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AGENCY FOR INTERNATIONAL DEVELOPMENT  
WASHINGTON, D.C. 20523

EGYPT

ALEXANDRIA WASTEWATER SYSTEM

263-0100

PROJECT PAPER AMENDMENT

DATED SIGNED: 6/2/94

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AGENCY FOR INTERNATIONAL DEVELOPMENT  
**PROJECT DATA SHEET**  
 1. TRANSACTION CODE:  A = Add  C = Change  D = Delete  
 Amendment Number: 3  
 DOCUMENT CODE: 3

2. COUNTRY/ENTITY: Egypt  
 3. PROJECT NUMBER: 263-0100

4. BUREAU OFFICE: NE/PD 03  
 5. PROJECT TITLE (maximum 40 characters): Alexandria Wastewater System Expansion

6. PROJECT ASSISTANCE COMPLETION DATE (PACD): MM DD YY 12 31 96  
 7. ESTIMATED DATE OF OBLIGATION (Under "B" below, enter 1, 2, 3, or 4)  
 A. Initial FY: 79 B. Quarter: 4 C. Final FY: 94

3. COSTS (\$000 OR EQUIVALENT \$1 = 3,37)

A. FUNDING SOURCE	FIRST FY			LIFE OF PROJECT		
	B. FX	C. L/C	D. Total	E. FX	F. L/C	G. Total
AID Appropriated Total			87,321	407,310	17,690	425,00
(Grant)	(87,321)	( )	(87,321)	(407,310)	(17,690)	(425,00)
(Loan)	(87,321)	( )	( )	( )	( )	( )
Other U.S.						
Host Country		50,000	50,000		88,427	88,42
(Other Donors)						
<b>TOTALS</b>	<b>87,321</b>	<b>50,000</b>	<b>137,321</b>	<b>407,310</b>	<b>106,117</b>	<b>513,42</b>

9. SCHEDULE OF AID FUNDING (\$000)

A. APPROPRIATION/PURPOSE CODE	B. PRIMARY PURPOSE CODE	C. PRIMARY TECH CODE		D. OBLIGATIONS TO DATE		E. AMOUNT APPROVED THIS ACTION		F. LIFE OF PROJECT	
		1. Grant	2. Loan	1. Grant	2. Loan	1. Grant	2. Loan	1. Grant	2. Loan
(1) ESP				389,924		35,000		425,000	
(2)									
(3)									
(4)									
<b>TOTALS</b>				<b>389,924</b>		<b>35,000</b>		<b>425,000</b>	

10. SECONDARY TECHNICAL CODES (maximum 6 codes of 3 positions each)

11. SECONDARY PURPOSE CODES

12. SPECIAL CONCERNS CODES (maximum 7 codes of 4 positions each)

A. Code	B. Amount

13. PROJECT PURPOSE (maximum 480 characters)

To expand and develop sustainable wastewater collection, treatment and disposal facilities in Alexandria.

14. SCHEDULED EVALUATIONS  
 Interim: MM YY 12 91 Final: MM YY 06 91  
 15. SOURCE/ORIGIN OF GOODS AND SERVICES  
 000  941  Local  Other (Specify)

16. AMENDMENTS/NATURE OF CHANGE PROPOSED (This is page 1 of a        page PP Amendment)  
 \$35 million will be made available under Amendment No. 03 to support AGOSD in its transformation toward a self sustaining utility and to explore environmentally sound technical alternatives for future system expansion.

I hereby concur with the proposed methods of implementation and financing under the project. Concurrence: Douglas Franklin, AD/FM

17. APPROVED BY: Douglas Franklin  
 Signature: [Signature]  
 Title: [Signature]  
 Date Signed: MM DD YY 01 02 94  
 18. DATE DOCUMENT RECEIVED IN AID/W, OR FOR AID/W DOCUMENTS, DATE OF DISTRIBUTION: MM DD YY

**ALEXANDRIA WASTEWATER SYSTEM EXPANSION PROJECT NO. 263-0100  
AMENDMENT NO. 3**

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## GLOSSARY OF ABBREVIATIONS

AGOSD	Alexandria General Organization for Sanitary Drainage
AWW	Alexandria Wastewater
CBD	Commerce Business Daily
CFR	Code of Federal Regulations
EA	Environmental Assessment
EIS	Environmental Assessment
FY	Fiscal Year
GOE	Government of Egypt
KM	Kilometer
L/Comm	Letter of Commitment
LE	Egyptian Pound
LOP	Life of Project
MHPU	Ministry of Housing and Public Utilities
O&M	Operations and Maintenance
PIL	Project Implementation Letter
PP	Project Paper
RFP	Request for Proposals
TA	Technical Assistance
USAID	United States Agency for International Development

PROJECT AUTHORIZATION AMENDMENT



Cairo Office

SEVENTH AMENDMENT  
PROJECT AUTHORIZATION

Name of Country: Arab Republic Name of Project: Alexandria Number of Project: 263-  
of Egypt Wastewater 0100  
Systems  
Expansion

Pursuant to Part II, Chapter 4, Section 531 (Economic Support Fund) of the Foreign Assistance Act of 1961, as amended, the Alexandria Wastewater System Expansion Project (the "Project") was authorized on August 27, 1979 and subsequently amended on six occasions. That authorization is hereby further amended as follows:

Authorized Life of Project Funding: Concerning the first unnumbered paragraph under Section 1 of the First Amendment to the Project Authorization, dated September 28, 1983, as most recently amended by the Sixth Amendment dated May 30, 1991, the approved level of planned obligations of Grant funds is hereby increased from Three Hundred Ninety Million United States Dollars (\$390,000,000) to Four Hundred Twenty Five Million United States Dollars (\$425,000,000).

Authorized Life of Project: Concerning the unnumbered paragraph entitled "Authorized life of Project" in the Sixth Amendment of the Project Authorization dated May 30, 1991, the planned life of project is increased from fifteen years and four months to seventeen years and four months measured from the date of initial obligation.

Conditions Precedent to Subsequent Obligation: Within the \$425,000,000 authorized Life of Project funding level, an initial obligation of \$15,000,000 shall occur upon bilateral execution of Ninth Project Agreement Amendment. Subject to (i) the availability of funds, and (ii) all the terms of a subsequent Amendment to the Grant Agreement, A.I.D. intends to make an additional obligation to the Grantee of \$20,000,000 for the purpose of financing preliminary investigations, designs and cost estimates of four technical alternatives for the next expansion of the Project, and the environmental assessment of such alternatives, but only if, unless A.I.D. otherwise agrees in writing, the Grantee furnishes to A.I.D., on or before January 1, 1995, in form and substance satisfactory to A.I.D.:

- (a) Evidence that all AGOSD revenues, including those derived from wastewater tariffs and service fees, are being fully retained by AGOSD and AGOSD is the sole entity authorized to disburse such funds for its operation and maintenance.

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- (b) Evidence that service fees and wastewater tariff rates should enable AGOSD to generate a minimum of LE 22.5 million annually, in 1994 LE.

Continuation in Force of Previous Authorization Documents. Except as specifically amended above, the original Authorization, as previously amended, remains in full force and effect in accordance with its terms.

Approved: \_\_\_\_\_

Henry H. Bassford  
Director

Date: \_\_\_\_\_

Clearances:

OD/DR/UAD, FGuymont	_____
AD/DR, PThorn	_____
PDS/PS, CDerrick	_____
AD/PDS, RJordan	_____
AD/LEG, VMoore	_____
AD/FM, DFranklin	_____
DDIR, CCrowley	_____

Drafted:LEG:JDoyle:(4/18/94):7PATH100

**U.S. Agency for International Development  
Washington DC 20523**

**PROJECT PAPER - AMENDMENT NO. 3  
EGYPT: ALEXANDRIA WASTEWATER SYSTEM EXPANSION  
PROJECT NO. 263-0100**

**MAY 1994  
DR/UAD  
USAID/CAIRO**

**UNCLASSIFIED**

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# **EGYPT: ALEXANDRIA WASTEWATER SYSTEM EXPANSION AMENDMENT NO. 3**

## **I. EXECUTIVE SUMMARY AND RECOMMENDATIONS**

Grantee: The Government of the Arab Republic of Egypt (GOE)

Implementing Agency: The Alexandria General Organization for Sanitary Drainage (AGOSD)

Grant Amendment Amount: \$35 million

Amount of Total Project Grant (including \$35 million amendment): \$425 million

<u>Obligation Schedule:</u>	Proposed FY94	\$15 million
	Total	\$15 million

Life of Project: Current LOP is fifteen years and four months. This Amendment will extend the PACD an additional two years through 12/31/96.

Project Purpose: To expand and develop sustainable wastewater collection, treatment and disposal facilities in Alexandria.

Project Description: The project consists of (a) the design, supervision of construction, construction, start-up and commissioning for the first phase of expansion of facilities for the Alexandria Wastewater System; (b) review of the 1979 Master Plan for the expansion of the facilities and (c) provision of management advisory services to AGOSD in connection with expansion, management, operation, and maintenance of the Alexandria Wastewater System.

Project Amendment Description: \$35 million will be made available under Amendment No. 03 to support AGOSD in its transformation toward a self sustaining utility and to explore environmentally sound technical alternatives for future system expansion. These funds will finance the costs of (a) increased technical assistance in connection with operation, maintenance, and training, (b) preliminary investigations, designs, feasibility studies, and refined cost estimates of four technical alternatives for the next expansion of the project outlined in the 1993 City Master Plan, (c) Environmental Assessment (EA) of each design alternative with a follow on Environmental Impact Statement (EIS) if appropriate, and (d) final project evaluation.

Project Amendment Conditionality: Except as otherwise agreed in writing, a subsequent obligation of \$20 million for the preliminary investigations, designs, feasibility studies and refined cost estimates of the four technical alternatives for future system expansion and Environmental Assessment is conditioned upon GOE providing to USAID in form and substance on or before January 1, 1995 the following:

a) Evidence that all AGOSD revenues including those derived from tariffs and service fees are being fully retained by AGOSD and that AGOSD is the sole entity authorized to disburse such funds for its operation and maintenance requirements.

b) Evidence that service fees and wastewater tariff rates should enable AGOSD to generate a minimum of LE 22.5 million annually, in 1994 LE.

Total Project Cost: The total LOP cost is estimated to be \$425 million and LE 298.859 million.

Environmental Considerations: The environmental studies/analysis to support preliminary design alternatives for future system expansion being financed will conform with the requirements of 22 CFR 216, "AID Environmental Procedures". As activities financed under Amendment No. 03 itself do not contemplate any impact on the environment, the Mission has obtained a categorical exclusion from environmental review (Annex E).

Source of US Funds: Economic Support Fund

Recommendations: That a Grant increase in the amount of \$35 million be authorized on terms and conditions as set forth in the draft Project Authorization Amendment included on Page v of this paper.

## A. BACKGROUND

### 1. PROJECT HISTORY

In 1977, USAID became involved with the improvement of Alexandria's wastewater system by providing assistance to the Ministry of Housing and Reconstruction in the preparation of a Master Plan for system development. During preparation, the USAID funded consultant, Camp, Dresser, McKee (CDM), identified several projects which would provide significant improvements to the existing system. These projects included a complete collection system in the Ras El Soda area (which was in dire need of sewerage disposal to relieve extensive wastewater flooding), three pumping stations and improved system maintenance. USAID provided a \$15 million dollar loan (USAID Project No. 263-0089) to support these undertakings.

The modified Master Plan was completed in November 1978. It recommended the immediate improvement and expansion of Alexandria's existing wastewater collection system and existing treatment plants. Construction of an effluent disposal system into the Mediterranean (sea outfall) was also recommended. Following a major environmental review in 1979, the treatment plant improvements were upgraded from preliminary treatment (course screening and grit removal) to primary treatment (screening and grit removal plus settling of solids).

On August 27, 1979, USAID authorized \$167 million to finance activities included in the modified Master Plan as a part of the Alexandria Wastewater System Expansion Project (USAID Project No. 263-0100). In that same timeframe, AGOSD was established by the GOE as the implementing agent of the project. After the Project Agreement was signed, AGOSD sought to carefully examine the effects of the siting of treatment plants, the approaches to handling large quantities of sludge, and the economics of sea versus land disposal. Due to the magnitude of the decision needed for treatment upgrade, it was agreed that a review and update of the Master Plan would be necessary prior to undertaking any engineering and design activities.

When the revised Master Plan was completed in early 1982, the question of sewage disposal was reopened. The issue of sea versus land effluent disposal was a subject of significant debate between USAID and AGOSD. Rather than delay implementation by continuously debating the method of disposal, a decision was made to stage system improvements and expansion. USAID agreed that the resources provided by Project 263-0100 would be used to finance Phase I of a three phase system improvement and expansion in order to address the current and potentially most serious public health problems in Alexandria.

In September 1983, the project was amended to substantially cover its current range of activities. These include: the design, construction, and start up for the first phase of expansion of facilities for the Alexandria wastewater system, review of the 1979 Environmental Assessment of Master Plan recommendations, management advisory services for AGOSD to improve its capability to manage, operate, and maintain the Alexandria wastewater system, engineering design and services during construction, selected commodity procurement, and development of a phased implementation plan for the expansion of the system. Phase I construction included the Sporting and Ras El Soda Pump stations, five new pump stations, collectors and tunnels, East and West treatment plants, undercrossings, and sludge dewatering and disposal facilities.

Between 1983 and 1987, a number of unanticipated difficulties adversely impacted implementation: construction delays caused by uncontrollable external factors and weak AGOSD leadership, a lack of action by GOE toward meaningful institutional reform, a lack of GOE resolve on the issue of sea versus land effluent disposal and significant AGOSD institutional constraints.

## **2. SUMMARY OF LOP INCREASES SINCE PP AMENDMENT NO.02**

Since PP Amendment No. 02, (Authorization Amendment No. 03) dated June 1987, there have been three LOP increases raising the combined total funding from \$262,400,000 to \$390,000,000. Each authorization increase is summarized below:

Authorization Amendment No. 04 (\$56.14 million) dated May 1989 - Several construction contracts encountered site, soil, and groundwater conditions which required more costly construction procedures than anticipated prior to contract awards. Resultant contract change orders substantially increased construction costs of this project. Foreign exchange and technological needs justified an additional construction contract for the Smouha and East Zone undercrossings. Schedule slippages were caused by selection of sludge site, soil and groundwater difficulties. Accordingly, engineering services were needed for an additional three years.

Authorization Amendment No. 05 (\$10 million) dated December 1989 - Built by AGOSD over twenty years ago, eight clarifiers at the East Treatment Plant were scheduled to be rehabilitated. During the rehabilitation work by the contractor, serious structural deterioration was detected. The eight clarifiers had to be demolished and rebuilt.

Authorization Amendment No. 06 (\$61.54 million) dated May 1991 - Several construction contracts encountered unexpected soil and groundwater conditions which required more costly procedures than anticipated prior to contract

awards. The last two major construction contract award (mechanical dewatering and undercrossings) costs were significantly higher than previously budgeted in the project.

To date, the project agreement has been amended a total of eight times. It has a current Project Authorization level of \$390 million and a PACD of December 31, 1994.

### **3. 1991 INTERIM EVALUATION SUMMARY**

The December 1991 mid-term evaluation focused on the project's physical progress, its overall social/environmental impact, its sustainability and corrective actions necessary to accomplish overall project objectives. The evaluation report was organized around three assessments of the project; social/environmental, physical progress and project sustainability.

The collection system has been expanded to all targeted areas, and facilities completed have virtually eliminated sewage flooding of served residential streets. Preliminary analysis of project impact is positive. While it is difficult to attribute these improvements solely to the project, the substantial elimination of sewage flooding/ponding in the streets of the served areas and reducing the sewage discharges to the Mediterranean during the summer improved the quality of life and decreased the incidence of water-borne diseases. However, enhanced water quality in the Mediterranean and Lake Maryout remains an elusive goal and ultimate protection can not be assured until the GOE carries out the whole Master Plan. To achieve that, actions by GOE are required to complete the project by expediting the completion of missing elements in the wastewater collection and treatment systems, determine the site of permanent effluent disposal (land or sea), and require pretreatment of industrial wastes. In addition, more formal testing is required to be implemented for water quality in Lake Maryout and Mediterranean.

The evaluation team concluded that USAID is providing the direction necessary to successfully complete the project. USAID project management, combined with the professional efforts of WWCG have resulted in project facilities which are well designed, functional and well constructed. Delays in project implementation have been beyond the control of USAID or WWCG. They have resulted from a protracted, national controversy surrounding effluent discharge location (sea outfall or land), complex soils and groundwater conditions, and inefficient project management procedures of AGOSD. The delay resulted in increased project costs, postponement of its use and potential degradation of the system's completed elements. Currently, the project is progressing well. All construction is completed and the quality of work is excellent. The full operation of the project was initiated in October 1993. The contractors involved

have dealt with all difficulties. USAID in coordination with AGOSD, will continue to provide operation and maintenance assistance until December 1994. USAID and the consultant should continue efforts to influence AGOSD to adopt and practice effective project management procedures. A preventive maintenance program should be continued and expanded to include schedule for exercising all idle project equipment until full operation begins.

Regarding sustainability, the evaluation report found that the O&M team appears to be moving towards the goal in a timely fashion. The reports warns that the complex task involves the future training and motivation of the AGOSD staff, the reorganization of AGOSD's financial and management structure, and serious reforms to AGOSD's authority to levy and collect tariffs to meet operating expenses. To achieve that, USAID has to ensure that the O&M assistance program continue for at least a year beyond the completion of construction and that the O&M program be reviewed at least one more time.

### Evaluation Summary

<b>Evaluation Recommendations</b>	<b>Actions</b>
GOE. USAID and AGOSD should take the necessary actions to complete all ongoing construction contracts and award all remaining contracts.	All construction contracts were awarded and all construction activity is complete.
USAID in coordination with WWCG should develop a study to determine the quantity of industrial wastes.	The study determining quantity of industrial wastes was completed.
An environmental study should be conducted of project implementation on Maryout water quality.	The environmental study was finalized and submitted to the Mission.
The O&M program for AGOSD personnel should be continued under the WWCG contract.	The WWCG O&M training program is ongoing and was extended until December 1994.
The O&M training program must continue emphasis on preventive maintenance for completed facilities.	USAID planned three annual reviews on the O&M program to assure its efficiency.

Based on the actions taken, the Mission closed the interim evaluation recommendations.

