning must be supplemented by a professional approach to implementation. Program implementation involved:

- ▶ travelling to the United States,
- ▶ orienting the participants to their surroundings and program,
- ▶ providing the program, and
- ▶ summarizing events.

With adequate program planning, implementation required following the established plans and making small adjustments that became necessary.

4.1 TRAVEL TO U.S.

Participants were responsible for reaching the Alexandria airport on their own, but were met at the airport by WWCG personnel. It was found that early airport arrivals were necessary to get the most accommodating seating assignments for the long flights. By the third program, WWCG requested the participants meet at the airport at least two hours before flight time. This allowed adequate time to get desired seating assignments and clear security.

For the first twinning trip, Ms. Mervat Mohamed Sallam, a USAID representative, met the participants at the airport in Frankfurt and accompanied them to Boston. Once in Boston, the group was met by ISTI representatives who helped them through customs and onto their flight to Orlando. A 16-passenger rental van transported the group to the Delta Orlando Resort.

On the second twinning trip, ISTI representatives met the group in Boston, helped them change to their Los Angeles flight, and provided a rental van to transport everyone to their hotel, the Manhattan Residence Inn.

The only major problem encountered with travel arrangements was the unexpected cancellation of the flight from Frankfurt to Boston for the third group. When the flight did not arrive in Boston as scheduled, the subcontractor and WWCG worked together to locate the participants, ensure they were accommodated for the night, and made plans to meet the plane the next day. After arriving in Boston, ISTI personnel accompanied the participants on their flight to Orlando and provided a rental van for transportation to the hotel, Delta Resorts.

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4.2 SUPPORT PERSONNEL

When the groups arrived in the United States, the various support people from the team of ISTI and the twinning partners were critical to a successful implementation.

ISTI personnel provided interpretation and translation services as well as logistics and scheduling necessary to arrange for the desired experiences. ISTI staff worked closely with the twinning partners to make personnel and facilities available to arrange the type of presentations, field exercises, and demonstrations necessary to address subjects directly related to the AGOSD facilities.

ISTI also organized project meetings to assist the participants in organizing an outline for their report on the twinning program. Other services included providing assistance in making long distance phone calls, dealing with the hotels, confirming travel reservations, and, in general, trying to ensure the visit was comfortable and enjoyable so an optimum learning environment was created. ISTI staff interacted continuously with each member of the group, assisting individuals regarding technical considerations, cultural explanations, personal necessities, grocery shopping, and adjusting schedules to accommodate individual requirements.

Ms. Mervat Mohamed Sallam, the USAID representative who accompanied the first group, proved to be invaluable. Ms. Sallam's contributions ranged from assistance in providing interpretations, which were especially critical during the first week, to reinforcement and credibility verification in interpreting the ground rules and restrictions inherent in a USAID-sponsored project.

Other resource personnel included the numerous management, operations and maintenance staff members of the Orlando City, Orange County Utilities, and the Los Angeles Bureau of Sanitation. Of special note are the services of Alan Oyler and Abe Jardaneh of the City of Orlando; J. D. (Dave) Holloway of Orange County; and Dennis Vander Hook, James Langley, Joseph Mundine, Mohamed Abdel Aal, Rick Vardel, Tom Strasser, and Randall Riley, of the Los Angeles Bureau of Sanitation. These individuals gave selflessly of their time and resources to rearrange schedules and make last minute changes to accommodate the needs of the twinning groups.

During Group 2's twinning program, the support and leadership provided by Engineer Hassan Abdel Razeq, AGOSD participant, was a major contribution to the success of the program. Eng. Abdel Razeq continuously monitored the general feelings of the group and initiated discussions to ensure essential information was repeated and emphasized.

Appendix B provides a full listing of the individuals who provided instruction and assistance during the first two twinning exercises. The two instructors for Group 3 were Alan Oyler, PE, and Roy Pelletier.

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4.3 ORIENTATION

For each group, a meeting was conducted on the first day to orient the group to basic information regarding the technical schedule, per diem, accommodations, and other items of interest to the participants.

The first item of business was to introduce the participants to their accommodations for the three week twinning experience. They were given information about approximate costs for using the hotel facilities such as pay movies, room service, laundry services, and long distance telephones. Then they discussed use of the kitchens, including requirements for cleanup, and an introduction to shopping for groceries. Participants were advised not to charge anything to their rooms and discouraged from using the phones in their rooms due to high costs.

Per diem amounts were discussed with all three groups. Some misunderstandings were encountered with the first group regarding the limits of per diem. This was corrected for the other two groups with more detailed discussions about per diem amounts and USAID policies.

Participants were given information about van transportation to and from the various twinning and cultural events. Punctuality in meeting the van was stressed so the program could stay on schedule. Participants were also introduced to alternate methods of transportation for when they wanted to go somewhere on their own time.

Nearby cultural activities, methods of transportation to them, and average prices were described. Scheduled trips for all participants were discussed as well as short trips the participants could take on their own. It was stressed that cultural activities were costs which had to be borne by the individuals.

The final topic of conversation was the technical schedule. Each participant received a copy in both English and Arabic and had the opportunity to ask questions.

The rest of the day following the orientation meeting was set aside for the participants to rest and overcome their jet lag before beginning their technical schedule the following day.

The orientation handout from Group 2 is included in Appendix C.

4.4 PROGRAM HIGHLIGHTS

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4.4.1 Collection System and Pump Stations

The first two groups of twinning participants were primarily from the collection system and pump stations in AGOSD. Therefore, the primary focus for the groups was collection system related. Their initial set of lectures introduced them to their host municipality, and the federal and local laws with which their hosts had to comply. This early introduction

into compliance issues and the enforcement actions taken by the government was intended to establish the importance of effective operation and maintenance of the facilities.

As the two weeks passed, the AGOSD participants were introduced to program elements they are familiar with, as well as totally new technologies and ideologies. Collection system maintenance and rehabilitation techniques were discussed and demonstrated. AGOSD participants learned new methods of using both their old equipment and new equipment. They also learned about common safety practices in the United States which are not used in AGOSD. Inspection techniques, including TV and smoke; corrosion control; and collection system mapping were described and demonstrated.

Effective maintenance is of great importance. A general electrical and electronics workshop was provided to give AGOSD employees necessary prerequisite knowledge before discussing more advanced topics. Then various equipment analyses and tests were demonstrated to improve AGOSD's preventive, predictive, and corrective maintenance program. The importance of scheduled maintenance was stressed.

Management topics were also addressed. Recordkeeping, inventory control and purchasing, budgeting, scheduling, training, and compensation were described by the local host. AGOSD employees were encouraged to differentiate between techniques they could use based on Egyptian laws and ones which they could not.

From the participants' perspective, the highlights of the technical program were learning about new types of equipment, corrosion control, and agricultural reuse of wastewater.

A copy of the Group 1 technical schedule is included in Appendix D.

4.4.2 Mechanical Dewatering

The third group of twinning participants were assigned to AGOSD's new Mechanical Dewatering Facility. Their schedule included many of the same general topics discussed for the first two groups, but included a full day on sludge management practices. In the classroom, they learned about mechanical dewatering processes and equipment operating and maintenance procedures, maintenance and troubleshooting of instrumentation and control systems, planning for emergency operations, and housekeeping and grounds maintenance. They then went to the field to walk through the Orlando sludge handling facilities.

In previous twinning programs, it was noted that although participants gained a great deal of new knowledge, they still had some problems visualizing what their actions as supervisors needed to be to implement the new information. To resolve this, a day and a half were set aside for each AGOSD participant to work alongside an American partner on their shift. This time served as a reinforcement of all topics covered, and allowed the AGOSD managers to see supervisory management techniques in action.

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4.5 RETURN TO EGYPT

When the twinning experience concluded, ISTI transported the participants to the airport in the rental van, got them checked in, and helped them through customs.

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5 PROGRAM EVALUATION

Once the groups returned to Alexandria, three different methods were used to evaluate the effectiveness of the twinning program. First, participants wrote group reports and made presentations about what they learned for their peers. Second, participants were individually interviewed to fill out an evaluation form about their experience. And finally, each participant was asked to list the five items they learned which would be the most value to AGOSD and create action plans to implement one of them.