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## **B. PROJECT IMPLEMENTATION PROGRESS**

The Alexandria Wastewater System Expansion Project started in August 1979 and was directed towards improving specific health conditions in Alexandria by expanding and developing its wastewater collection, treatment and disposal facilities. The Master Plan for wastewater treatment was completed in May 1978, but due to controversy over two disposal options, sea outfall or land application, the overall project was redesigned under a three phases approach.

Phase one included the following facilities: two wastewater treatment plants, sludge dewatering and disposal facilities, eleven pumping stations, 211 kilometers of collectors and seven undercrossings. In addition to infrastructure construction, AGOSD received engineering and technical assistance (consisting of O&M training and institutional support) from Boyle Engineering Corporation (February 1981-1984) and Wastewater Consultant Group, (1989-present).

### 1. Construction Activities

The current USAID-funded Alexandria wastewater program consists of prioritized, immediate-need projects to convey wastewater from the East and West Zones of Alexandria to primary treatment facilities via new gravity collectors, pumping stations and force mains. The work also incorporates construction of sludge dewatering facilities at the West Treatment Plant and sludge disposal (including pilot composting) facilities at Site 9N. As an interim measure under the current program, effluent from the East and West Treatment Plants will be discharged to the main basin of Lake Maryout, which is the only option available for near-term implementation. With the exception of the maintenance facilities. All construction activities are completed and the project began operating in October 1993. The list of completed construction projects follows in Table 3-1.

**TABLE 3 - 1**  
**LIST OF COMPLETED CONSTRUCTION PROJECTS**

<b>PROJECT</b>	<b>CONTRACT NO.</b>	<b>CONSTRUCTION ADMINISTRATION</b>	<b>REMARKS* (SEE FOOTNOTE)</b>
<b>COLLECTORS AND DRAINS Smouha and West Zone Collectors</b>	<b>02-AID-83/84</b>	<b>WWCG</b>	<b>19 km, 800 -2750 mm</b>
<b>Abu Qir Collectors</b>	<b>08-82/83</b>	<b>AGOSD</b>	<b>7 km, 300 - 1500 mm</b>
<b>Abu Qir Laterals</b>	<b>08-83/84</b>	<b>AGOSD</b>	<b>29 km, 150 - 800 mm</b>
<b>Sidi Bishr Collectors</b>	<b>45-82/83</b>	<b>AGOSD</b>	<b>5 km, 1200-1500 mm</b>
<b>Sidi Bishr P.S. Conveyance</b>	<b>55-82/83</b>	<b>AGOSD</b>	<b>1.2 km, 1000-1200 mm</b>
<b>Siouf Collectors</b>	<b>09-83/84</b>	<b>AGOSD</b>	<b>9 km, 200 - 1000 mm</b>
<b>Smouha Collectors</b>	<b>34-81/82</b>	<b>AGOSD</b>	<b>6 km, 200-2750 mm</b>
<b>Smouha Laterals</b>	<b>07-82/83</b>	<b>AGOSD</b>	<b>11 km, 200-900 mm</b>
<b>Smouha Drain Improvements</b>	<b>07-AID-89/90</b>	<b>WWCG</b>	<b>580m, 2750 mm (upper portion)</b>
<b>Smouha Drain Improvements</b>	<b>-</b>	<b>AGOSD</b>	<b>800 m, 2750 mm (lower portion)</b>
<b>Hydrodrome Drain Improvements</b>	<b>-</b>	<b>AGOSD</b>	<b>Work completed by AGOSD</b>

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**TABLE 3 - 1 (Cont.)  
LIST OF COMPLETED CONSTRUCTION PROJECTS**

<b>PROJECT</b>	<b>CONTRACT NO.</b>	<b>CONSTRUCTION ADMINISTRATION</b>	<b>REMARKS* (SEE FOOTNOTE)</b>
<b>FORCEMAINS Smouha and East Zone Undercrossings</b>	<b>07-AID-89/90</b>	<b>WWCG</b>	<b>Total of 8 Undercrossings West Zone Tunnel Segments Nos. 1 and 2 (0.4 km)</b>
<b>Abu Qir P.S. Forcemain</b>	<b>17-81/82</b>	<b>AGOSD</b>	<b>0.95 km, 450 mm</b>
<b>P.S. 11E Forcemain</b>	<b>31-82/83</b>	<b>AGOSD</b>	<b>4 km, 1200 mm</b>
<b>New Smouha P.S. Forcemain</b>	<b>08-84/85</b>	<b>AGOSD</b>	<b>1.5 km, 1500 mm</b>
<b>East Zone P.S. Forcemains</b>	<b>09-84/85</b>	<b>AGOSD</b>	<b>Total of 12.3 km, Twin 1800 mm</b>
<b>Relief Forcemains for Pump Stations 6E, 7E and 8E</b>	<b>41-82/83</b>	<b>AGOSD</b>	<b>Total of 12.3 km, Twin 1800 mm</b>

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<b>PUMP STATIONS</b>			
o Abu Qir	-	AGOSD	9.4 MI/d Average Capacity
o Maamoura	01-AID-83/84	WWCG	35 MI/d Average Capacity
o Sidi Bishr	01-AID-83/84	WWCG	59 MI/d Average Capacity
o New Smouha	01-AID-83/84	WWCG	190 MI/d Average Capacity
o East Zone	01-AID-83/84	WWCG	400 MI/d Average Capacity
o Ras El Soda	-	CDM	117 MI/d Average Capacity
o Sporting	-	CDM	22 MI/d Average Capacity

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**TABLE 3-1 (Cont.)  
LIST OF COMPLETED CONSTRUCTION PROJECTS**

<b>PROJECT</b>	<b>CONTRACT NO.</b>	<b>CONSTRUCTION ADMINISTRATION</b>	<b>REMARKS* (SEE FOOTNOTE)</b>
<b>Pump Station Surge Control</b> o Smouha o East Zone	07-AID-89/90 07-AID-89/90	WWCG WWCG	
<b>Existing P.S. Rehabilitation</b> o 1E, Industries, Old Smouha o 5E, 11E, 3W, Furn EWI Guraya	02-82/83 03-82/83	AGOSD AGOSD	
<b>Treatment Plants</b> - WTP Fill and Surcharge - ETP Blower Installation - East & West Treatment Plants - WTP Mechanical Dewatering - Site 9N Sludge Disposal	22-83/84 39-82/83 03-AID-83/84 04-AID-89/90 05-AID-89/90	AGOSD AGOSD WWCG WWCG WWCG	410 MI/d ETP, 175 MI/d WTP Belt Filter Presses (12) Composting & dedicated land disposal
<b>Miscellaneous</b>  <b>Engine Generators</b> o Maamoura P.S. o New Smouha P.S. o West Treatment Plant	- - 01-AID-83/84	AGOSD AGOSD WWCG	· Work by AGOSD · Work by AGOSD · Change Order - Oct. 92

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## 2. Engineering

The first US consultant, Camp Dresser and McKee (CDM) prepared a Master Plan for development of the Alexandria Wastewater system. CDM completed the Master Plan in November 1978. In August 1979, AGOSD was established and designated by the GOE as the implementing agency for the project.

AGOSD used competitive procedures to select and sign a contract in 1980, with the Wastewater Consultant Group (WWCG). WWCG was contracted with to provide major design and construction supervision services. WWCG's first task was an update of the Master Plan to incorporate treatment plant improvements into the phased implementation plan. The Master Plan review was completed in early 1982 and Phase One was authorized by USAID on September 1983. For the proposed future AWW system expansion, WWCG updated the Master Plan which was submitted to the Mission in late February 1993 outlining technical alternatives (Annex B).

## 3. Technical Assistance

The fundamental goal of the technical assistance work is to provide AGOSD with the capability to manage, operate and maintain Alexandria's wastewater facilities in an efficient and environmentally safe way.

a. **Operation and Maintenance Support:** Some O&M training was accomplished under Boyle's contract in the early stages of the project. The Boyle activities included material management and training (work programs, cleaning/repair crews, equipment operation). The consultant made many recommendations, which were, however, only partly implemented by AGOSD.

In 1990, AID provided funding for a \$10 million contract modification to WWCG to provide a comprehensive O&M program. The current Phase I O&M program is designed to provide mainly start-up services and training to AGOSD personnel assigned to the USAID funded facilities. It is scheduled to continue for one year after the completion of construction or until the end of 1994. Existing inputs will ensure that the facilities are operational, and the O&M staff have the skills and knowledge to operate and maintain them.

The facility portion of the program is an ongoing effort with a basic structure shown by the following scopes of work: 1) O&M training, 2) O&M manuals, 3) organizational structuring, 4) spare part management system, 5) equipment assessments, 6) start-up plans. In addition to this facility segment, the following activities/sectors have been addressed: 1) twinning

programs with U.S. utilities, 2) safety programs and 3) establishment of the following: central maintenance unit, technical library, training center and a central laboratory. The details of individual tasks completed to date under the O&M program are shown in Table 3-2.

**TABLE 3 - 2**

**STATUS OF CURRENT O&M PROGRAM**

<b>Activity</b>	<b>Description</b>
<b>Pumping Stations</b>	<ol style="list-style-type: none"> <li>1. Completed O&amp;M training activities.</li> <li>2. Turned over responsibility for further implementation of the TUMMS (Total Utility Maintenance Management System) computer software package to AGOSD.</li> <li>3. Ordered additional spare parts for all USAID-funded pumping stations.</li> <li>4. Completed an equipment condition assessment survey of all AGOSD pumping stations, which indicated the critical need to rehabilitate many of the old stations.</li> <li>5. Revised O&amp;M Manuals for the Sporting and Ras El Soda Pump Stations.</li> </ol>
<b>Collection Systems</b>	<ol style="list-style-type: none"> <li>1. Organized and initiated effective operations of a Collection System Inspection and Cleaning Unit within AGOSD.</li> <li>2. Inventoried and evaluated AGOSD's sewer inspection and cleaning equipment, made recommendations for additional equipment and ordered needed spare parts.</li> </ol>

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<p><b>Treatment Plants</b></p>	<ol style="list-style-type: none"> <li>1. Completed O&amp;M task analyses for the East and West Treatment Plants and began orientation and general knowledge training.</li> <li>2. Completed O&amp;M Manuals for both plants.</li> <li>3. Developed job descriptions, organization charts and staffing plans for both plants.</li> <li>4. Prepared start-up plans for both plants</li> </ol>
<p><b>Mechanical Dewatering and Sludge Disposal Facilities</b></p>	<ol style="list-style-type: none"> <li>1. Completed O&amp;M task analyses for both facilities.</li> <li>2. Began preparation of the Sludge Disposal Facilities O&amp;M Manual.</li> <li>3. Completed list of additional spare parts and tools needed at both facilities.</li> </ol>
<p><b>Training Center</b></p>	<ol style="list-style-type: none"> <li>1. Established the AGOSD Training And Technical Information Center (TRATIC), which is responsible for the design, development, delivery and evaluation of all training for AGOSD's O&amp;M staff.</li> <li>2. Trained two groups of AGOSD's trainers who are actively involved in training others.</li> <li>3. Maintains technical information, such as "Record-drawings" and related shop drawings of completed wastewater facilities.</li> </ol>
<p><b>Technical Library</b></p>	<ol style="list-style-type: none"> <li>1. Inventoried technical and training documents.</li> <li>2. Developed a technical documents classification system as well as cataloging and circulation procedures.</li> <li>3. Identified and ordered library materials and supplies.</li> </ol>

<b>Twinning</b>	<ol style="list-style-type: none"> <li>1. Developed "twinning" objectives, program and participant selection criteria.</li> <li>2. Conducted the first twinning program for six AGOSD pump station staff at the Orlando, Florida Wastewater Treatment Plant.</li> </ol>
<b>AGOSD Central Maintenance Unit</b>	<ol style="list-style-type: none"> <li>1. Established the AGOSD Central Maintenance Unit (CMU), which is responsible for TUMMS, quality control, monitoring of maintenance services and providing specialized maintenance services to all of AGOSD's facilities.</li> </ol>
<b>Laboratory</b>	<ol style="list-style-type: none"> <li>1. Developed a Laboratory Quality Assurance/Quality Control (QA/QC) Program Manual and a Laboratory Procedures Manual.</li> <li>2. Developed comprehensive lists of equipment, chemicals and supplies needed for the treatment plants and central laboratory.</li> <li>3. Continued developing training materials.</li> </ol>
<b>Safety</b>	<ol style="list-style-type: none"> <li>1. Developed a Safety Program Manual and began implementation of the safety program.</li> <li>2. Developed work safety lesson plans, learner's guides and training aids.</li> <li>3. Specified and ordered safety equipment for all new facilities.</li> <li>4. Inventoried, inspected and completed repair recommendations concerning existing safety equipment for pumping stations and collection systems.</li> </ol>

**b. Institutional Support:** The first institutional support to AGOSD by Boyle concentrated on assisting and advising construction and management personnel. The majority of training was devoted to engineering staff in order to facilitate ongoing construction activities. Boyle's efforts to restructure AGOSD and improve management were unsuccessful and their contract was terminated by AGOSD in 1984.

In Spring of 1993, WWCG, AGOSD and USAID finalized Modification No. 11 to provide \$2.1 million from 1993 thru 1994 for a modest institutional support program at AGOSD. This program was authorized by PIL No.54. Additionally, at AID's request, AGOSD has prepared an Action Plan for conversion to an autonomous utility. The institutional development of AGOSD is central to establishment of a self sustaining, independent utility capable of operating and maintaining the existing facilities and proposed expanded facilities in phase II.

The current institutional development TA has yielded significant results in a short period of time. AGOSD's Chairman has taken ownership of the action plan process. The Presidential Decree prepared by AGOSD has been approved by the President. The Chairman and his senior managers have just begun to work on a strategic plan for the organization and are fully engaged in discussions about the concepts of autonomy and independence.

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### C. AGOSD ACTION PLAN (ANNEX C)

1. Structural Constraints Creating the Need for Reform - There are policy, institutional and technical constraints that threaten the sustainability of USAID's present and future investments in the AWW system. Weaknesses are still evident in the systems for operation, maintenance, and management of the AGOSD facilities. Funding is controlled by an inflexible central government process which is not responsive to local needs. AGOSD is unable to retain its own revenues as well as set appropriate tariffs and rate structures to recover its costs. AGOSD is excessively overstaffed with an underpaid workforce because of restrictive civil service laws. These constraints affect AGOSD progress toward achieving an appropriate policy framework which fosters institutional development, financial viability and future growth.
  
2. Conditionality for Funding Future Systems Expansion - During the past several years, the GOE and AGOSD have continued to request that USAID finance additional studies and construction to expand the AWW system. Because of the continuing institutional constraints, USAID's initial position was that any further construction would be financed by another donor. In August 1992, however, the Mission Director advised AGOSD that USAID would be willing to consider some financing for additional construction (part of Phase II) only after the GOE and AGOSD had completed reforms that would make AGOSD fully autonomous with full cost recovery. The Director requested that AGOSD prepare a plan of action which would show how AGOSD would achieve autonomy and full cost recovery. He indicated that USAID would be prepared to assist AGOSD implement the Action Plan. Commitment of any future funding activities was preconditioned on AGOSD progress toward implementing structural and administrative reforms aimed at cost recovery and AGOSD transformation into an autonomous utility. Accordingly, AGOSD, with the assistance of its engineering consultant, WWCG, prepared an Action Plan and presented it to the Mission on 16 December, 1992.
  
3. AGOSD Action Plan Content and Mission Review - The Action Plan submitted by AGOSD describes discreet activities in a time phased approach to achieve 100% cost recovery and AGOSD's transformation into an autonomous utility by July 1995. A complete analysis of institutional requirements (including pricing, autonomy, financial structure, and labor adjustment), determination of financial need, surcharge data, and a preliminary Presidential Decree of GOE authorization of AGOSD reorganization are contained therein.

The AGOSD Action Plan underwent formal review within the Mission. Based on this review, the Mission approved the strategy of supporting the implementation of the Action Plan through an amendment to the existing project. The Mission communicated to AGOSD its endorsement of the Action Plan, highlighted the

need for developing mutual agreement on the concepts of autonomy and cost recovery, and outlined the Mission's proposed assistance.

While endorsing the plan, the Mission additionally requested that AGOSD submit a specific plans for discontinuing government subsidies for redundant personnel and for financing long term investment needs. Supplemental information was provided by AGOSD on March 15, 1993. On May 23, 1993, the Mission responded to the supplementary plans by reiterating the definitions of full cost recovery and labor force adjustment and stressing the importance of timely reform in the context of financing any future system expansion. The GOE issued an acceptable presidential decree authorizing AGOSD full cost recovery and autonomy in support of its Action Plan. However, although the decree is interpreted as an intent by the GOE to proceed with the necessary sector reforms, no progress has been made in the last three years on increasing revenues from tariffs. Accordingly, the Mission has conditioned future funding for the engineering and environmental studies on GOE progress toward increasing tariffs and providing evidence that all revenues are being retained.

## **II. AMENDMENT RATIONALE AND DESCRIPTION**

In conformance with USAID's sector strategy, USAID continues to assist the urban population of Egypt gain greater access to reliable wastewater services through constructing and rehabilitating infrastructure. However, one significant trend in USAID's present approach to the wastewater sector is emphasis on moving from construction to sustainability. As the facilities under the existing project are turned over to the GOE, it has become clear that AGOSD can not operate and maintain the present or any future structures without addressing the underlying constraints of autonomy, accountability and cost recovery.

Ongoing policy dialogue has made clear that no USAID funds for additional construction activities can be provided before AGOSD recovers O&M costs, generates an adequate replacement reserve, and achieves autonomy. In order to achieve this goal, AGOSD management and financial systems need to be restructured to assure self sufficiency and sustainability for present and future investment needs. Increased technical assistance is needed to ensure that existing and any potential future facilities are properly operated and maintained. Although the current city Master Plan which was submitted to the Mission in March 1993 outlined technical alternatives and preliminary cost estimates for the rest of the system expansion, additional preliminary engineering design and cost refinement analysis are required before construction activities can be initiated. Additionally, an environmental assessment will need to be conducted to describe the environmental impacts of a range of feasible alternatives for effluent disposal, sludge management and treatment systems expansions.

Given the PACD and the Action Plan's proposed timeframes to achieve autonomy and cost recovery, AGOSD will not be fully autonomous until mid-1996 at the earliest. This means that additional technical assistance to help AGOSD become autonomous will be required beyond the December 31, 1994 PACD. For this reason, the Mission developed and approved a strategy to amend the existing project and obtained AID/W ad hoc redelegation of authority (Annex C) to extend the PACD through December 31, 1996. It is estimated that the additional engineering/environmental studies and institutional technical assistance will require two years to complete.