5.1 PARTICIPANT REPORTS

The first group wrote a group report on their trip. The report tended to concentrate on listing the places they went each day with some particular highlights noted. At the conclusion of the twinning experience, this report served as a valuable aid in helping the participants remember each of the experiences and organize their personal notes to be more useful.

5.2 PARTICIPANT PRESENTATIONS TO OTHER AGOSD STAFF

The primary opportunities used by the participants to share their experiences with their peers at AGOSD were the Pump Station Managers' and Treatment Plant Managers' monthly meetings. These meetings had been previously implemented by WWCG to give AGOSD managers a mechanism for open communication about system problems. Each participant made a formal presentation to their group.

Participants relied heavily on their personal notes and the handouts they received from the twinning partners to make their presentations. They tended to stress those things which they found either the most amazing or the most useful to AGOSD. One of the pump station managers discussed in detail the twinning partner's use of a confined space entry program. Another shared information about the pretreatment programs which would be very useful to AGOSD. Several discussed technologies for sewer cleaning and maintenance which are not currently available in Egypt.

The quality of the presentations was a clear indication that participants gained new knowledge through twinning. In addition, the participants were able to answer their peers' questions and requests for further information on the topics about which they talked.

5.3 INTERVIEWS

Each participant was individually interviewed to determine the participant's perception of the value of the twinning program. Answers were recorded on the questionnaire and are compiled in this section. A copy of the questionnaire is included in Appendix E.

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1. 92% of the participants returned to the same position or duties they occupied before training. One person was transferred from the pump stations to West Treatment Plant and then promoted to the position of Operations Superintendent.
2. 92% of the participants felt their twinning program experience fulfilled its designated objectives although one participant wanted to learn more about cleaning large collectors.
3. All participants attended the pre-departure orientation in Alexandria and the arrival orientation in the United States, and felt they were adequately prepared for the twinning program.
4. The participants did not encounter any social or cultural adjustment problems.
5. While all participants had some amount of English language training before departure, they experienced different degrees of problems. Those who had completed more English training experienced fewer problems than those with less training. The presence of the Arabic speaking subcontractor solved many potential problems. In addition, some of the Los Angeles facility staff spoke Arabic which also helped.
6. On a scale of 1 to 5, with 1 being not satisfied and 5 being highly satisfied, the participants rated their overall satisfaction with their training program as a 4.6. Individual ratings are as follows:

▶ Program, content and delivery (technical level, length, amount of information)	4.4
▶ Relevance of training to the job	4.2
▶ Applicability of the training to the job	3.7
▶ Balance of theory and practice	4.2
▶ Competence of twinning counterparts	4.5
▶ Adequacy of twin facilities	4.2
▶ Administrative arrangements	4.2
▶ Opportunities to meet Americans	3.8
7. Participants were asked to rank the three **GREATEST** benefits from their twinning program experience. The rank order they gave is as follows:
 1. Enhanced professional capabilities
 2. Professional contacts
 3. Obtaining a degree or certificate
 4. Career advancement or better job opportunities
 5. Exposure to other culture(s) and social system(s)
8. Participants were asked to rank all of the following contributions they are now prepared to make to AGOSD and their job as a result of twinning. (All rank orders

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have been added together. If the item was not ranked, it received a score of 8). The rank order they gave is as follows:

- 36 Train others (workshops, on-the-job training, etc.)
- 37 Manage a facility, district, department, technical activity
- 41 Improve operational procedures, programs, or services
- 48 Initiate new projects or services
- 78 Influence or make policy
- 89 Participate in research activities

5.4 IMPLEMENTATION PLANS

To determine if the participants were able to apply their new knowledge to AGOSD, WWCG asked each of the participants to list five actions they would like to take in their current job to improve AGOSD. When the action items were listed, WWCG helped participants write action plans to meet one of their goals, including milestone dates and a description of how they would evaluate their success. The goals were as follows:

TWINNING GOALS	
PARTICIPANT	GOAL
Hassan Abdel Razek Montazah District Manager	Decrease loss time due to accidents and injuries by implementing a plan to develop an effective safety inspection program in Montazah District.
Gaber Abdel Razek East Zone PS Manager	Reduce equipment downtime by implementing a maintenance training program for East Zone PS personnel.
El Said El Kholy East District Manager	Increase the reliability of the AGOSD collection system by performing regularly scheduled inspection and maintenance of large collectors.
Mohamed Ahmed Shebl Zahran East Zone PS Foreman	Reduce equipment downtime by implementing a maintenance training program for East Zone PS personnel.
Shehata Hassan Shehata Central Maintenance Unit	Reduce equipment downtime by developing a certification program for maintenance personnel which requires training and testing before job advancement.
Ahmed Abdel Ghany El Heddini Mamoura Main PS Foreman	Improve pump station appearance by distributing the responsibilities of housekeeping among the three shifts.
Aly Khalaf Aly Ghoneim Montazah District Pump Station Manager	Reduce unexpected equipment breakdown by ensuring all electrical preventive maintenance work is done on schedule.

TWINNING GOALS	
PARTICIPANT	GOAL
Reda Ibrahim Central Maintenance Unit	Reduce equipment downtime by establishing a troubleshooting procedure for district maintenance personnel.
Mohamed Moawad Nasser WTP Operations Superintendent	Improve job performance by performing all job duties outlined in the job description.
Mohamed Gamal Mahran New Smouha PS Foreman	Reduce maintenance costs of the pump station and collection system by developing a plan and sample materials to increase the public knowledge about their role in protecting the collection system.
Adli Aziz Ibrahim West District Electrical Technician	Prolong equipment life and reduce electrical hazards by implementing a training program for electrical troubleshooting for West District electrical technicians and electricians.
Gaber Abdel Aal ETP Electrical Technician	Decrease equipment downtime by procuring the necessary tools and equipment for electrical maintenance and repair at ETP.
Kamal Kamal El Tawheel ETP Electrical Maintenance Superintendent	No goals written.
Essam Abdel Hameed Morsi Sludge Dewatering Chemist	No goals written.

Half the participants agreed to let WWCG staff help them keep on track to meet their goals. The WWCG staff met with AGOSD staff as requested or on milestone dates to monitor progress and help troubleshoot problems.

5.5 OBSERVATIONS

The group members in all three groups demonstrated a high level of interest, took notes, asked questions, and were obviously eager to learn.

The size of the groups was ideal for maximum participation and provided everyone with the opportunity to observe field demonstrations and receive individual attention. Overall, members of the groups expressed a determination to see and learn as much as they could during the visit. After the success of the first group, the basic group size was maintained for other groups to gain the same advantages.

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There were one or two individuals in Group 1 who found it difficult initially to accept basic conditions such as per diem and group travel restrictions. Some time during the first twinning experience was lost repeating discussions concerning subjects which could not be changed. For subsequent groups, WWCG provided clear instructions on these topics at the pre-trip orientation. The same information was then reinforced at the US-based orientation.

Another potential problem involved an individual in Group 1 who arrived without his medication. This situation also raised the issue of the need for a signed release form giving the subcontractor or someone the authorization to allow surgery in the event an individual is seriously injured and is incapable of giving the authorization themselves. This issue was dealt with for subsequent groups by requesting medical information during the orientation in case a problem arose. In addition, participants were reminded to bring any prescription medications with them.

Although the English skills for most of the participants were adequate, some translation problems were encountered, especially early in the experience. It proved to be very helpful to have Arabic speaking people accompany the group to interpret when necessary.

The most serious problem experienced during the twinning program was the loss of one of the participants. The third twinning group arrived in Orlando and checked into their hotel without incident. The next morning, one of the participants did not join the others to meet the van. Upon checking his room, it was found that he had left Orlando. It is probable that he travelled to New Jersey to join his brother who resides there. No action could be taken by the immigration officials because the person was in the U.S. legally until the expiration of the visa--six months. In the future, passports of participants will be kept by the group leader until departure from the U.S.

For future programs, three month visas will be provided to the twinning participants and preference will be given to married individuals and those with no relatives in the U.S.

The final challenge was the unexpected cancellation of the Frankfurt to Boston flight for Group 3. Problems of this sort will be anticipated by giving the group leader emergency telephone numbers to contact in Egypt and the U.S.