## **A. RATIONALE**

The Action Plan's success will represent a significant milestone for the GOE in the transformation of an obsolete, government owned utility into an autonomous, self sustaining entity. Successful implementation of the Action Plan provides the favorable policy climate in the wastewater sector for making the changes needed which will ensure the sustainability of future investments in the wastewater sector.

The Action Plan is an ambitious plan. The implementation of the Action Plan would also be a significant accomplishment for the Mission. Several outcomes toward fulfilling the Mission's strategic objective in the water/wastewater sector would be achieved. Increased access to water/wastewater services in target urban areas are measurably achieved through increased utility efficiency, increased reliability of services, and improved pricing and cost recovery for services.

Several important factors must be considered in structuring USAID assistance toward achievement of AGOSD autonomy and potential follow on construction activity. Timing, actual GOE progress toward achievement of AGOSD autonomy and cost recovery, the importance of USAID's programmed target obligations in the water/wastewater sector, USAID's current sector strategy, and the political ramifications of USAID's response to the AGOSD Action Plan are all critical issues that must be considered in designing USAID's strategy for assistance.

AGOSD has indicated its willingness to implement reform by developing a time phased Action Plan which laid out a detailed approach to full autonomy and cost recovery by mid-1996. Additionally, a revised Presidential decree was issued in March 1994 which provides the enabling legal framework toward the planned reforms. In order for mid-1996 to be a meaningful timeframe, USAID must immediately move forward with the necessary institutional strengthening activities to ensure that AGOSD reaches its goal of autonomy. Engineering and environmental study of potential future expansion must be predicated on GOE progress toward tariff increases and revenue retention. A proposed authorized LOP increase of \$35 million is readily achievable through an amendment to the existing project, a two year PACD extension and obligation of funds for the technical assistance and operation/maintenance support. Timely USAID assistance is essential to achieving

the goal of autonomy.

Amending the existing project is the most desirable strategy for several reasons. It is consistent with the timing of the assistance required for the implementation of the AGOSD Action Plan and design of future construction activities. The Mission is significantly closer to achieving its strategic objective of utility efficiency and reliability in the water/wastewater sector. Target obligation timeframes for capital projects in the water/wastewater sector would not be adversely impacted.

USAID support to AGOSD in the implementation of its Action Plan contributes to the achievement of the existing project's purpose of improving the public health conditions in Alexandria by expansion and development of wastewater collection, treatment and disposal facilities. As described below, this amendment's activities are within the project's purpose and justified both technically and programmatically.

Mission will make a determination to commence the new Phase II project based on AGOSD satisfying criteria contained in their action plan and also contained in the Mission's PP logical framework under objectively verifiable indicators. The criteria are as follows: 1) AGOSD retains 100% of the revenue generated from tariffs, 2) all legal impediments are removed permitting AGOSD autonomy, 3) O&M costs recovered through revenue generation, 4) AGOSD has authority to structure tariffs, and 5) all AGOSD employees are paid solely by revenues generated.

It is hoped that those criteria will be met by mid-1996, however, many actions required to obtain these goals are outside of either AGOSD or USAID's control. Therefore, the schedule for the Phase II decision is tentative. Mission will evaluate the GOE financial and legal systems in place at an appropriate time to check for compliance and then provide justification for a decision on implementation of Phase II.

## **B. DESCRIPTION OF ACTIVITIES**

The four proposed inputs (engineering and feasibility studies, environmental assessment, increased technical assistance toward developing AGOSD cost recovery and autonomy, and increased O&M training) are fully consistent with the project's stated purpose. Existing project components are chiefly 1) the construction of collection and treatment facilities and 2) technical assistance for AGOSD in both institutional development and operation and maintenance activities. Construction was completed in December 1993 and existing TA will continue through December 1994. The two year project extension will continue the TA component and add engineering design/analysis on selected alternatives proposed for phase II.

The additional TA is required because AGOSD institutional and O&M capabilities are at the starting point and new systems are becoming operational in 1993. The engineering design works cover preliminary studies necessary for finalizing Phase II components. Proposed TA and design activities are follow-on actions connected to the existing project components and action plan. To complement ongoing technical assistance activities, two fully competed direct institutional contracts are envisioned; the first contract will cover A&E and Environmental Assessment and the second contract includes O&M and Institutional Development. Activities of these contracts are described below:

### **1. INPUTS**

- a. Architect and Engineering (A&E) Services (\$12 million): Engineering services will be utilized to preliminary design and analyze four technical alternatives for further design and cost estimates. Costing will be accurate to within plus or minus twenty five percent. The four alternatives are as follows: 1) primary treatment with sea outfall, 2) primary treatment with lake discharge, 3) primary treatment with lake bypass, and 4) secondary treatment with either lake discharge or bypass. All four alternatives contain common features as follows: 1) central zone improvements, 2) pump station improvements, 3) treatment plant expansions, 4) sludge dewatering and transport.

All common features contained within the four alternatives will be carried through preliminary design stages. Alternative designs will be developed in conjunction with the environmental studies and modified or expanded as environmental constraints dictate. All of the four alternatives are subject to either revision or elimination to conform with USAID environmental rules and regulations (22CFR216).

- b. Operation and Maintenance (\$5.5 million): The current O&M program is designed to provide mainly start-up services and training to AGOSD personnel assigned to the newly constructed facilities. The level of effort in Phase I has ensured that facilities are operational and that all personnel have some training and hands on time with their equipment. Additional T.A. is necessary to ensure smooth functioning of all facilities until AGOSD staff has gained experience sufficient to oversee all operation and maintenance in an effective manner.

Operation and maintenance assistance in the new two year contract will provide experienced managers in all key positions. Managers will be assigned to the following positions: East and West treatment plant, sludge dewatering facility, O&M management specialist, maintenance management specialist, and operations specialist. All expatriates will work in tandem with (train/assist) AGOSD site managers throughout their assignments. In addition, an emergency fund of \$500,000 will be available for urgent procurement through the period of contract. This fund will be specifically for small value procurement that would cause system downtime if ordered and shipped through the normal GOE procurement process.

- c. Institutional Development (\$5.5 million): In addition to on-going technical assistance activities being provided under Modification No. 11 to the WWCG contract, additional technical assistance is required to ensure AGOSD achieves transformation into an autonomous, self sustaining utility. Specifically, assistance is required in the following areas:

(1) Development and implementation of a new regulatory process within the GOE and Alexandria Governorate for the review and approval of AGOSD-generated tariffs.

(2) Development and implementation of a new system of personnel rules and regulations to allow AGOSD to become independent of the GOE central civil service system.

(3) Development and implementation of a new procurement system to allow AGOSD to become independent of the current Law 9 centralized and overly-restrictive process.

(4) Provide support to the AGOSD Chairman in the development and implementation of his labor force adjustment plan so that he can "down size" the organization to a manageable utility labor force.

In order to achieve the foregoing objectives, the following additional resources/inputs are planned to enhance the capability of AGOSD:

- a) Expand the coverage and depth of the management training program to:
  - (1) Include additional key managers in the training
  - (2) Increase the number of topics for courses/seminars/workshops
  - (3) Provide for management twinning with US utility
- b) Expedite the development and installation of critical accounting and financial management systems necessary for the proper internal management control of a wastewater utility.
- c) Enhance the development of software for the financial applications to support the utility-based requirements of procurement, inventory and internal distribution of parts and supplies within AGOSD. This program will strengthen the management practices of AGOSD by implementing program elements designed to increase the administrative capacity of the organization. This will be done by improving existing skills, teaching new skills, developing management systems, and improving procedures and practices.
- d) Provide institutional support and guidance to AGOSD and all other Governmental ministries/agencies in the development of new laws and regulations which authorize change to allow expanded authority for management of the Alexandria wastewater facilities.

In summary, the key activities contained in the institutional development program are as follows:

- 1) Strengthen AGOSD management capability
- 2) Modernize AGOSD management systems
- 3) Upgrade AGOSD financial control systems
- 4) Develop systems for financial viability
- 5) Improve AGOSD organizational effectiveness
- 6) Upgrade AGOSD management policies and procedures
- 7) Prepare training program and plan
- 8) Upgrade AGOSD technical capacity
- 9) Improve personnel management practices
- 10) Implement system O&M plans

- d. Environmental Assessment (\$8.0 million): USAID will prepare an Environmental Assessment (EA) of the technical alternatives being explored for possible expansion of the wastewater system in Alexandria, Egypt. The program involves the collection and conveyance of the city's wastewater to one of two wastewater treatment facilities that have been constructed under the current project, and the disposal of wastewater effluent and sludge.

The purpose of the EA is to describe the environmental impacts of a range of feasible alternatives for effluent disposal, sludge management and treatment systems expansions proposed for the two primary wastewater treatment facilities that have been constructed under the current project; to compare those impacts among the alternatives to those of the "no-action" alternative; to identify an environmentally preferred action; and to recommend any necessary mitigation measures.

The EA will employ a two-stage alternative analysis for the program. The initial screening will be a documentation of the evaluation conducted for the 1993 Master Plan Update. Based on the 1993 update, it will identify and eliminate those alternatives which are either cost-prohibitive or technically not feasible. The document will then provide a detailed analysis of the remaining alternatives identified below. The evaluation will be based on environmental, technical, cost, and institutional criteria. This evaluation is intended to provide adequate documentation that a reasonable range of alternatives has been considered, pursuant to NEPA provisions at CFR Part 1502.14.

Effluent Disposal Options:

- a. No action
  - b. Primary treatment with lake discharge
  - c. Primary treatment with lake bypass
  - d. Primary treatment with sea outfall
  - e. Secondary treatment with lake discharge
- e. Evaluation (\$1.0 million): USAID will use an IQC or a contract issued by USAID/Cairo for the final project evaluation. The final evaluation will focus on four aspects of the project. The first is physical completion and performance of the project. Does the system as a whole meet the project purpose? How does each unit (collection, treatment, and disposal) perform? What is the quality of the work? The contractor will assess performance related to expected project purpose and goals.

The second aspect is overall social and environmental impact. The evaluation will look at the impact on the social fabric and environmental health of the serviced community. The contractor will identify the extent of increased sewer service in the city and record the community attitudes toward the project as a whole.

The third aspect will address sustainability. Are completed facilities being appropriately operated and adequately maintained? Are adequate O&M systems in place and are they being followed? Has training been effective? Are O&M plans for the project going to assure maximum sustainability?

The final aspect will identify problems and constraints affecting project performance and recommend specific courses of action to remedy them. The contractor will recommend any other actions that can be taken to assure achievement of project goals and purpose.

f. Contingency (\$3.0 million):

Due to the nature of the activities, specially the EA/EIS, it is prudent to allocate about 10% of the total amendment budget for contingency.

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## 2. REVISED IMPLEMENTATION PLAN

USAID/Cairo will initially enter into an AID direct, consultant contract for O&M and institutional development work. Source selection procedures as defined in FAR Part 15 will be used. The procurement will begin with a CBD Notice announcing the issuance of the RFP. Proposals will be evaluated, ranked and negotiated using the criteria established in the RFP.

Assuming the GOE has satisfied the conditionality for the obligation of funds for engineering and environmental study, USAID/Cairo will enter into a AID direct, Architect and Engineer (A&E) contract for the engineering design and environmental assessment/impact study work required under the project. Architect and Engineer source selection procedures as defined in FAR Part 36 will be used. The A&E procurement will be initiated with a CBD Notice soliciting standard forms which detail experience and capabilities of interested A&E firms. The firms will be evaluated on the basis of relevant experience and capability using evaluation criteria established in Part 736 of the AIDAR. A cost-plus-fixed-fee type contract will be negotiated with the top ranked firm or joint venture.

An IQC process will be utilized to conduct an evaluation during the last six months of the project (July - Dec 1996). Mission will contact USAID/Washington to select an IQC firm and utilize a delivery order for performing the end of project evaluation. Alternatively, DIR/CS will compete and award a contract using FAR Part 15 Negotiated Procurement Procedures.

CBD notices for both contract solicitations were issued. The timing of this procurement will correspond to the implementation phasing, including the phase-out of the current Alexandria Wastewater contractors (See page 29 for an estimated schedule).

### Buy America Considerations

With the exception of audit, the source of all inputs obtained under this project will be AID Geographic 000 as all inputs will be provided through a U.S. contractor. Audit services will be obtained locally. These will be professional services contracts estimated not to exceed \$250,000 and shall conform with the requirements of HB 1, Supplement B, Chapter 18, Item A1c(4).

It is anticipated that the U.S. contractors will spend approximately \$10 million on residential and office rent, utilities, temporary lodging allowance, education allowance, local per diem, salaries of local staff, office supplies and short-term vehicle rental. As these are composed of commodities and services that are available only locally, local procurement of these items is eligible in accordance with HB 1, Supplement B, Chapter 18, Item A1c(6).

Disadvantaged Enterprise Program Consideration

The CBD Notice and RFP will encourage maximum participation of organizations included under the Gray Amendment in the proposed contract. In this respect, it is expected that disadvantaged enterprises may contribute effort in such areas as the evaluation and special studies.

Procurement Schedule for Service Contract

<b>A/E selection process</b>	<b>Activity Time (Days)</b>	<b>Total elapsed time (Days)</b>
Publish CBD Notice	5	
Submissions Received from Firms	45	50
Review and Short-list	30	80
Interviews Conducted	21	101
RFP Issued to First Ranked Firm	21	122
Negotiations	60	182
Award	15	197
Mobilization	30	227

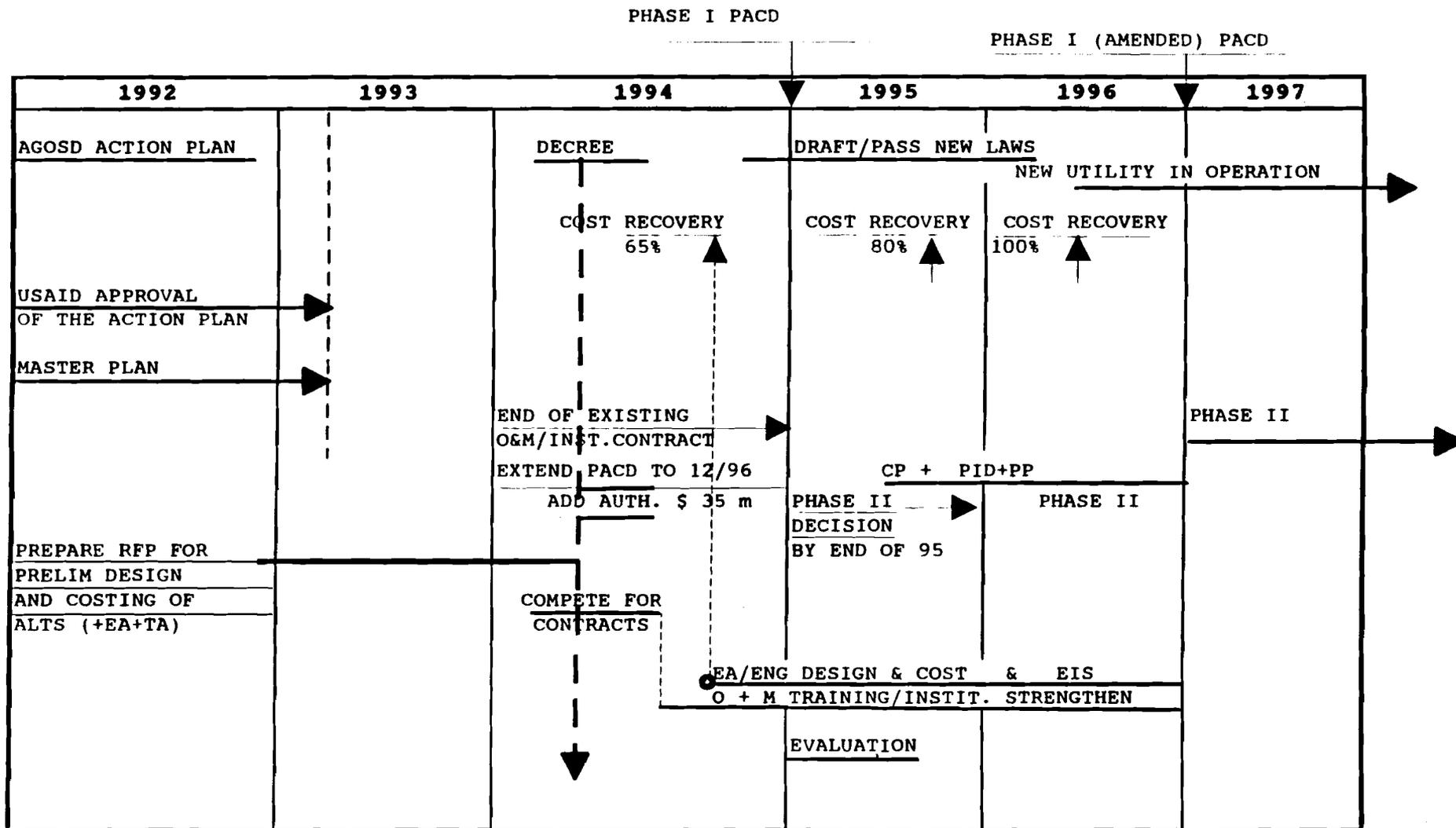
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<b>T/A selection process</b>	<b>Activity Time (Days)</b>	<b>Total Elapsed Time (Days)</b>
Publish CBD Notice	5	
Issue RFP	15	20
Proposals received from firms	60	80
Evaluate and rank	30	110
Discussions conducted	21	131
Best and Final Due	30	161
Evaluations of Best/Final	15	176
Award	15	191
Mobilization	30	221

**Evaluation:**

Issuance Of IQC Delivery Order	60
Issuance of AID Direct Contract	180

# ALEXANDRIA WASTEWATER IMPLEMENTATION PLAN\*



**Note:** The release of the solicitation for the EA/ENG is on hold until such time as verifiable significant progress in increasing revenues towards meeting O&M costs is made, and such revenues are retained.

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### 3. REVISED FINANCIAL PLAN

Activity	Estimated Cost \$ (000)
1. Engineering - Design/Cost Estimate a) Alternative Selection/Screening (576 mm) b) Preliminary Eng. Design/Cost Estimate (192 mm) c) Local Labor, Support and expenses	  3,100 3,700 3,200
2. Environmental Studies a) Lake Maryout studies b) Mediterranean Studies c) Alternative analysis	  1,000 3,500 3,500
3. Technical Assistance a) Operation and Maintenance b) Institutional	  5,500 5,500
4. Evaluation	1,000
5. Contingency	3,000
<b>TOTAL</b>	35,000

**NOTES:** 1) Estimate approximately 25% of project cost to finance local cost components under each line item.

2) Estimated costs are based on previously established levels of efforts for similar tasks under this project. Person months are estimated at a total annual cost of \$250,000 per expatriate employee.

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## DISBURSEMENT SCHEDULE

(US Dollars x 1,000,000)

	PROJECT TOTALS			
	1993	1994	1995	1996
Construction	264.0	278.1	278.1	278.1
Equipment & Materials	0	0	0	0
Engineering	90.4	92.9	92.9	94.9
Technical Assistance	18.7	21.0	39.0	52.0
Contingencies*				
TOTAL	373.1	392	410	425

\* Contingencies are incorporated into Engineering and Technical Assistance line items.

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**FINANCIAL PLAN**

**(000 OMITTED)**

	EXISTING BUDGET			CHANGES			NEW		TOTAL		
	AID		GOE	AID		GOE	AID		GOE	AID	GOE
	\$		L.E.	\$		L.E.	\$		L.E.	\$	L.E.
	FX	IC**		FX	IC**		FX	IC**			
Construction	274,862	-	219,574	-	-	(19,574)	274,862	-	200,000	274,862	200,000
Equipment & Materials	150	-	-	-	-	-	150	-	-	150	-
Engineering	78,612	16,400	15,560	-	-	(4,000)	78,612	16,400	11,560	95,012	11,560
Technical Assistance	18,110	1,290	550	35,000	-	-	53,110	1,290	550	54,400	550
Contingencies	576	-	15,075	-	-	(12,226)	576	-	2,849	500	2,849
In Kind*	-	-	48,100	-	-	35,800	-	-	83,900	-	83,900
<b>TOTAL</b>	<b>\$372,310</b>	<b>\$17,690</b>	<b>298,859</b>	<b>\$35,000</b>	<b>-</b>	<b>0</b>	<b>\$407,310</b>	<b>\$17,690</b>	<b>298,859</b>	<b>\$425,000</b>	<b>298,859</b>

\* Includes estimates for land acquisition, mapping, road repaving undercrossing, owner-furnished, material, pipe laterals and connections, and miscellaneous. All other Grantee contributions will be cash contributions.

\*\* The U.S. dollar equivalent of the local currency made available hereunder by A.I.D. will be the amount of U.S. dollars required by A.I.D. to obtain the local currency.

\*\*\* Existing LOP for 263-0100 project is \$ 390.0 million. Obligation level is \$ 389.924 million

\*\*\*\* The additional \$ 35 million for funding Amendment No. 3 activities has been allocated to the FX portion of the line item Technical Assistance, for both US\$ and LE equivalent of the contracts.

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#### 4. HOST COUNTRY CONTRIBUTION

The proposed two years extension will not include construction activities. As a result, no cash contribution is anticipated during the extension period. In fact, the current budget of cash contribution will be reduced as described below. On the other hand, in-kind contribution will be increased by the cost of operation, maintenance and other facilities which will be provided by the host country during that period. As the reported in-kind contribution amounts to date are exceeding the original budget, there is a high confidence that the estimated additional amounts will be achieved by GOE.

The following is a detailed description of the proposed adjustments to the level of host country contribution (as provided by DR/UAD):

	LE(million)
- Construction	(19.574)
Some construction contracts were less than originally anticipated and are now reduced by the following amounts:	
Hydrodron	LE 8.5M
Samouha Drain	LE 8.6M
Pump St. Modification	LE 2.4M
- Engineering	( 4.000)
WWCG contract was originally awarded as a Host Country Contract. In June 1986, the contract was changed to a direct AID contract. As a result, GOE stopped its financing for the contract and the remaining budget balance is now eliminated.	
- Contingency	(12.226)
Reduced to represent 4-5% of the remaining open construction contracts.	
- In-Kind Contribution	35.800
* Operation and Maintenance	
Salaries (facility operation)	LE 20.800M
Salaries (central staff)	LE 0.200M
Utilities	LE 4.700M
Petroleum, Oil and Lubricates	LE 2.400M
Consumable & Spare Parts	LE 5.550M
Chemicals	LE 0.350M
Maintenance and Misc.	LE 0.800M
* Facilities	
14 May Office/Land	LE 1.000M
- Net Adjustment	<u>00.000</u>

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## 5. CONDITIONS PRECEDENT

It is recommended that the authorized LOP funding level for this project be increased by \$35 million. \$15 million will be immediately obligated for institutional strengthening, operation/maintenance, evaluation and contingency. A condition subsequent to obligation of the remaining \$20 million is recommended as follows:

On or before January 1, 1995, the GOE must provide in form and substance satisfactory to AID:

- (1) Evidence that all AGOSD revenues including those deriving from wastewater tariffs and service fees are being fully retained by AGOSD and AGOSD is the sole entity authorized to disburse such funds for its operation and maintenance requirements.
- (2) Evidence that service fees and wastewater tariff rates should generate a minimum of LE 22.5 million annually, in 1994LE.

## LOGICAL FRAMEWORK

Project Title And Number: Alexandria Wastewater System Expansion Project 263-0100

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
<p><b>Program or Sector Goal: The broader objective to which this project contributes:</b> To improve the present and future public health and environmental situation for the inhabitants of the city of Alexandria to the year 2000.</p>	<p><b>Measures of Goal Achievement:</b></p> <ul style="list-style-type: none"> <li>o Reliable wastewater system established.</li> <li>o Population served by improved sewerage collections and treatment increased by about 2.5 million.</li> </ul>	<ul style="list-style-type: none"> <li>o USAID monitoring and evaluation system</li> </ul>	<p><b>Assumptions for achieving goal targets:</b></p> <ul style="list-style-type: none"> <li>o Improved sewerage system contributes to improve health and environmental conditions.</li> <li>o GOE continues to identify and support sewerage system expansion as a high priority social and economic goal.</li> <li>o Policy reform accepted by GOE.</li> <li>o GOE actively cooperate with AGOSD.</li> </ul>
<p><b>Project Purpose:</b></p> <p>To expand and develop sustainable wastewater collection, treatment and disposal facilities in Alexandria</p>	<p><b>Conditions that will indicate purpose has been achieved: End of project status.</b></p> <ul style="list-style-type: none"> <li>o Infrastructure constructed, operated and maintained at design capacity effectively meeting environmental concerns.</li> <li>o AGOSD transformed into a self-sustaining entity by 1996.</li> </ul>	<ul style="list-style-type: none"> <li>o Contractor reports.</li> <li>o USAID evaluation and monitoring system.</li> <li>o Site visits and inspection by USAID.</li> </ul>	<p><b>Assumptions for achieving purpose:</b></p> <ul style="list-style-type: none"> <li>o GOE has political will to transform AGOSD to a self-sustaining entity.</li> </ul>

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<p><b>Outputs:</b></p> <p>1. Wastewater treatment plants, collectors, pumping station with designed operating capacity functioning as a portion of an improved and expanded sewerage system.</p> <p>2. AGOSD autonomy achieved.</p> <p>3. AGOSD institutional capability developed.</p> <p>4. Basis for selecting environmentally sound technical alternatives for future system expansion.</p>	<p><b>Magnitude of outputs:</b></p> <ul style="list-style-type: none"> <li>o 2 wastewater treatment plants at a capacity of 600 MLD completed by 1993</li> <li>o 11 Pump Stations completed by 1993</li> <li>o 211 KM of collectors and force mains completed by 1993.</li> <li>o 7 undercrossings completed by 1993.</li> <li>o Sludge dewatering and disposal facilities completed by 1993.</li> </ul> <p><b>By 1994:</b></p> <ul style="list-style-type: none"> <li>o Presidential Decree issued authorizing establishment of an independent utility.</li> <li>o AGOSD retains 100% revenue generated from tariffs.</li> </ul> <p><b>By 1996:</b></p> <ul style="list-style-type: none"> <li>o All legal impediments removed permitting AGOSD autonomy.</li> <li>o 100% O&amp;M costs recovered through revenue generation.</li> <li>o AGOSD has authority to structure tariffs.</li> <li>o All AGOSD employees paid solely by revenues generated.</li> <li>o New law approved by People's Assembly authorizing creation of a new utility.</li> <li>o AGOSD administrative/financial system restructured and fully operational.</li> <li>o 435 AGOSD employees trained.</li> <li>o Independent Board Of Directors established and operating.</li> <li>o Environmental Assessment (EA) of all technical alternatives completed by 1996.</li> <li>o Prefeasibility studies and preliminary design completed.</li> </ul>	<p><b>Means of Verification:</b></p> <ul style="list-style-type: none"> <li>o A&amp;E monthly reports.</li> <li>o Site inspection.</li> <li>o AGOSD separate transparent account established reflecting revenues generated from tariffs &amp; subsidies</li> <li>o Presidential Decree.</li> <li>o Subsequent administrative reform documentation.</li> <li>o Revenues raised to meet O&amp;M.</li> <li>o Contractor reports.</li> <li>o Labor force adjustment report.</li> <li>o Contractor report.</li> </ul>	<p><b>Assumptions for achieving outputs:</b></p> <ul style="list-style-type: none"> <li>o GOE ministries and agencies support AGOSD in the implementation of its action plan in timeframe prescribed.</li> <li>o AGOSD retains essential trained employees.</li> <li>o No political interference from interest groups on selection of design alternatives.</li> <li>o GOE complies with funding conditionality</li> </ul>
<p><b>Inputs:</b></p> <p><b>AID:</b></p> <p>1. Construction.</p> <p>2. Engineering and Environmental Studies.</p> <p>3. Technical assistance.</p> <p><b>GOE:</b></p> <p>AGOSD staff time, salaries, per diem, recurrent local operating costs, incentives, office space, furniture and other local costs.</p>	<p><b>Implementation Target (Type and Quantity)</b></p> <ul style="list-style-type: none"> <li>o \$ 278.1 million</li> <li>o \$ 94.9 million</li> <li>o \$ 52.0 million</li> <li>o L.E. 83.9 million</li> </ul>	<p><b>Means Of Verification:</b></p> <ul style="list-style-type: none"> <li>o Project accounts.</li> <li>o AID contractor records</li> <li>o Evaluation reports.</li> <li>o AID contractor report.</li> <li>o AGOSD financial record.</li> </ul>	<p><b>Assumptions for providing inputs:</b></p> <ul style="list-style-type: none"> <li>o GOE and AGOSD satisfies USAID Conditions Precedent and Covenants.</li> <li>o Foreign exchange and local currency are available as budgeted.</li> </ul>

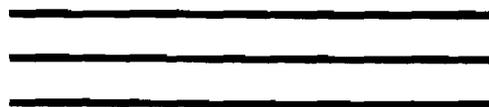
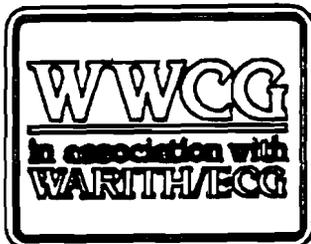
(Prepared on Sep. 14, 1993)  
(Revised on May 17, 1994)

ARAB REPUBLIC OF EGYPT

**ALEXANDRIA GENERAL  
ORGANIZATION FOR  
SANITARY DRAINAGE**

APPENDICES  
ACTION PLAN FOR INSTITUTIONAL REFORM

DECEMBER 1992



USAID GRANT  
NO. 263-0100

AGOSD ACTION PLAN  
FOR INSTITUTIONAL REFORM

Appendices

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- VIII. Preliminary Draft of Proposed Decree of the GOE Authorizing Reorganization  
of AGOSD

AGOSD ACTION PLAN  
FOR INSTITUTIONAL REFORM

Appendix I

Alexandria Wastewater Project  
Major Facilities Constructed - Phase I

- East Treatment Plant
- West Treatment Plant with Mechanical Sludge Dewatering
- Six (6) new pumping stations
- Sludge Disposal Facilities at Site 9-N
- Improvements to Drains, Sewers, Force Mains and Construction of Undercrossings

AGOSD ACTION PLAN  
FOR INSTITUTIONAL REFORM

Appendix II

- A. Letter - 5 July 1992 - Gen. Eng. M. Farid Sewalem to Mr. Henry Bassford
- B. Letter - 10 August 1992 - Mr. Henry Bassford to Gen. Eng. M. Farid Sewalem
- C. Letter - 23 August 1992 - Gen. Eng. M. Farid Sewalem to Mr. Henry Bassford
- D. Letter - 17 September 1992 - Gen. Eng. M. Farid Sewalem to Mr. Henry Bassford
- E. Letter - 17 September 1992 - Gen. Eng. M. Farid Sewalem to Mr. Henry Bassford
- F. Letter - Ref No. 1074 - Minister Kafrawi to Mr. Henry Bassford
- G. Letter - Ref No. 1255 - Minister Kafrawi to Mr. Henry Bassford

A.

A/170/92

- July 1992

Alexandria General Organization  
for Sanitary Drainage  
In Front of 21 Mohammed Shafik  
Ghorbal St. (Archimedes Formerly)  
El Shatby, Alexandria, A.R.E.

United States Agency  
for International Development  
9th floor of Cairo Center Building  
Kasr El Eini Street,  
Cairo-A.R.E.

**BEST AVAILABLE COPY**

Attn : Mr. Henry Bassford.

Dear Mr. Bassford,

I am writing you to report that good progress has been made on solving problems which potentially could have delayed the Alexandria Wastewater Program and to ask your consideration in helping AGOSD accelerate elements of the program to make up for the lost time.

The current WWCG Contract with USAID assigned WWCG the task of preparing a general sewage plan for the Western area of the City, what is identified in Alexandria as the "Outer West" Area. However, authorization for WWCG to proceed with the task requires of USAID as well as AGOSD. AGOSD urgently needs the results of this study and requests USAID approval for WWCG to proceed. I understand that AID's approval for WWCG to perform the study is not to be interpreted as an indication that USAID will provide future financing for the design and construction of facilities in the Outer West Area.

It is Government of Egypt policy that a sea outfall be constructed for the disposal of liquid sewage effluent as an interim measure until land disposal can become a reality. However AGOSD does not have sufficient data to evaluate the length, direction and cost of an outfall. I am also concerned that AGOSD does not have sufficient good data on which to base other important technical and cost considerations or the rebut the comments of critics. Earlier in the program, WWCG was authorized to award a subcontract to an American specialty firm to perform "sea studies" over a one year weather cycle which would produce the information which we need.

However, USAID later withdrew their approval because of the controversial nature of the outfall. USAID approval is requested for WWCG to proceed with selecting a subcontractor to perform the sea studies. with USAID approval, WWCG and AGOSD will perform the prerequisite land based studies on outfall routing. AGOSD understands that by agreeing to finance the studies, USAID does not imply agreement

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to finance design and construction.

Designs have been completed for the Central Zone Tunnel and Qabbari relief sewers, which will provide service to the Central Area of the City including the EL GOMROK Area, and for an expansion to the West Treatment Plant to accommodate the additional flows. Service to the central area of the city is urgently needed and these projects could be started quickly if USAID would approve their start and accelerate the financing rather than delay until the next phase of the Program.

There are also strong economic considerations which support an earlier start to these projects. Two American Construction Contractors, Fru-Con and Harbert Jones, are presently mobilized and working on the Alexandria Wastewater Project.

One of the two, Harbert Jones, has on site a tunnel boring machine, an approximately \$ 5 m project investment, of the type and size needed to construct the Central Zone Tunnel. The other, Fru-Con, is presently constructing the West Treatment Plant facilities which will be expended. Both are scheduled to complete their work and demobilize in the summer of 1993.

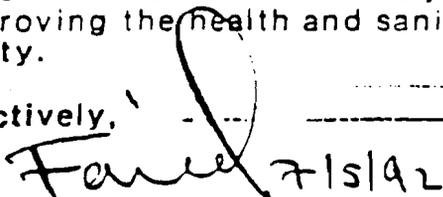
Significant cost savings, as much as 10%/\$ 15 m and time savings to the program would accrue if USAID could approve and finance the competitive bidding of the central Zone Tunnel and expansion of the West Treatment Plant contracts before the end of 1992 while these two contractors are still fully mobilized in the Alexandria area.

There are other important advantages to bidding the West Treatment Plant expansion in the immediate future which would derive from the successful contractors ability to supply the same make and model of equipment as presently being installed. This would greatly facilitate the training of operators and the maintenance of equipment.

I am confident enough of our progress on the program that I have scheduled a joint Egyptian American Ceremony for "Revolution Day", 23 July 1993, to start-up the East and West Treatment Plants. Please mark this date on your Calendar.

USAID Financial support of the Alexandria Wastewater Program from its inception is greatly appreciated by the people of Alexandria and we hope that we will be able to continue your support until our mutual objective of improving the health and sanitary conditions throughout the City is a reality.

Respectively,

  
Farid Sewelam

General Moh. Farid Sewelam

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UNITED STATES AGENCY for INTERNATIONAL DEVELOPMENT

AUG 10 1992

B.

General Eng. Mohamed Farid Sewailem  
Chairman  
AGOSD  
El Shatby, Alexandria

**BEST AVAILABLE COPY**

Subject: Alexandria Wastewater Project (263-0100)  
AGOSD Letter A/170/92 of July 5, 1992

Dear Chairman Sewailem:

Thank you for your letter of July 5, 1992, requesting AID financing of studies and construction to expand the Alexandria Wastewater system. As you are aware, the United States has, to date, committed \$390 million to the Alexandria Wastewater program, of which \$388.4 has been already obligated and the remaining balance of \$1.6 million is expected to be obligated during the U.S. fiscal year 1993.

With the first phase of Alexandria's Wastewater expansion program drawing to a close, it is understandable that you are now examining funding alternatives for the next phase. In this connection, USAID is favorably looking towards funding additional activities, including those studies and construction projects outlined in your letter. However, it is important that we both understand the need for the facilities constructed under the program to be efficiently operated and properly maintained throughout their useful life.

While we recognize the importance to the people and economy of Alexandria and Egypt of the second phase of this project, any assistance we could provide would have to be in the context of structural and administrative reforms which need to address both the issues of cost recovery as well as AGOSD'S transformation to an autonomous utility. We know that you share our concern on the importance of these two issues.