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**APPENDIX A:
PARTICIPANT JOB TITLES**

APPENDIX A: PARTICIPANT JOB TITLES

Hassan Abdel Razek	Montazah District Manager
Gaber Abdel Razek	East Zone Pump Station Manager
El Said El Kholy	East District Manager
Mohamed Ahmed Shebl Zahran	East Zone PS Foreman
Shehata Hassan Shehata	Central Maintenance Unit
Ahmed Abdel Ghany El Heddini	Mamoura Main PS Foreman
Aly Khalaf Aly Ghoneim	Montazah District Pump Station Manager
Reda Ibrahim	Central Maintenance Unit
Mohamed Moawad Nasser	WTP Operations Superintendent
Mohamed Gamal Mahran	New Smouha Pump Station Foreman
Adli Aziz Ibrahim	West District Electrical Technician
Gaber Abdel Aal	ETP Electrical Technician
Kamal Kamal El Tawheel	ETP Electrical Maintenance Superintendent
Essam Abdel Hameed Morsi	Sludge Dewatering Chemist

**APPENDIX B:
INSTRUCTORS**

**ALEXANDRIA GENERAL ORGANIZATION FOR SANITARY DRAINAGE
TWINNING PROGRAM-SUMMER 1992
INSTRUCTORS**

City of Orlando

Bureau of Wastewater
Environmental Services Department
5100 L.B. McLeod Road
Orlando, FL 32811
407-246-2213
FAX 407-246-2886

Shane Benner

Env. Engr.

Bob Bessette

Env. Sect.

Gordon Bryam

Instrum'n Tech.

Leo Dixon

Instrum'n Spect.

Jim Lockwood

Env. Spect.

Alan R. Oyster, P.E.

Assistant Bureau Chief

Roy Pelletier

Special Projects Manager

Ron Proulx

SSES Superv

Al Simons

SSES Asst. Superv

Hal Trask

PW Mapping/Graphics Analyst

Gary Williams

Assist. Superv. Collection Section

Orange County

Wastewater Operations West & Collections
8100 Presidents Drive, Suite A
Orlando, FL 32809
407-836-7045
FAX 407-836-7049

J.D. (Dave) Holloway, COA

Superintendent

David M. McNamara

Asst. Supt.

Bill Scott

Master Electrician

Bill Secoy

Guy Thompson

Tom Tompkins

MUS Environmental Corp.

Laurin Isaacson

Kanapaha AWT Facility

Paul Briam Davis

Allair

Robert Rothenberg

VP/General Manager

TREEO Center

Dr. James Bryant

Director

Enviro Q Services, Inc.

Franklin Jorgensen

Manager

Manhole & Wet Well Reconst.

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**ALEXANDRIA GENERAL ORGANIZATION
FOR SANITARY DRAINAGE**

**TWINNING PROGRAM
LOS ANGELES, CA
JANUARY 24, 1993-FEBRUARY 5, 1993**

LIST OF PRINCIPAL INSTRUCTORS

Mohamed Abdelaal, Senior Supervisor
Barry Bergren, Mechanical Repair Supervisor
Edna Boyd
George Chapman
Abdul Danishwar
Claro Diel
James Dixon
John Dorsey
Larry Ehrmann
John Fick
Terry Freezen
Patty Jacobs
Cindy Kovacs
James Langley
Richard Lee
Vladimir Lorenzo
Kevin Louche
Gary Miller
Yerchanik Miniatiskan, Sanitary Engineering Associate I
Mark Perlman
Rod Rodriguez
Randall Riley, Wastewater Collection Supervisor
Robert Sawyer
Carmen Serrano
Al Sosa
Tom Strasser, Electrical Supervisor
Dennis Vander Hook, HRD Manager
Rick Vardel
Paul Wilt

**APPENDIX C:
ORIENTATION HANDOUT**

**ALEXANDRIA GENERAL ORGANIZATION FOR SANITARY DRAINAGE
TWINNING PROGRAM**

**IN-COUNTRY (US) ORIENTATION MEETING
TWINNING GROUP #2**

RESIDENCE INN-Manhattan Beach

1700 N. Sepulveda Blvd.
Manhattan Beach, CA 90266

January 25, 1993
9:00 am

AGENDA

WELCOME & INTRODUCTIONS

LODGING ACCOMMODATIONS

KITCHEN (Kitchen in each individual unit)-self service
(food preparation & cleanup)

GROCERY SHOPPING*

TELEPHONE*

TELEVISION*

ROOM SERVICE*

LAUNDRY*-self service

CHECKOUT

PER DIEM

TRANSPORTATION (LOCAL)

CULTURAL ACTIVITIES*

TECHNICAL SCHEDULE (SEE AGENDA)

* Represents costs which must be assumed as individual responsibilities.