As a first step in addressing these issues, we would need to see an action plan that firstly provides to AGOSD the necessary funding, including foreign exchange, to fully finance Phase I operating costs. Secondly, the action plan would outline a time phased program for achieving the following priority objectives during the next three to five years:

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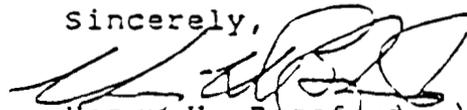
- retention of revenues by AGOSD;
- AGOSD's transformation to an autonomous utility.
- full cost recovery including operation, maintenance, and capital depreciation, from tariffs;

Once AGOSD has developed its action plan, USAID would then be prepared to begin discussions on the timing of the specific reforms that need to take place. Once the timing of reforms are agreed to, we could begin preparation of project documentation necessary to fund future activities. It would be USAID's intention to commit funds for project design only upon demonstrated GOE commitment to carry out the policy reform agenda. Progress in implementing reforms would have to be clearly shown prior to USAID financial support of any new construction activities.

As you can see Mr. Chairman, much remains to be done before any commitment for funding future activities can be made. The proper legal framework, possibly including presidential decrees, will have to be in place to enact a number of the reforms. As part of the present project, USAID, is prepared to finance assistance to AGOSD to define the necessary legal, administrative and managerial reforms and develop a time-phased action plan.

We believe the actions taken over the next couple of years will be critical to ensuring that the wastewater facilities constructed under the project in Alexandria will be properly and effectively operated and maintained throughout their useful life.

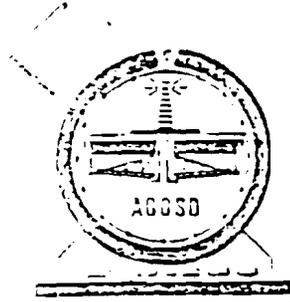
Sincerely,



Henry H. Bassford  
Mission Director

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C.

الهيئة العامة للصرف الصحي  
لمحافظة الإسكندرية

Alexandria General Organisation  
for Sanitary Drainage.

211/92

23, August, 1992 .

Mr. Henry H. Bassford, Mission Director  
U.S. Agency for International Development  
Cairo Center Building  
Garden City, Cairo  
Arab Republic of Egypt

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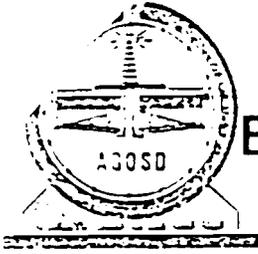
Subject : Alexandria Wastewater Project (263-0100)  
United States AID letter of August 10, 1992

Dear Mr. Bassford,

I am in receipt of your letter of August 10, 1992. I thank for your prompt and constructive reply to my letter to you dated July 5, 1992. I am encouraged that the United States Agency for International Development recognizes the importance and need for continuation of the water pollution control program here in Alexandria and I am pleased that you are looking favorably on new funding for Alexandria . With the financial assistance of the U.S. AID we have made much progress in our program and I look forward to continuing our partnership in implementing the next phase of construction here in Alexandria.

In this regard, I would like to address two points you raised in your letter. First with respect to the need to provide efficient operation and maintenance through the useful life of the facilities now under construction, please know that I concur completely with your philosophy. Since becoming Chairman of AGOSD, I have recognized the need to increase the administrative capacity of AGOSD.

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الهيئة العامة للتصريف الصحي  
لمحافظة الإسكندرية

Alexandria General Organisation  
for Sanitary Drainage.

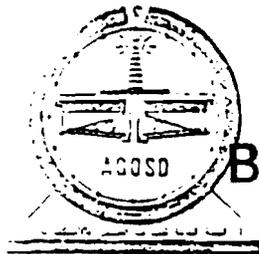
I have initiated an internal management training program for managers at AGOSD to teach the skills and judgement necessary to meet the challenges of operating the new facilities. Also, I received the approval of the Governor of Alexandria for what I have suggested to board of AGOSD for a totally new fee structure for the connection of buildings to the sewer network in Alexandria. In the same time I have recommended to the local council to increase the fees of sanitary drainage percentage on water bills for industrial uses to be 50% of the value of water consumption. While these may be small steps, they are examples of the philosophy of the Chairman of AGOSD.

The second point has to do with your request that AGOSD prepare an action plan to achieve three policy objectives of the U.S.AID. Let me first say that I agree to the concept of preparing such an action plan. Having agreed to the concept, let me point out that the three objectives of :

- retention of revenues by AGOSD
- AGOSD transformation to an autonomous utility
- full cost recovery including operation, maintenance and capital depreciation from tariffs;

require decisions and actions that go beyond the scope of the authority of the Chairman of AGOSD.

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الهيئة العامة لاصرف الصحي  
لمحافظة الإسكندرية

Alexandria General Organisation  
for Sanitary Drainage.

In order for actions to be taken in these important areas, consultation and advisement from the Governorate and the Minister of Housing and Public Utilities, Ministry of international cooperation and perhaps other Ministers within the Government of Egypt, will be required. Further, as you point out in your letter, there exists the possibility that one or more presidential decrees will be necessary to make the policy and legal changes to implement these positive steps, and I think that what you are asking is the same policy of the Government of Egypt.

I would respectfully request that you draw your attention to two matters. First, you indicated in your letter that U.S.AID was prepared to finance assistance to AGOSD to develop the elements of the action plan. I would therefore request that the U.S.AID provide whatever financial assistance is possible to assist AGOSD in this effort.

Second, I would seek your acknowledgement that U.S.AID, AGOSD and the Government of Egypt must work closely together if we are going to be successful in both the development of the action plan and the timed phasing of its implementation.

While I am willing, on behalf of AGOSD, to take the leadership for the development of the action plan, I would recommend that we give some consideration to a working group of representatives from AGOSD, U.S.AID and the Ministry to expedite the development of the action plan.

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الهيئة العامة للصرف الصحي  
بمحافظة الإسكندرية

Alexandria General Organisation  
for Sanitary Drainage.

In summary, I am pleased and encouraged by your response to my request for consideration of funding additional studies and construction in Alexandria wastewater project. Your philosophy on the requirements for the proper operation and maintenance of wastewater treatment facilities is a philosophy which represents sound management practices. I pledge my personal cooperation and agree to develop an action plan. I respectfully request that you and your staff work closely with me and the appropriate officials in the Government of Egypt to address the policies and reforms which go beyond the authority of the office of the Chairman of AGOSD.

I also would like to inform you that phase I will be ready to operate in the middle of 1993 which means that we have to work hard from now to update phase II and plan for financing phase II urgently to start construction on 1994 directly after phase I ends in August, 1993.

Regards.

Sincerely

Gen. Eng. Mohamed Farid Sewalem  
Chairman  
AGOSD

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D.

لهيئة العامة للصرف الصحي  
لمحافظة الإسكندرية

Alexandria General Organisation  
for Sanitary Drainage.

17 Sep 1992  
MR. HENRY H. BASSFORD, MISSION DIRECTOR  
U.S. AGENCY FOR INTERNATIONAL DEVELOPMENT,  
Cairo Center Building  
Garden City, CAIRO .

## BEST AVAILABLE COPY

Subject : ALEXANDRIA WASTEWATER PROJECT (263 - 0100)

Dear Mr. BASSFORD,

We in Alexandria are grateful to United States of America for its help in providing the high technology and funding to the Alexandria wastewater system expansion project phase No.1 .

The progress to this day has shown substantial improvements in reducing pollution.

However we are looking forward to proceed with the studies of the Second phase for Alexandria wastewater system expansion program to have the opportunity for starting the construction soon,

I wish to bring to your attention that 2 vital and important elements in the wastewater program as a complementary elements to phase No.1 are not yet considered for immediate construction, these are : -

- 1 - Central Zone tunnel .
- 2 - Expansion of the west treatment plant .

These projects were designed some time ago and are waiting USAID funding to start construction . I Cannot express enough to you the importance of these projects to Alexandria .

They will help pollution control program here in Alexandria, improving the environmental situation in the central zone .

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الهيئة العامة للصرف الصحي  
محافظة الإسكندرية

Alexandria General Organisation  
for Sanitary Drainage.

## BEST AVAILABLE COPY

- 2 -

Also I Cannot express enough how these 2 elements are very important to demonstrate the effective performance of the first phase, they will help relief the serious sewer problems in the central zone of the city which is the oldest, the most heavily populated, and contains the commercial and business center of the City .

As a consequences of your letter dated 10, August, 1992, requesting AGOSD action plan for transformation of AGOSD to an autonomous utility, retention of revenues by AGOSD and for cost recovery including O. & M from tariffs .  
Very important steps has been either implemented or proceeded such as : -

- 1 - Totally new fee for connection of buildings to the sewer network in Alexandria .
- 2 - Increase the fees of Sanitary Drainage percentage on water bills for Industrial and Commercial uses to be 50% instead of 20% .
- 3 - Initiated an internal management training program for Managers at AGOSD .

Again I wish to express the gratitude of Alexandria Citizens to the American People for their kind help and I hope that you will consider financing the start of the construction of these final elements of the first phase of the wastewater projects as soon as possible .

With Regards,

Sincerely,

Gen., Eng. MOHAMED FARID SEWELAM

CHAIRMAN - AGOSD.



E.

هيئة العامة للصرف الصحي  
محافظة الإسكندرية

Alexandria General Organisation  
for Sanitary Drainage.

17 September 1992

Mr. Henry H. Bassford, Mission Director  
U.S. Agency for International Development  
Cairo Center Building  
Garden City, Cairo

Subject: Alexandria Wastewater Project

Dear Mr. Bassford:

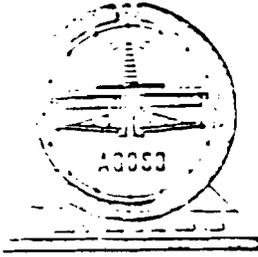
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I would like to take this opportunity to inform you of the progress that we are making in developing the Action Plan that you requested in your letter of 10 August, 1992. I would like to report progress to you in several specific areas.

First, I am pleased to report to you that the Local Council for the Governorate of Alexandria has given its final approval to my proposal for a more comprehensive schedule of fees for new connections to the AGOSD wastewater collection system. Collection of these fees has begun. Please be advised these fees are totally retained for AGOSD use and are in addition to the funds already provided by the GOE for AGOSD operation.

Second, I have had several meetings with Mr. Padgnam and his staff at WWCG concerning the development of an industrial discharge control and monitoring program. I have asked WWCG to assist me in developing a detailed proposal for increasing fees and surcharges for industrial wastes. This cost recovery mechanism could provide as much as thirty percent of the total AGOSD operating costs. This proposal will be developed and presented to the Local Council for consideration.

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الهيئة العامة للصرف الصحي  
لمحافظة الإسكندرية

Alexandria General Organisation  
for Sanitary Drainage.

- 2 -

Third, I am eager to begin the Institutional Support Technical Assistance element of the project. I had the opportunity to discuss the program with Mr. Jankel when he was here in August. We must begin this program as soon as possible. I understand that AID/Cairo has provided approximately \$10 million for a similar project to the Cairo GCSD. I know that you will provide sufficient funding for a comparable program here in Alexandria.

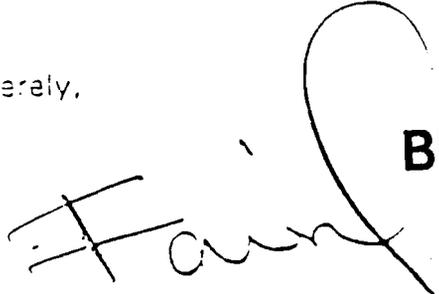
Fourth, we must begin the development of the Action Plan. WWCG will work closely with my staff to develop this plan. I am giving the development of this Action Plan my highest priority and request that AID/Cairo do the same.

As you can see, I am eager to make progress with our common objectives for AGOSD. I will continue to work toward these objectives. I am most interested in finalizing our commitments for the Phase II funding for the Alexandria Wastewater Program.

Thank you for your support and attention to this matter.

Sincerely,

**BEST AVAILABLE COPY**

  
Gen. Eng. Mohamed Ferid Sewalem  
Chairman  
AGOSD

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ARAB REPUBLIC OF EGYPT  
MINISTRY OF DEVELOPMENT, NEW COMMUNITIES, HOUSING AND PUBLIC UTILITIES

MINISTERS' OFFICE  
1, El-Saifi Abaza Street  
Cairo, A.R.E

1074

**BEST AVAILABLE COPY**

Mr. Henry M. Bassford  
Director  
Washington, D.C.

Dear Mr. Bassford:

I have the pleasure to express our sincere thanks and gratitude to the people and Government of the United States of America for their continuous support in our water and wastewater projects.

As you may observe, nearly all the unresolved problems concerning Alexandria and Cairo wastewater projects (AC000 & CA000) had been resolved. Meanwhile the running contracts are going on according to their schedules.

The last two contracts of phase I for Alex. waste water project (contracts CA/05 & 07) under construction will be completed in August 1993, however there are some important projects not included in phase I, like disposal of the central zone and the extension of the east zone that ought to be taken into consideration as a first priority.

In this concern, and in order that the project may achieve its objectives in the most efficient way, I would appreciate very much your support in providing the necessary finance for phase II projects for Alexandria, including the two above mentioned projects.

Waiting to hear from you, I seize this opportunity to renew my highest considerations.

Sincerely

Eng. Nassaballah H. El-Kharrati  
Minister of Development, New  
Communities Housing and Public  
Utilities.

1/10/93

حضوره منسلة لسيده المهندس / عبد السلام عويضة  
للدعوة على السيد المهندس / عبد السلام عويضة  
رئيس مجلس ادارة الهيئة العامة للدون الزومى لاسكندرية  
س جاد المنصلى لادارة  
بدر الزمان

63



ARAB REPUBLIC OF EGYPT  
MINISTRY OF DEVELOPMENT, NEW COMMUNITIES, HOUSING AND PUBLIC UTILITIES

MINISTERS' OFFICE  
1, El-Dokki Abaza Street,  
Cairo, A.R.E.



Dear Mr. Bassford

Thank you for your letter dated Aug, 17, 1992 concerning USAID financing of construction to expand Alex. Wastewater system (PH.2) and how important is to keep the Facilities constructed under the program efficiently operated and properly maintained throughout their useful life.

As you know our policy is to give the private sector an effective role for operation and maintenance of water and wastewater Facilities, so, I agree with you that the issues of cost recovery and AGOSD'S transformation to an autonomous utility are needed in the context of structural and administrative reforms.

In this concern many steps had been taken in this direction including reassessment of the running tariff and establishing private sector companies to carry out the responsibility of running these services on economic bases.

We are looking forward to study the transformation of all the organizations to autonomous utilities including AGOSD in order to achieve autonomy and cost recovery in the whole sector .

Thank you Mr. Bassford for your cooperation and I will be very pleased to meet with you within the coming few days for more discussions of the subject .

Sincerely

Eng. HASSABALEA M. ELMAFRAWI  
Minister of Development  
New communities, Housing  
and public Utilities .

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Mr. Henry Bassford  
Mission Director

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## AGOSD ACTION PLAN FOR INSTITUTIONAL REFORM

### Appendix III

Attendees at the 22 October 1992

Meeting Regarding the AGOSD Action Plan

AGOSD - Alexandria, Arab Republic of Egypt

#### AID/ Washington

Mr. Reginald Brown, Assistant Administrator for the Near East

#### AID/Cairo

Mr. Henry Bassford, Mission Director  
Mr. Paul Thom, Associate Director  
Mr. Jef. Malek, Associate Director  
Mr. Dan Vincent, Project Officer, Alexandria Wastewater Project  
Mr. Said Hassan, AID/Alexandria  
Ms. Suchinta Wijesooriya

#### AGOSD

Gen. Eng. M. Farid Sewalem, Chairman

#### WWCG

Mr. Hank Padgham, Project Director  
Mr. George Kinias, Manager, O&M  
Mr. Eric Jankel, Manager, ISP

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AGOSD ACTION PLAN  
FOR INSTITUTIONAL REFORM

Appendix IV

Final Draft Report

Preliminary Analysis of the Institutional Requirements

Alexandria General Organization for Sanitary Drainage

Milestones for Institutional Reform

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*DRAFT*  
*FOR REVIEW AND COMMENT*  
*19 OCTOBER 1992*

REPORT TO AID/CAIRO

PRELIMINARY ANALYSIS OF THE INSTITUTIONAL REQUIREMENTS\_  
ALEXANDRIA GENERAL ORGANIZATION FOR SANITARY DRAINAGE

MILESTONES FOR INSTITUTIONAL REFORM

WASTEWATER CONSULTANTS GROUP

END OF KAHR ABDOU ST.  
ROUSHDY, ALEXANDRIA  
ARAB REPUBLIC OF EGYPT

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## INTRODUCTION

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The United States Government, through the United States Agency for International Development (USAID), has made a significant financial commitment over the past decade to the construction of wastewater facilities in the Arab Republic of Egypt. Included in this commitment has been the construction of new facilities in Alexandria. To date, the Alexandria Wastewater Project represents a \$ 389 million program.

In planning for future funding in the water/wastewater sector in Egypt, the AID mission in Cairo (AID/Cairo) is developing a coherent and rational approach for reforms in the sector by the Government of Egypt (GOE). It is clear that in order to protect the capital investment made in facilities over the past decade as well as to protect the future capital investment changes are required in the institutional relationships between organizations of the central government and the operating entities within Egypt.

In this regard, AID/Cairo asked WWCG to provide a utility management expert, on a TDY assignment basis, to provide a preliminary analysis of the institutional reform requirements at the Alexandria General Organization for Sanitary Drainage (AGOSD), the operating entity for the Alexandria wastewater facilities. Further, AID/Cairo requested that WWCG recommend specific milestones for institutional reform that could be utilized by AID/Cairo in their discussions with the GOE regarding future project agreements in the

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## INTRODUCTION

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sector.

In order to accomplish these objectives, Eric R Jankel travelled to Alexandria, Egypt and was in-country for the period 13 June to 17 July, 1992. During this period he received the direct support of the WWCG staff including Mr. William Durham, Project Director, Mr. Hank Padgham, Project Director-designate, Mr. George Kinias, O&M Director, Mr Ibrahim Elsammak, Admiral Fahmy and the entire support staff of WWCG.

WWCG is aware that AID/Cairo is studying options and alternative approaches for dealing with the GOE on water/wastewater sector reform on a countrywide basis. WWCG has confined its analysis to the current institutional requirements of AGOSD within the current constraints and system provided by the GOE. WWCG believes that there is nothing inherently inconsistent with its recommendations for AGOSD and AID/Cairo objectives for sector reform. If additional information is provided to WWCG these recommendations could be updated and/or revised to bring a reform program at AGOSD more closely into line with the sectorwide program.