**APPENDIX D:
TECHNICAL SCHEDULE**

**ALEXANDRIA GENERAL ORGANIZATION FOR SANITARY DRAINAGE
TWINNING PROGRAM-SUMMER 1992
Final Schedule**

<u>DAY</u>	<u>DATE</u>	<u>CURRICULUM</u>	<u>PRESENTER</u>
Wednesday	29 July	Arrive Orlando, Florida	
Thursday	30 July	In-country orientation & Twinning program review and jet-lag rest.	ISTI
Friday	31 July	Site tour of the Florida Training Center Walk through of classrooms & laboratories Discussion of training design, development & delivery Demonstration of hands-on training techniques Site tour of the Kanapaha AWT Facility Discussion of in-plant training program	Dr. James Bryant Director, TREEO Paul Davis
Saturday	1 August	Cultural & Leisure Activities-Kennedy Space Center	ISTI
Sunday	2 August	Cultural & Leisure Activities	ISTI

TRAINING FORMAT

Typical Daily Schedule*

8:00 am	Classroom	Orientation to activities scheduled for the day Review & discussion of technical background necessary for maximum understanding of scheduled subjects.
10:00 am	Field	Demonstrations and field exercises to illustrate and observe first hand actual operation and maintenance conditions and practices.
12:00		Lunch
1:00 pm	Field	Exercises and demonstrations continued.
3:30 pm	Classroom	Debriefing and discussion of day's events.
4:30 pm		Adjourn

The schedule above details the typical daily agenda. Flexibility will be maintained in order to take advantage of unscheduled events such as emergencies and special projects involving unusual working conditions, eg emergency night repairs of collapsed collection tunnels.

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**ALEXANDRIA GENERAL ORGANIZATION FOR SANITARY DRAINAGE
TWINNING PROGRAM-SUMMER 1992
Final Schedule**

Tuesday	4 August	Field Demonstration Sewer Line Pressure Cleaning, TV Inspection & Geotechnical Sealing Altair Office Discussions Collection System Maintenance & Rehabilitation Specialists Demonstration of Large Sewer Maintnace Types of Cleaning Equipment Special Cleaning Techniques	Robert Rothenberg
Wednesday	5 August	Pipeline Corrosion	City of Orlando
Thursday	6 August	A. Mechanisms of Corrosion & Sulfide Development	
Friday	7 August	B. Evaluation of System Conditions C. Corrosion Control Strategies 1. Control of Sulfide 2. Protective Linings & Coatings D. Rehabilitation Techniques-Manholes E. Rehabilitation Techniques-Pipelines F. Selecting Appropriate Techniques Field Demonstrations TV Inspection Sewer Pipe Joint Testing Sewer Pipe Joint Sealing-Sliplining Polyethylene Joint Welding Sewer Manhole Rehabilitation	
Monday	10 August	Safety Standard Safety Procedures Confined Space Entry Traffic Control Personal Protection Equipment Respiratory Protection Program Medical Examinations Types of Entry Permits Electrial & Electronic Workshop Demonstration of Electrical & Electronic Testing Instrumentaion	Roy Pelletier City of Orlando Leo Dixon Instrum. Superv. Gorden Byram Instrum. Tech.
Tuesday	11 August	Orientation to Preventative Maintenance Program Field Demonstration-Electrical Preventative Maintenance of Large Lift Stations Classroom Demonstration-Confined Space Entry Procedures	Dave Holloway Orange County

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**ALEXANDRIA GENERAL ORGANIZATION FOR SANITARY DRAINAGE
TWINNING PROGRAM-SUMMER 1992
Final Schedule**