The Alexandria Wastewater Project consists of many discrete elements which, when taken together, are designed to eliminate ponding and flooding of wastewater throughout the City, reduce and eliminate the discharge of untreated wastewater to the beaches, provide basic treatment and safe disposal of effluent and provide the necessary facilities and systems to support a modern and efficient wastewater system to serve the

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people of Alexandria.

Major facilities constructed with AID funding that are completed and/or are nearing completion include:

- East Treatment Plant
- West Treatment Plant (w/mechanical sludge dewatering)
- Six (6) new pumping stations
- Sludge disposal facilities at Site 9-N
- Improvements to drains, sewers, force mains and construction of undercrossings

In addition, considerable effort has been expended over the past two years in providing assistance to AGOSD in the area of operations and maintenance (O&M) for the facilities. This includes the training of AGOSD personnel, development of technical documents and manuals in both English and Arabic and other activities to transfer the necessary skills and knowledge of facility operations to the appropriate host agency personnel.

Phase II of the Alexandria Wastewater Project will consist of complementary capital improvement to facilities in the Alexandria wastewater system. Projects under consideration include an outfall to the Mediterranean Sea, a tunnel collection system for the Central Zone and expansion of treatment capacity within the system.

This report is divided into four principal sections: pricing, autonomy, financial structure and personnel. Each section represents a separate and discreet area of activity with regard to institutional reform at AGOSD. Each of the four sections is organized with the 1) an evaluation, 2) the basic requirements for reform, 3) recommendations and 4) implementation of the recommendations. Each section includes an appropriate milestone table. Each table is supported with a one-page detailed description of the milestone steps required to make the recommended reforms at AGOSD.

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### **Section I. PRICING**

There are two separate and distinct issues associated with the topic of pricing. The first issue has to do with economics, the second issue has to do with finances and revenue. The economic issue involves the pricing of water and wastewater services on a national or sector level. Economists argue that under the current system of national subsidization of water and wastewater in Egypt there can be no rational economic decisions on allocation of water resources across all the competing uses within the country. Economists are urging the GOE to reduce subsidies, allow the cost of water (including the wastewater component) for urban and agricultural uses to increase to their level of real economic value and thereby allow the market to establish an allocation

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between agricultural and urban uses of the resource.

The financial issue of pricing has to do with the generation of sufficient revenues on the utility company level to provide for the proper management and operations of the utility facilities. In this case the issue is more narrowly defined to determine if the rates being charged for wastewater service are sufficient to cover all operating, maintenance and replacement costs of the utility. Of course, sound pricing at the utility level is not inconsistent with reforms in pricing at the national or sector level. For the purposes of this report, pricing will refer solely to financial aspect of the issue, that is the matter of revenue generation at the operating utility level.

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### **1. Evaluation**

It appears that the AGOSD currently operates without sufficient funds to adequately operate and maintain the facilities which are now under its control. (The facilities are described in detail above in the Introduction section.)

Without sufficient revenues AGOSD will be unable to purchase spare parts, equipment, lubricants, tools and other items necessary to maintain and repair the physical plant. Therefore providing an adequate revenue base must be an essential component of the Alexander Wastewater Project. Without significant change in the revenue stream allocated to AGOSD, as well as the mechanisms utilized to generate those additional revenues, AGOSD will not be able to provide proper and acceptable operations and

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maintenance of the facilities now scheduled for start-up on 23 July 1993.

Under Article 8 of Presidential Decree No. 363/1979 the AGOSD financial resources are composed of the following:

1. Revenues resulting from its activities
2. All the estimated funds of the State Budget
3. The donations and contributions that the Board of Directors accepts
4. The loans that are signed within the limits of the law.

At the current time the AGOSD does not have a "dedicated revenue stream". That is, it does not set its own rates, collect and control its own funds and have independent control over allocating its financial resources.

The AGOSD submits an annual budget request to the Ministry of Finance (MOF). The fiscal year for the GOE and the AGOSD are July 1 to June 30. After the budget approval cycle for the GOE, including approval of the Prime Minister, the People's Assembly and the signature of the President, is completed, AGOSD gets an allocation from the MOF. AGOSD receives an allocation of less than 100% of its estimated financial needs.

The Alexandria Water Authority is authorized to charge a surcharge on the water rates for wastewater service. At the current time the surcharge is 20%. The funds collected by this surcharge go to the Ministry of Finance. The Minister of the MHPU, and its Central Committee on Public Utilities, must authorize increases in the tariffs and

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surcharges. After the most recent authorization for an increase, the Governorate of Alexandria did not concur with an increase in the local surcharge rate.

## 2. Requirements

The management and effective operation and maintenance of a modern wastewater utility requires a dedicated revenue stream and a level of revenue sufficient to meet the operations, maintenance and replacement costs for the utility operation. In order for AGOSD to meet these two objectives, there must be reforms and changes in legal authorities and structure of the organization. (See Section II)

Pricing requirements of a self-sustaining utility can be generically defined as follows:

- Rates and tariffs set to recover 100% of the total utility operating, maintenance and replacement costs without any subsidy or contribution from an external source. Conversely, there should be no revenues diverted to external agencies or entities.
- Rates should be set based upon the concept of "marginal" or "average" cost pricing. Because wastewater service is a "natural monopoly" rates should be set in accord with accepted economic principles.
- Tariffs should be designed with a classification of users. Ideally, revenues should be recovered from each class of users in proportion to the costs of collecting and treating the wastes generated from the respective class.

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In order to meet the requirements of a dedicated revenue stream there must be structural reforms consistent with those outlined in Section II - Autonomy of this report. In order to meet the sufficiency requirements, certain steps can be taken immediately.

### **3. Recommendation**

The GOE, AGOSD and the Governorate should immediately begin a systematic and planned program to document revenue requirements, increase revenues and provide full-funding to AGOSD thereby implementing a plan to transition AGOSD from a GOE revenue-dependent entity to a revenue self-sufficient utility.

### **4. Implementation**

The program to make the transition must be carefully developed and must balance a sensitivity to the reality and implications of "rate-shock" with the absolute need to generate sufficient revenues to meet the expenses of the organization.

The plan should be carried out in measured milestone steps. The recommended action steps are detailed in the following pages. Table 1. represents a summary of the milestone steps.

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TABLE 1-A PRICING - IMMEDIATE ACTIONS

Milestone:

	Definition	Description	Time to Implement [Date Certain]	Proof of Compliance
1.A.	Determination of Need	AGOSD to determine the costs for operating the AID-funded facilities. WWCG to provide technical assistance to AGOSD to derive the determination of need.	[Oct. 1992]	Report documenting AGOSD costs for AID-funded facilities
1.B.	Full Funding	GOE, through the Prime Minister and the Ministry of Finance, to commit to provide full funding to AGOSD for the operating costs identified in 1.A. above for the budget year beginning July 1, 1993.	[Jan. 1993]	Prime Minister & Decree from the Minister of Finance
1.C.	Increase Surcharge	The existing wastewater surcharge will be increased by the Government of Egypt and the Governorate to raise new revenues. The new revenue will be used to meet the costs identified in 1.A. and meet the commitment to full funding from 1.B. above.	[July 1993]	Surcharge increased and billed by Alex. Water Authority

TABLE 1-B PRICING - AUTONOMY ACTIONS

Milestone:

	Definition	Description	Time to Implement Decree/Full Imp	Proof of Compliance
1.D.	Tariff Design	The GOE and AGOSD develop tariffs for the new AGOSD which are designed to cover 100% of the costs of the new organization, including the operations, maintenance and replacement costs of the facilities. The costs to be recovered from the tariff will be documented in a revenue requirement study (see Table 1-C).	30 months	Recommended Tariff Schedule
1.E.	Tariff Adopted	The Board of Directors of the new utility adopts its own tariff schedule, from 1.D. above and functions as a self-sufficient utility company.	36 months	Resolution of the Board of Directors and publication of the tariff schedule

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TABLE 1-C PRICING - ADDITIONAL REQUIREMENTS

Definition	Description	Time to Implement
AR-1 Revenue Requirement Analysis	A detailed study and documentation of <u>all</u> costs associated with the new AGOSD, including the management of the entity, the operations, maintenance and replacement costs of the AID-funded facilities, non AID-funded facilities and all indirect costs now absorbed by the GOE. WWCG to provide technical assistance to AGOSD in developing the revenue requirement.	12 to 18 months
AR-2 Revenue Proof	After the new utility has implemented new tariffs for wastewater service, periodic compliance audits should be conducted to provide proof that the tariffs are generating sufficient revenues to sustain operations of the entity.	1.E. + 6 months + 12 months + 18 months
AR-3 Periodic Cost and Tariff Review	The new utility should review its revenue requirements on a periodic basis and make adjustments to the tariffs, as required.	1.E + 36 months

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Milestone:     **Pricing**

1. A.           **Determination of Need**

AGOSD must determine its revenue needs for the AID-funded facilities. Preliminary estimates have been developed by WWCG, however the preliminary figures must be reviewed in detail with AGOSD and each category of cost must be confirmed. These cost categories include labor costs, electricity costs, chemical costs and other costs associated with the operations of the facilities.

This is a critical first step in the process of developing a self-sufficient utility company. Due to the nature of the GOE budget process, in addition to the direct subsidy provided to AGOSD through the GOE budget, there are areas where the central government subsidizes the true cost of providing the wastewater service in Alexandria. An example of this is in the area of electricity where the electricity charges are subsidized by the central government.

Once the initial determination of financial for need for AGOSD is made, AGOSD can begin discussion with the GOE on alternatives to meet that need.

Time to Implement:   **3 months**

WWCG is prepared to provide technical assistance to AGOSD in developing the determination of need.

Proof of Compliance

- Report detailing and documenting the financial need of AGOSD for proper operations and maintenance of the AID-funded facilities.

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Milestone:     **Pricing**

1. B.           **Full Funding**

There must be a Presidential decree directing that the GOE provide "full funding" to AGOSD. Under the current structure, pursuant to the authority of the Ministry of Housing and its High Committee on Utilities, there is an authorization level allowed for surcharges to be assessed on water bills for the purpose of generating revenue for wastewater services. The Governor of Alexandria must authorize the implementation of the higher surcharge level in the Governorate. The surcharge for wastewater service is now 20% of the water bill. While AGOSD has other sources of revenue, such as connection fees, its primary source of revenue is the allocation from the GOE through the annual budget process.

Before any additional increases in the wastewater surcharge will have any material effect on the operations of the AGOSD, there must be a commitment from the GOE that will provide full funding for the AID-funded facilities under the control of AGOSD. This commitment must come from a Presidential decree.

Time to Implement     **6 months**

Proof of Compliance

- A Presidential decree will demonstrate compliance with the action proposed.
- The budget allocation from the Ministry of Finance to the AGOSD for the fiscal year beginning July 1, 1993 will demonstrate whether or not the MOF has complied with the decree. (Cross-check by reviewing the allocation with the AGOSD.)



Milestone:     **Pricing**

1. C.            **Increase Surcharge**

The Minister of HPU and the Governor of Alexandria must raise the wastewater surcharge to a level estimated to be sufficient to meet the operation and maintenance requirements of the AID-funded facilities. This includes the facilities which are now scheduled to become operational on 23 July 1993.

As of this time there are only preliminary estimates as to the revenue required to adequately operate the new facilities. A recent review by WWCG suggests that LE 10 million is required, however the assumptions regarding labor costs, electricity costs, etc. have not yet been confirmed by AGOSD. It is important that the MHPU, the Governorate and AGOSD confront the necessity of increasing tariffs in accordance with new operational requirements.

Time to Implement:   **12 months**

It is anticipated that it will take up to twelve months for AGOSD, the Governorate and the Ministry to sort through their internal concerns and discussions and make any necessary changes in the Ministry surcharge authorization level and the corresponding approval from the Governorate.

Proof of Compliance

- Issuance of a revised tariff with the appropriate wastewater surcharge will demonstrate compliance to the milestone action.

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Milestone: Pricing  
1. D. Tariff Design

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Based upon the documentation provided in the revenue requirement report documented in AR-1 (see table 1.C), a tariff schedule can be designed that reflects more closely the actual costs for collecting and treating the wastewater in the AGOSD service area. The transition from an across-the-board water service surcharge to a fee-for-service based tariff is a major step in assuring the users of the wastewater equity in the fee structure.

Generally the tariffs are designed with separate classifications of users: residential, commercial and industrial. The objective of the tariff design would be to reduce and/or eliminate any inter-class subsidization that may be occurring in the more simplistic across-the-board water surcharge method. While inter-class and/or direct subsidization may be unavoidable, as a matter of policy the extent of subsidy requirements should be identifiable.

The objective should be to have the tariff design issues resolved so that the Board of Directors to the new AGOSD could adopt the new tariff schedules at the commencement of operations of the new entity. The billing of fees under the new tariffs would then begin with the Alexandria Water Authority acting as the billing/collection agent.

Time to Implement: AR-1 + 12 months (30 months cumulative)

### Proof of Compliance:

- A tariff schedule recommended by the GOE which:
    - covers all operation, maintenance and replacement costs
    - is based upon the concept of a self-sustaining utility company
    - satisfies the total requirement documented in 1.C.
- would provide proof of compliance with this milestone action.

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Milestone:     **Pricing**

I. E.            **Tariffs Adopted**

The Board of Directors of the new AGOSD organization must adopt tariffs that will fulfill all the requirements of the operating utility company.

Time to Implement:   **I. C. + 18 months           (36 months cumulative)**

Proof of Compliance:

- Resolution of the Board of Directors of the new AGOSD adopting the recommended tariff schedule, and
- Registration of the new tariff schedules at the office of the Registry in Alexandria will demonstrate compliance with this milestone action.

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Milestone: Pricing

AR-1 Revenue Requirement

The development of financially sound tariffs requires that a comprehensive revenue requirement study be completed. A revenue requirement study will document and project the revenues needs of the operating utility. The study provides a detailed review of operating, administrative and management costs for the total utility. The study documents actual costs and current prices for items such as labor rates, electricity costs, chemical costs, costs for consumable: spare parts, lubricants and tools, etc. Once documented, the costs can be projected into the future accounting for inflation and other economic factors.

This type of study is essential for the sound financial planning of the utility company. It is also a key input into the development of fair and equitable tariffs. The study shall be performed utilizing the methodology described in the American Water Works Association Manual of Practice M-1 and M-35, or comparable methodologies developed and published by the Water Environment Federation.

Time to Implement: 12 to 18 months

The first comprehensive revenue requirement study is the most difficult because of the lack of financial data from prior operating periods. In the case of Alexandria, the lack of data problem is compounded due to the lack an adequate utility-based chart of accounts. The study will have to examine each element of the current operations, as well as the operations projected with the start-up of the new facilities. It will also have to document all other costs of the AGOSD operation to establish the overall organizational costs:

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Proof of Compliance

- The completed revenue requirement report will provide proof of compliance with this milestone action.

Milestone:

Pricing

AR-2

Revenue Proof

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In order to establish that the tariff schedules adopted by the Board of Directors of the new utility company (I.F.) are raising sufficient revenues to meet the operating requirements of the utility company (I.C.), periodic audits by an independent financial accounting firm should be conducted. These periodic audits would not be a full audit of expenditures of the entity, but would be a limited audit for the purpose of confirming that the tariffs are generating sufficient revenue. In the regulated utility industry in the U.S.A. these would be considered "compliance audits".

It is recommended that four of these limited audits be completed on six month cycles in the first two years after implementation of the new tariffs. It is important to do them frequently in the early stages after implementation so that corrections and/or adjustments can be made in the tariff schedules. Corrections and adjustments are generally required after the first-time implementation of multi-class tariff schedules.

- Time to Implement: I.F. + 6 months (42 months cumulative)
- + 12 months (48 months cumulative)
- + 18 months (54 months cumulative)
- + 24 months (60 months cumulative)

Proof of Compliance:

- Certified audit reports from an independent audit firm will demonstrate proof of compliance with this milestone action.
- Monitoring of the new AGOSD Board of Directors will be required to establish that the Board has made any and all required corrections/adjustments to the tariff schedules.

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## Section II. AUTONOMY

### I. Evaluation

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AGOSD is currently organized under Presidential Decree No. 363 of 1979, signed on 21 August 1979. At that time the AGOSD was established to assume certain responsibilities of the General Organization for Sewerage and Sanitary Drainage (GOSSD) as well as takeover the physical sanitation facilities and the employees of those facilities from the Governorate of Alexandria. The decree establishes AGOSD under generic legislation concerning "general organizations" and imposes several other specific limitations on the independence and autonomy of the organization. Specifically, the limitations are:

Article 1 - The AGOSD should "follow" the Governor of Alexandria and shall abide by laws applied to the general organizations.

Article 10 - The AGOSD budget is subject to the rules of the State General Budget.

Article 11 - The accounts of the AGOSD are subject to the rules, laws and decisions of the GOE.

Article 12 - The rules of the civil service system of the GOE are to be applied on all AGOSD staff.

Article 13 - All employees working at the Alexandria facilities were transferred to AGOSD at their pre-existing grades as set forth by the Central Organization for Discipline and Administration and the Ministry of Finance as well as funds from the GOSSD being

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allocated to AGOSD subject to the approval of the Minister of Finance and the Minister of Housing.

The real effects of these institutional/organizational limitations can be seen in the critical areas of budget/finance and personnel. Under its current status AGOSD prepares an annual budget and submits same to the Ministry of Finance. The Ministry of Finance reviews the budget, together with all other GOE budget submittal and makes its recommendation to the Prime Minister. The Prime Minister submits his budget request to the People's Assembly. After due consideration a budget is approved by the People's Assembly and signed by the President. Subsequent to the signature of the President, the Ministry of Finance makes an allocation to the AGOSD. This is usually after the fiscal year has started.

Generally, the AGOSD receives approximately 50% of what it deems necessary for the operations and maintenance of those facilities over which it now has operational control. The facilities include new pumping stations financed with AID funds, older pumping stations and collector sewers. The East and West Treatment Plants are under construction and scheduled for start-up on 23 July 1993.

The essential point here is that, while the AGOSD is charged with the responsibility for operating these facilities, it is not the final authority on how the funds should be spent to carry-out that mission. The final authority on this important matter is in the hands of individuals in Cairo who are removed in time and distance from the day-to-day demands of the task at hand.

In the area of personnel, AGOSD operates within the personal and civil service rules of the Government of Egypt. Effectively, this means that those in charge at AGOSD have little or

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no say in the administration of a personnel system for their agency. Issues of promotion, grievance and other employment disputes are decided by individuals in Cairo, administering a government-wide civil service system which does not reflect the special needs of a local wastewater authority. The process is time consuming, cumbersome and if AGOSD operated as a utility company this authority would be vested in the management of the utility company.

## 2. Requirements

The management and effective operation and maintenance of modern wastewater collection and treatment facilities requires an organization which has sufficient independence, or autonomy, to meet the day-to-day demands of the equipment, technology and personnel required to provide adequate treatment of municipal and industrial wastes. Treatment plants utilize large civil structures (tanks and underground pipes), specialized mechanical/electrical equipment (numerous pumps and motors), expensive chemical additives (polymers and disinfectants) and human labor to remove conventional pollutants from the waste stream. Modern plants, as opposed to plants designed and constructed 20 - 30 years ago, rely on more sophisticated equipment, new computer-based control technologies and new, more efficient but more expensive, chemical additives that require special care in handling and storage. This new generation of wastewater treatment plants have dramatically improved treatment efficiency and have been the single greatest factor in improvement to water quality in the communities in which they have been constructed.

In order to meet the challenge of operating these new facilities, those responsible for the

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management of the facilities are expected to achieve a higher standard. They face the dual task of operating, maintaining and managing more physical plant as well as meeting the demands of more complicated processes and process control technologies. As a result of the increase in the treatment efficiency of these facilities, those responsible are held to a higher standard in performance of the systems under their control. This higher standard of accountability and responsibility requires more latitude and discretion in the myriad of decisions that must be made in a given day, week or month by the responsible managers.

AGOSD, under its current institutional limitations, will not be able to successfully sustain the adequate operation and maintenance of the facilities now scheduled to start-up on 23 July 1993. AGOSD is generally comprised of technically-trained individuals who operate in an organization, which in-turn operates within a system, which can not provide the necessary breadth of legal authority and discretion to those in responsible-charge to act within the time requirements necessary. These individuals require additional skills to assume the responsibilities of managing the new facilities that will become effective on 23 July 1993. Further, the financial controls, procurement and personnel systems necessary to support a responsive and responsible management structure do not exist.

The AGOSD, or its successor organization, must be granted legal and political autonomy to provide a responsible and economically efficient system of management for the facilities under its jurisdiction. Of course, it must simultaneously be held publicly accountable for meeting higher standards of treatment efficiency in the facilities operation and maintenance.

Autonomy for an organization can be generically defined as follows:

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- Ability to set, decide and act on policies, procedures and personnel (within a charter) without the specific approval of an outside person or agency.
- Ability to raise and spend revenues, i.e. budget money and make expenditures, without the specific approval of an outside person or agency. (Revenues, expenditures and procedures subject to periodic independent audit)
- Ability to establish and enforce technical standards governing the quantity and quality of waste discharged to the sewers within the jurisdiction of the agency without the specific approval of an outside person or agency.

### **3. Recommendation**

There are a number of options that can be considered in developing a new, autonomous agency for managing the wastewater function in Alexandria. For the purposes of this report we have focused on one model which we feel incorporates the elements and requirements of an independent utility company in its most pure form.

There are variations and adjustments that can be made to this model. We recommend this model for consideration by AID/Cairo because it merges the concepts of the general organization of the existing AGOSD organization with the features of efficiency of the private company law already accepted in Egypt to provide a new, hybrid entity which can function as an independent utility company.

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The new entity would be created as a non-profit, tax-exempt (corporate income and sales tax), public corporation charged by Presidential Decree and the People's Assembly with specific powers and authorities necessary to carry-out the effective management of a modern wastewater utility system. These general powers would include the authority to plan, design, construct operate and maintain the public sanitation facilities within the Governorate of Alexandria.

Since there appears to be no comparable model for such an organization within Egypt, the recommendations herein outlines a new type of organization structured around the legal concepts applied to private corporations in Egypt. As there is no private equity or "shareholders" in the public corporation, the issues of ownership and liability, which distinguish the "Joint Stock Company" type of corporation and the "Limited Liability Company" type of corporation, become virtually irrelevant. This private company structure would provide a transition to privatization of the company should reforms in the sector by the Government of Egypt lead to an economically viable privatization of the sector.

The liability of the Directors of the new entity should be dealt with by a provision that organization shall indemnify them from all errors and omissions made while acting in good faith, in their official capacity as a Director. There would be no such indemnification for criminal activity or willful negligence.

The corporation should function more like a business than a traditional governmental agency. As such it should be subject to the appropriate business laws of Egypt. Specifically, the laws that would apply to the new entity are the Commercial Code, the Civil Code and relevant portions of the company law, Law No. 159 of 1981.

Very simply, the new entity would be organized and operated as a private corporation under the existing laws of Egypt, except that there would be no equity, shareholders or profit.

Legal Structure

In order for a successor organization to function with autonomy it must have the following characteristics:

Legal Capacity - The entity must be able to enter into binding obligations in its own name and all its actions are deemed to have legal consequence under Egyptian laws. This allows the entity to enter into contracts without the approval or countersignature of any outside governmental agency or person.

Legal Entity - Sue and Be Sued - The entity can initiate legal actions in its own name (as distinguished from the Governorate or the GOE/MHPU) in the appropriate court, and legal actions can be brought against it by aggrieved parties in the appropriate court. This assures that the terms of all contracts can be enforced by the parties against one another on the merits of the case without the interference or intervention of any outside governmental agency or person.

Legal Domicile - The corporation shall be domiciled in Alexandria.

Legal Patrimony - Derived from the French civil system and not the English common law system, it means that the entity has total control over its property, movable and fixed, and all rights over this property and against third parties and the rights in the property may be expressed

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mandatory.

- The Board of Directors shall be required to have an annual independent audit performed. The audit report should be forwarded directly to the Prime Minister and should be available for review at the Alexandria Registry.

#### Assistant Administrative Committee

The Board of Directors shall form an Assistant Administrative Committee to be constituted from the employees and workers of the corporation. The Committee shall be charged with the study of all matters regarding the utilization of resources, the efficiency of operations and the productivity of the organization. The Committee shall take into consideration the sound business management of the organization and may study any matter referred to the committee by the Board of Directors or the Managing Director.

#### Outside Committees

The Board of Directors may establish ad hoc, and/or standing, outside committees to advise the Board of Directors in such areas that the Board may choose. Outside Committees could be established to advise the Board in areas of technical concern, such as specific design issues, or in areas of general public concern, such as rates and tariffs. The outside committee can serve as a vehicle to channel public concern and input to the Board of Directors.

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Milestone:    **Autonomy**

2. C.            **Adoption**

The decree must be executed by the President and/or legislation enacted by the People's Assembly.

Time to Implement:            **2. B. + 15 months (24 months cumulative)**

Proof of Compliance:

- A signed decree and/or enacted legislation will demonstrate proof of compliance with this milestone action.

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Milestone:    **Autonomy**

2. D.            **Implementation**

After the decree is signed and/or the legislation is enacted creating the new organization, a period of six months will be required to prepare the legal documents to implement the establishment of a new organization. These documents include the articles of incorporation, the statutes of the company and the appointment of the individuals to the Board of Directors.

Time to Implement:            2. C. + 6 months    (30 months cumulative)

Proof of Compliance:

- The recording of the legal documents at the Registry in Alexandria, and
- The first, organizational meeting of the Board of Directors of the new utility company will demonstrate compliance with this milestone action.

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Milestone:    **Autonomy**

2. E.            **Post-Implementation**

In order to establish that the new utility company is actually functioning in accordance with its intended purposes and objectives, a series of annual "operations audits" should be performed by an independent firm. An operations audit consists of a systematic diagnostic evaluation of the utility company operations including the treatment plant performance and review of other critical performance indicators for the overall wastewater utility system.

Standard methodologies exist in the wastewater management practice governing the approach and procedures for operations audits. AID/Cairo can establish, in advance, a level of effort requirement for this work. Generally, a team of 3 to 5 experienced wastewater utility management individuals visiting and observing the utility operations for a period of 7 to 10 days could complete a detailed operations audit for AID/Cairo.

The operations audit reports would alert AID/Cairo to minor or major deficiencies and, in accord with any required remedial actions, AID/Cairo could proceed with additional increments of Phase II funding.

<u>Time to Implement:</u>	2. C. + 12 months	(42 months cumulative)
	+ 24 months	(54 months cumulative)
	+ 36 months	(66 months cumulative)

Proof of Compliance:

- Operations audit with acceptable performance reports will provide proof of compliance with these milestone action steps.

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### Section III. FINANCIAL STRUCTURE

#### 1. Evaluation

AGOSD currently operates without the internal financial controls and support systems necessary to sustain the adequate independent management of a modern wastewater system. As a result of the organizational relationship between AGOSD and the GOE numerous financial management systems and functions which would be required of an independent utility company are within the purview of the agencies of the GOE, such as the Ministry of Finance, the Ministry of Planning, etc.

The areas where the financial systems and procedures are interdependent with the GOE include:

Annual Operating Budget:	AGOSD a sub-unit of the GOE budget, subject to Ministry of Finance procedures
Capital Budgeting:	AGOSD subject to Ministry of Planning procedures and priorities
Legal Requirements:	AGOSD must consult closely with the GOE and seek approval for any action which requires a legal commitment

These areas of interdependence act as constraints to the proper management of a wastewater utility. The ability of the utility company to make financial decisions and take action on those decisions is an essential element of successful utility management. Concomitant with the ability to act comes the responsibility and accountability for actions. The financial structure of the utility company must be designed to support the management and provide accountability to the public for the actions of that management.

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## **2. Requirements**

An independent utility company operating the wastewater facilities in Alexandria should have a financial structure with the following characteristics:

- enterprise fund accounting - treats the entity as an autonomous, self-sustaining utility company which derives its annual operating requirements from user fees.
- Internal financial information systems and controls which provide management with the information and reports necessary to make timely financial decisions governing the operations of the entity.
- Internal financial systems for critical functions such as budgeting and procurement which allow management to allocate funds and purchase necessary parts and supplies in time frames appropriate to the operation of a wastewater utility.

## **3. Recommendation**

The development of a financial structure to support an independent utility company is interrelated with the milestones for autonomy, outlined in section II of this report. On the other hand, the development and installation of a financial structure which would support an independent utility company will, in itself, lead to increased efficiency of operations and better management of the existing organization. This results from the expansion of the administrative capacity of the existing organization. The milestones for financial structure should be pursued on their own merit.

An institutional strengthening program designed to develop and install the financial systems necessary to support an independent utility company must be implemented at AGOSD as soon as possible. The success of an independent utility company for Alexandria is, in part, dependent upon the financial systems that are in place for the company to utilize in meeting its responsibilities.

The program can be tailored to meet the specific needs of AGOSD and the availability of funds to support such a program.

#### **4. Implementation**

A program to develop a financial structure to support an independent utility company can be sequenced in a logical and straightforward manner.

The recommended action steps are detailed in the following pages. Table 3 represents a summary of the milestone steps.

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Table 3 FINANCIAL STRUCTURE

Milestone:

	Definition	Description	Time to Implement Decree/Full Imp.	Proof of Compliance
3.A.	Modernize Systems	Program at AGOSD to modernize accounting practices and systematically install computer capacity in the administration and finance areas to build a platform for conversion to enterprise fund accounting.	12 months	Independent accounting firm tests AGOSD systems
3.B	Conversion	Convert AGOSD accounting practices to enterprise fund accounting and develop the necessary support systems for budgeting and procurement	30-36 months	Independent accounting firm tests AGOSD systems
3.C	Implementation	Full implementation of free-standing, utility company accounting systems for utilization by the new utility company.	36 months	Review of the legal documents filed at the Registry in Alexandria

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Milestone:     **Financial Structure**

3. A.           **Modernize Systems**

AGOSD must begin a systematic program modernize its accounting practices and systems. The modernization program should be constructed around the computerization of the critical functions of the administration and finance departments. The systems to be modernized include:

- budgeting, operations and capital budgets
- payroll
- purchasing and procurement
- inventory control

A systematic program to computerize the above functions will provide a platform for conversion of the financial systems to a "enterprise fund" based system.

Time to Implement:   **12 months**

Proof of Compliance:

- A test of the financial systems of AGOSD can be performed by an independent accounting firm. That test will confirm the extent to which the systems at AGOSD have been modernized.

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Milestone:     **Financial Structure**

3. A.           **Conversion**

Once AGOSD has modernized its accounting systems and introduced computerization of the critical accounting systems, a program to convert AGOSD to an "enterprise fund" accounting system can be implemented.

Enterprise fund accounting is based upon the principle that the "enterprise" is a self-supporting, self-sufficient entity that accounts for its revenues and expenditures separate and apart from any other unit or entity. Generally, the enterprise fund system allows governmental entities to keep their books and records and account for themselves just as a private company would. There can still be subsidies in the form of contributed capital for construction projects or reduced interest rates on short and/or long term borrowing but the subsidies are transparent and quantified. This makes the public policy choices clear.

Time to Implement:   **30 - 36 months**

Proof of Compliance:

- A test of the financial systems at AGOSD can be performed by an independent accounting firm. The test will confirm the extent to which the accounting system at AGOSD has been converted to the enterprise fund system.

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Milestone:    **Financial Structure**

3. C.            **Implementation**

At the time that the new utility company is organized (36 months), the new accounting structure should be implemented by the Board of Directors of the company. (See item 2.D.-Autonomy) Without the successful development and implementation of new financial systems, the new utility company will be unable to fulfill its responsibilities.

Time to Implement:    36 months

Proof of Compliance:

- Review of the legal documents filed at the Registry in Alexandria will determine if the new entity has established financial systems capable of accounting for and reporting the activities of the organization independent of any governmental entity.

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### **Section IV. PERSONNEL**

#### **1. Evaluation**

At the current time AGOSD operates with approximately 4500 employees of record. Because of the nature of the structural relationships between AGSOD and the GOE and AGOSD and the Governorate, that is the lack of independence and autonomy, the current situation of staffing has developed. AGOSD, in addition to its role and function as a wastewater system manager and operator, has served as a vehicle for the implementation of the social and economic policies of the GOE.

WWCG has begun the process of evaluating the prospective staffing requirements for the proper operation and maintenance of the AID-funded facilities. Preliminary figures suggest a level of staffing considerably less than the current staffing levels. Of course, in addition to having the correct number of employees, the employees must have the right set of skills and abilities to perform the assigned tasks. At this point in time, and for the purposes of this report, only the number of staff will be discussed and it will be assumed that once the correct level of employment is reached those employed will possess the proper skills and abilities. The current O&M program at WWCG is designed to deliver training and institutionalize an on-going training program for AGOSD.

At this point WWCG is not aware of any exhaustive effort to analyze the details of the staffing relative to the backgrounds, skills and capabilities of those individuals who might be considered to be a part of the staff. Such an analysis will be required in order to move forward with the recommendation contained in this report.

#### **2. Requirements**

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An independent, self-sustaining utility company must have sufficient legal authority that

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it can exert effective control over its internal employment and staffing requirements. The basic legal authorities required are:

- Ability to set the qualifications and compensation for its employees, especially its management employees.
- Ability to promulgate rules and regulation governing the employment practices within the company, including standards for hiring, promotion, training, operator certification programs and dismissal.
- Ability to provide financial and non-financial incentives sufficient to insure that any investment in personnel, via training and career advancement programs, are not lost by employees seeking more lucrative employment outside Egypt or the company.

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### **3. Recommendation**

The conversion of AGOSD to a self-sustaining utility company must include a component program which is a detailed plan for adjusting the labor force. The labor force adjustment plan must incorporate and blend the social and economic requirements derived from the economy within Egypt as well as the principles of autonomy and control over staffing which are essential for a successful utility company.

There are a number of potential options regarding the mechanics of how such a plan would function. Essentially, the thrust should be to insure that the operating company has sufficient legal authority so that it employs and funds the correct number of staff within its revenue base while providing a five-year phase-out period for direct GOE subsidy, through a public works employment program for staffing not associated with the direct operations and maintenance of the AID-funded facilities. All of the traditional tools of "right-sizing" can be utilized over this five-year period and would include items such as: freeze on new hires, attrition, incentives for early-out and other human resource management techniques that would be deemed appropriate within the environment.

Obviously, the timing of such a labor force adjustment program must be balanced with the growth of the economy in Egypt and the capacity of the local labor market in Alexandria to absorb individuals with certain skill sets. The key negotiating point for AID should revolve around the integrity and independence of the operating utility company. The company should be structured in such a manner that it must fund the operations of the AID-funded facilities through its rates. Over the long run this will create somewhat of a natural brake on employment and act as an internal incentive for the company to hold employment at rational levels. To do otherwise would necessarily raise rates and the Board of Directors of the company would have to publicly defend increased rates.

#### **4. Implementation**

The development of a labor force adjustment plan for AGOSD and the implementation of the labor force adjustment program will require sensitivity and diplomacy as well as patience and persistence. The milestone action steps required for the development of the plan and the implementation of the program are identified in the following pages. Table 4 is a summary of the actions recommended.

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Table 4 - PERSONNEL

Milestone:

	Definition	Description	Time to Implement Decree/Full Imp.	Proof of Compliance
4.A.	Development	Preparation of a detailed labor force adjustment plan for AGOSD which details the strategy and methods to be employed in realizing an appropriate adjustment in the labor force.	24 months	Labor force adjustment plan completed
4.B.	Adoption	The Labor force adjustment plan reviewed and adopted by the GOE, the Governorate and AGOSD.	30 months	Approval issued by the GOE, Governorate and AGOSD
4.C.	Implementation	Board of Directors of the new utility company commences with the implementation of the labor force adjustment plan.	36 months	Resolution by the Board of Directors to implement the plan
4.D.	Completion	Labor force adjustment completed and the new company is operating at the appropriate level.	96 months	Operations audit

Milestone:    **Personnel**  
4. A.            **Development**

AGOSD, with the assistance of WWCG, must develop a labor force adjustment plan. The plan must be comprehensive and must include the following components:

- analysis and classification of existing labor force by skill and wage level.
- validated projections of labor force requirements for utility company operation of the Alexandria wastewater facilities, classified by skill and wage level.
- inventory of techniques that can be used to assist in the labor force adjustment such as hiring freeze, attrition, early-out program, etc.
- realistic implementation targets for the implementation phase within the five-year program.