Wednesday	12 August	<ul style="list-style-type: none"> System Management & Facility Inventory Maps, Records, Physical Survey Preventive & Corrective Maintenance Programs G.I.S. Conversion Pilot Project (RJV Software) in conjunction with Geovision Software Field Demonstration Preventive Maintenance of Large Lift Station 	<ul style="list-style-type: none"> Al Simons Hal D. Trask City of Orlando Bill Scott Master Elec.
Thursday	13 August	<ul style="list-style-type: none"> Orientation to Orange County PM Program Demonstration of OC version of RJN (Cassworks) Computerized Record Keeping System Field Tour-OC Storage Area Demonstration of Inventory Control, & Purchasing, Distribution & Effective Re-order Levels of Spare Parts Training & Certification Compensation & Incentives Staff Scheduling & Operating Budgets Field Demonstration-Changing Current Frequencies to Control Motor Speed Relative to Flow Changes 	<ul style="list-style-type: none"> Dave Holloway Dave McNamara Dave Holloway
Friday	14 August	<ul style="list-style-type: none"> Predictive Maintenance Demonstrations of: <ul style="list-style-type: none"> Vibration Analysis Infrared Analysis Motor Testing Shaft Alignment 	<ul style="list-style-type: none"> Richard Lansdown Conserve II

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**APPENDIX E:
EVALUATION QUESTIONNAIRE**

**ALEXANDRIA GENERAL ORGANIZATION
FOR SANITARY DRAINAGE**

RETURN FROM TWINNING QUESTIONNAIRE

1. Are you returning to the same position or duties your occupied before training?

Yes () No () No Prior Job ()

If no, what are your new position and/or duties?

Job Title	Duties
-----------	--------

2. Did the training you received fulfill its designated objectives?

Yes () No ()

If no, please explain why:

3. Which of the following orientations, if any, did you attend in preparation for your training program:

- () Pre-departure orientation in Alexandria
- () Arrival orientation in USA
- () Did not attend an orientation

4. Were you adequately prepared for your training program?

Yes () No ()

If not, what would have helped you to become better prepared?

21

5. To what extent did you encounter any social or cultural adjustment problems:

No Problems	Some Problems	Many Problems
1	2	3

If you had problems, what caused them?

6. Did you have English language training either in the United States or prior to departure for training?

- () Had English language training prior to departure
- () Had English language training in the United States
- () Did not have English language training
- () Tested by ACC/ETP and achieved level _____

7. To what extent did you experience problems with the English language?

	No Problems	Some problems	Many Problems
Speaking	1	2	3
Understanding	1	2	3
Writing	1	2	3
Reading	1	2	3

8. How satisfied are you with the following aspects of your training program:

	not satisfied			highly satisfied	
Program Content and Delivery (technical level, length, amount of information)	1	2	3	4	5
Relevance of Training to Job	1	2	3	4	5
Applicability of Training to Alexandria Conditions	1	2	3	4	5
Balance of Theory and Practice	1	2	3	4	5
Competence of Twinning Counterparts	1	2	3	4	5
Adequacy of Twin Facilities	1	2	3	4	5

Administrative Arrangements 1 2 3 4 5

Opportunities to meet Americans 1 2 3 4 5

If not satisfied with any aspect, please explain: _____

9. How satisfied are you with your overall training experience?

not satisfied moderately satisfied highly satisfied

1 2 3 4 5

10. What have been the GREATEST benefits from your twinning/training program?
Please number in rank order. Rank no more than three items

- () Enhanced professional capabilities
- () Career advancement/better job opportunities
- () Exposure to other culture(s) and social system(s)
- () Professional contacts
- () Obtaining a degree or certificate

Other: _____
be specific

11. As a result of your training, what contributions are you now prepared to make upon return to AGOSD and your job? Please number in rank order. Rank all that apply.

- () Manage a facility, District, department, technical activity
- () Initiate new projects or services
- () Improve operational procedures, programs, or services
- () Influence or make policy
- () Train others (workshops, on-the-job training, etc.)
- () Participate in research activities
- () Did not return to a specific organization/job

Other: _____

Please write any additional comments on the back side of this page.

Name: _____ Dep. Alex. _____ Ret. Alex _____