Time to Implement:    **24 months**

While such a plan could be developed more quickly it is important that the plan and its implementation be in parallel to the creation and execution of the utility company concept, from-section II, Autonomy. Therefore, the timing of this activity is tracked in parallel to the Autonomy process

Proof of Compliance:

- A completed comprehensive labor force adjustment plan which meets the requirements of AID/Cairo will demonstrate compliance with this milestone action.

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Milestone:     **Personnel**

4. B.            **Adoption**

Once the labor force adjustment plan is prepared and accepted by AID/Cairo, it must be officially adopted by the GOE, the Governorate and AGOSD. It is quite likely that the process of adoption of such a plan may be controversial and both patience and persistence will be required.

Time to Implement: 4. A. + 6 months

Proof of Compliance:

- The appropriate letters and/or resolutions of approval from the cognizant agencies of the GOE, the Governorate and AGOSD will demonstrate proof of compliance with this milestone action.

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Milestone: Personnel

4. C. Implementation

Implementation of the plan begins with the commencement of operations of the new utility company. As an element of the start-up of the new company, the appropriate resolutions should be adopted by the new Board of Directors. Those resolutions would commit the company to the objectives of the program and the step by step time frames for implementation of the detailed program.

Time to Implement: 4. B. + 6 months and/or contemporaneous with 2. D.

Proof of Compliance:

- Review of the resolutions of the Board of Directors of the new utility company will confirm whether or not this milestone action has been accomplished.

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Milestone: Personnel  
4. D. Completion

The labor force adjustment program should have a target completion date as an element of the plan. It is not unreasonable to expect that this type of effort could be phased on a five year cycle. Other cycles, both longer and shorter, could be selected, but WWCG believes that five years is realistic objective.

Time to Implement: 4. C. + 60 months (96 months cumulative)

Proof of Compliance:

- An operations audit of the utility company operations will confirm whether or not the labor force adjustment plan has been successfully completed.

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## CONCLUSION

WWCG has presented in this report a program for implementing institutional reform at AGOSD. WWCG believes that the recommendations contained herein are consistent with the policies that AID/Cairo is pursuing with the GOE for sector adjustment in the water/wastewater sector.

A program of institutional reform at AGOSD, consistent with the objectives of AID/Cairo, is feasible. A program of institutional reform at AGOSD is dependent upon action by the GOE. It is also dependent upon the strengthening of the capacity of AGOSD to transition to an independent utility company. WWCG believes that AID/Cairo recognizes the interrelationship between the two components of the process and will advance policies and programs to insure that actions on the part of the GOE to decentralize authority and control will find an organization capable and competent to take on more responsibility.

In order to summarize the milestone steps that would be required to effect a program of institutional reform at AGOSD, WWCG has prepared Schedule 1 as a summary of the major milestone steps contained in the body of the report.

WWCG would be pleased to review this material in detail with AID/Cairo.

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APPENDIX I

Schedule of Meetings - E.R. Jankel - June/July 1992

<u>Date</u>	<u>Time</u>	<u>Met with:</u>	<u>WWCG Staff:</u>	<u>Notes:</u>
<u>June</u> 16	8:30 AM	D. Vincent, C. McElroy S. Hassan	B. Durham, G. Kinias Ib Elsanmak	Kick-off meeting
21	11:00 AM	Ch. Sewalem, S. Hassan	B. Durham, G. Kinias	Intro to Ch. Sewalem
23	10:00 AM	AGOSD Steering Committee	B. Durham, et al	ERJ observer
	12:00 PM	Ch. Sewalem	B. Durham, G. Kinias	Discussion of milestones, B.D.
24	8:00 AM	M. Gould	(informal)	Institution bldg in WW sector in Egypt
	9:00 AM	O&M Steering Committee	G. Kinias	ERJ observer
	6:00 PM	Ch. Sewalem	G. Kinias	Discuss ISP program Ch. creates AGOSD-ISP Committee
28	7:00 PM	Ch. Sewalem, J. Baker J. Boydston, G. Kinias, S. Hassan	G. Kinias	AID consultant interviews Ch. Sewalem
	9:00 AM	ISP Committee	G. Kinias, Adm Fahmy	Kick-off mtg with AGOSD-ISP Committee
	12:00 N	Eng. Bahgat, Ch. O&M Eng. Kansowa, T.P. RE Eng. Nasr, T.P. GM	Ib Elsanmak Admiral Fahmy	Discussion of ISP
	1:45 PM	Eng. Abdel Salam, Civ des	Ib Elsanmak, Adm Fahmy	Discussion of ISP

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<u>Date</u>	<u>Time</u>	<u>Met with:</u>	<u>WWCG Staff:</u>	<u>Notes:</u>
<u>June</u>	29	8:30 AM	S. Hassan (AID-Alex)	De-briefing on Alex water company
		1:00 PM	Eng. Turk, Mech Const. Eng. Abdullah, Dist Mgr, CZ	Discussion of ISP
	30	1:00 PM	Mr. Hamad Salem	Discussion of ISP
<u>July</u>	01	12:00 N	AGOSD Steering Committee	ERJ Observer
		1:00 PM	Mr. Hassan Abdel Rehim	Discussion of ISP
	06	10:00 AM	Nabil Shehata, Tech OM	Discussion of computerization of AGOSD
	07	11:00 AM	D. Vincent, P. Thorne	Discussion of work in progress
	13	7:00 PM	Ch. Sewalem, Nabil Shehata	Discussion of ISP work plan for AGOSD
	14	10:00 AM	D. Vincent, S. Hassan	AGOSD Milestones, AGOSD ISP work plan
	15	4:00 PM	D. Vincent, S. Hassan	AGOSD Milestones, AGOSD ISP work plan
	16	8:30 AM	P. Thorne	AGOSD Milestones
		1:30 PM	P. Thorne, F. Cooper	AGOSD Milestones

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**APPENDIX II**

**DECREE OF THE PRESIDENT OF THE**

**ARAB REPUBLIC OF EGYPT**

**NO. 363/1979**

**ESTABLISHING**

**THE GENERAL ORGANIZATION FOR**

**SANITARY DRAINAGE IN ALEXANDRIA (AGOSD)**

**ENGLISH VERSION**

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**Decree from the President of A.R.E**  
**No. 363/1979**  
**for Establishing the General Organization for**  
**Sanitary Drainage in Alexandria**  
**(AGOSD)**

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The President,

After reviewing the constitution, and ...

The law No. 93/1962 regarding wastewater disposal, and

The law for the general organization for which the law No. 61/1963 was issued,  
and ...

The Decree from the President of the Republic No. 1637/1968 for establishing  
the General Organization for sewerage and sanitary drainage, and ...

The law for the local governing system that was issued by the law No. 43/1979,  
and ...

The Decree from the President of the Republic No. 135/1979

The following has been decided:

**Article 1:**

A general organization is to be established and be nominated as the General Organization for Sanitary Drainage for the Governorate of Alexandria. It should have its self-esteemed identity and follow the Governor of Alexandria. Its location is to be the city of Alexandria. It should abide by the laws applied by the general organizations.

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**Article 2:**

The General Organization for Sanitary Drainage in Alexandria (AGOSD) is the authorized agency for sewerage public works and sanitary drainage in the Governorate of Alexandria. In this respect it has the following authorities:

1. Administration as well as operation and maintenance of Alexandria sewerage system utility. In this effect it should perform all that is needed regarding expansion and support of the utility as well as providing for the necessary materials and equipment required for its support and expansion.
2. Preparing the detailed general plans for the projects and sewerage works and sanitary drainage within the boundaries of the Government of Alexandria.
3. Performing the studies and the applied researches related to the sewerage and sanitary drainage affairs, as well as preparing the designs, conditions, the technical and standard specifications and issuing the project contracts.
4. Launching the projects for tendering and, performing and awarding the local and outside practices as well as contracting and supervising its execution.

**Article 3:**

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AGOSD board of directors is the supreme authority that supervise and administer its affairs. It has the right to take what deems necessary of

decisions to fulfill the purpose for which AGOSD has been established; especially the following:

1. Issuing the general policy of the Organization.
2. Issuing the plans, projects and works that the organization should execute and planning for the executive progress.
3. Approving of the general conditions that the construction of the sewerage system and sanitary drainage projects should abide by, and also approving the results of the researches.
4. Issuing the internal regulations for the disciplinary decisions pertaining to the financial and administrative affairs for AGOSD and its staff.
5. Planning for the training system with the object of promoting the efficiency of productivity.
6. Approving of the project of the annual budget as well as the final accounting of AGOSD.
7. Reviewing the periodic reports on the work flow of AGOSD as well as its financial position.
8. Signing for loans in compliance with the law.
9. Reviewing what the Governor of Alexandria, or, the Chairman of the Board of Directors sees of matters that need to be submitted and are within the jurisdiction of AGOSD. It is allowable for the Board of Director to authorize the Chairman, or, to any of its committees with some of its

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responsibilities. It is also allowable for the Board of Directors to delegate one of the members or any director to perform a limited task.

Article 4:

AGOSD Board of Directors has the right to authorize AGOSD to authorize AGOSD to perform its objectives outside the Governorate of Alexandria if it is requested to do so.

Article 5:

AGOSD Board of Directors is to be formulated as follows:

- The Chairman is to be appointed and its estimated by a resolution from the Prime Minister.
- AGOSD Director General for financial and administrative affairs.
- The Vice-Minister of Housing in the Governorate of Alexandria.
- The Vice-Ministers of Health in the Governorate of Alexandria.
- The legal Counsellor of the Governorate of Alexandria.
- The deputy Chairman, Board of Director for Technical Affairs of Alexandria General Water Authority.
- Not more than two members experienced in the sewerage and sanitary drainage affairs to be selected for two years by the Governorate of Alexandria.

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**Article 6:**

The Board of Directors is to be held at least once every month upon an invitation from the Chairman and whenever the Governor of Alexandria or the Chairman sees necessary. If the Governor attends the meeting he is to be the Chairman of session. The meeting cannot be legal unless the majority of the members attend it, and decisions are to be issued by the viewpoint of the attending members. In case of equality in voting the opinion of the Chairman preponderates the group he shares the opinion with. In case of absence of the Chairman Board of Directors, the eldest of the directors takes over and calls the Board for the meeting under his Chairmanship of the sessions. Discussions during the sessions and decisions taken by the Board of Directors are to be inscribed in a report signed by the Chairman.

**Article 7:**

The Chairman of the Board of Directors notifies the Governor of Alexandria about the decisions taken by AGOSD Board of Directors, within seven days of its issuance, for approval, except for the decisions that necessitate issuance of resolutions from another authority.

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**Article 8:**

AGOSD Chairman, Board of Directors takes over its administration and solution of its affairs in compliance with the rules of the law for the general organizations and this Decree as well as the regulations issued by AGOSD Board of Director. The Chairman is to be responsible for executing the general policy that is planned to achieve all AGOSD objectives, and also, for executing the decisions of the Board of Directors. He can delegate one director or more as regards some of his jurisdictions. The Chairman of the Board of Directors represents AGOSD in its connections with others as wells in front of the judicial litigations.

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Article 9:

AGOSD resources are composed of the following:

1. The revenues resulting of its activities.
2. All the estimated funds for AGOSD in the State Budget.
3. The donations and contributions that the Board of Directors accepts.
4. The loans that are signed within limits of the rules of the law.

All AGOSD funds are to be considered as public funds from all aspects.

Article 10:

AGOSD budget is to be an independent budget, that abides, in its preparations, with all the applied rules in the law for the State General Budget. It also, must have a final computation. The Chairman of the Board of Directors or his representative, prepares the project of the budget and submits it to the Board of Directors for approval in due time.

Article 11:

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As regards review and control over the accounts of AGOSD, the rules of the laws and the decisions issued in respect of controlling and reviewing AGOSD general accounts are to be applied.

Article 12:

The rules of the system for civil workers in the State are to be applied on all

AGOSD staff. AGOSD Board of Directors can arrange for other systems that may deem suitable for the nature of its activity.

**Article 13:**

All employees working in the departments of maintenance, operation and projects in the sewerage system utility of Alexandria are to be transferred to AGOSD. All the necessary regulations are to be applied for transferring the employment grades of those employees, with all that is being specified for them of bonuses and the like, to AGOSD budget and also the approval grades by the Central Organization for Discipline and Administration, and the Ministry of Finance that were being specified for the sewerage system utility. Also, the regulations that are necessary should be taken in respect of the transfer of all the funds that are pertinent to AGOSD from the funds specified for the General Organization for Sewerage and Sanitary Drainage (GOSSD) in the budget upon agreement between the Minister of Finance and the Minister of Housing.

**Article 14:**

All funds, properties, rights, and obligations of Alexandria sewerage system are to be dissolved to AGOSD with the pumping station, the networks, constructions that are related to it and and that complete it.

**Article 15:**

In order to acquire all its rights, AGOSD has the right to take action for administrative distraint and execution in accordance with the regulations of the distraint law.

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**Article 16:**

Work is to continue in compliance with the systems and regulations that are dominant as regards the sewerage system utility with its workers until AGOSD issues the substitute provided it does not contradict with the rules of this resolution.

**Article 17:**

This decree is to be published in the Official Journal, and is to be applied as of the date of its issuance.

Issued at the Presidency on 23 Ramadan 1399 H, 21 August 1979

Hossny Mubarak

Secretary General  
Ministerial Cabinet  
Ali Fawzy Younis

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AGOSD ACTION PLAN  
FOR INSTITUTIONAL REFORM

Appendix V

Report to AID/Cairo

Preliminary Determination of Financial Need

Alexandria General Organization for Sanitary Drainage

**REPORT TO AID/CAIRO**

**PRELIMINARY DETERMINATION OF FINANCIAL NEED**

**ALEXANDRIA GENERAL ORGANIZATION FOR SANITARY DRAINAGE**

**WASTEWATER CONSULTANTS GROUP**

**END OF KAFR ABDOU ST.  
ROUSHDY, ALEXANDRIA  
ARAB REPUBLIC OF EGYPT**

## Introduction

In July 1992 Mr. Dan Vincent, the U.S. AID/Cairo Project Officer for the Alexandria Wastewater Project requested that WWCG prepare a preliminary determination of financial need for the Alexandria General Organization for Sanitary Drainage (AGOSD). This preliminary determination of financial need was to evaluate AGOSD's requirements as if AGOSD was an independent utility company and not an instrumentality of the Government of Egypt.

In order to carry-out the project, WWCG maximized the use of in-country resources. The accounting firm of KPMG Hazem Hassan under the direction of Mohamed A. Ghaffar El Saied provided field accounting services. Mr. Steve Johnson of KPMG and assigned to the Canal Cities II project based in Cairo was utilized to assist in the project design. Mr. Eric Jankel, a utility management expert directed the overall project on a TDY basis. He arrived in Egypt on 9 August 1992 and departed the country on 28 August 1992. Preliminary project planning meetings were held on 10 and 11 August. The field work portion of the project was carried-out in Alexandria from 16 to 26 August 1992.

Mr. Hank Padgham, Project Director and Mr. George Kinias, O&M Director provided assistance for the project and the entire support staff of WWCG provided support for the project effort.

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Background material utilized as resources to carry-out the project included:

- "Estimated Cost-to-Operate for USAID Funded Facilities and Integrated Existing Pump Stations", Draft Report by WWCG, May 1990
- "Interim O&M Budget and Recommendations Report", Draft Report by WWCG, 17 June 1992 and a revision of the same report dated 9 August 1992.

### Limitations of the Analysis

This report represents the best professional effort of WWCG to develop a preliminary determination of the financial need to properly operate, maintain and replace the Alexandria wastewater system. An outside time parameter of two weeks of field work was allocated by AID/Cairo to this effort. WWCG was able to complete this effort in the time allocated because of prior data gathering and analysis done by WWCG in 1990 and 1992.

WWCG focused its review on Divisions I and II of the AGOSD budget, as defined by the Egyptian governmental budget system. Divisions III and IV were not reviewed as they are not so closely associated with the operations and maintenance functions of the system. In addition, certain items such as interest and taxes were excluded, as under the current system they are essentially intergovernmental transfers and are not closely related to the system operations and maintenance costs.

It must be recognized that this report is an important first step, and not a substitute for, the development of a complete cost-of-service study for the Alexandria system. As noted in greater detail in the body of this report, there are areas where there is a high degree of uncertainty as to specific cost components. The reader is advised to view the figures contained herein as preliminary and any and all policy discussions which utilize the figures contained herein should reflect this fact.

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### Summary

Self-sustaining utility companies should have the means to raise and spend the funds necessary to adequately operate, maintain and replace the physical plant for which they are responsible. The purpose of this effort was to assess the actual current costs of AGOSD, evaluate the financial needs of AGOSD to properly operate, maintain and replace the

wastewater system in Alexandria and project a determination of financial need for operation of those facilities under the concept of a self-sustaining utility.

In addition to completing the task, the field work and analysis have documented certain existing GOE policies which mitigate against the sustained proper operation of the wastewater facilities. Those policies are identified in the report as "additional findings". Each finding represents an area where effort should be directed in the process of converting AGOSD to a self-sustaining utility operation.

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### Determination of Financial Need

In order for AGOSD to operate the wastewater facilities as a self-sustaining utility company WWCG projects a financial need, in 1992 LE. of:

**LE 35,000,000 ± 10%**

Schedule 1. provides a summary statement of the determination of financial need in the pro-forma year. For the purpose of this report, the pro-forma year represents that year in which the utility will be expected to be operating on a utility basis.

Schedule 2. provides a more detailed determination of the adjustments and the phase-in schedule for the increasing cost level for AGOSD over the period FY 92-93 through FY 95-96. Certain assumptions have been made in the key cost areas of: electricity and replacement reserve. These assumptions have a material effect on the validity of the projections.

#### Summary of Schedule 2.

(in millions 1992 LE)

	Allocation 92-93	Adjusted 92-93	Projected 93-94	Projected 94-95	Projected 95-96
<b>Total</b>	14.9	21.3	24.0	29.1	35.3

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Schedule 1.

Summary of Preliminary Determination of Financial Need  
for Operation of the Alexandria Wastewater Facilities  
in the Projected Pro-Forma Year<sup>1</sup> (in 1992 LE)

1. Wages and Salaries	15,000,000
2. Recurring Expenses	
2.A. Energy and Fuel	7,000,000
2.B. Spare Parts	3,500,000
2.C. Maintenance	1,012,000
2.D. Rent & Utilities	1,000
2.E. Chemicals	3,200,000
2.F. Other Misc. Expenses	656,000
Sub-Total	30,369,000
3. Replacement Reserve	5,000,000
<b>GRAND TOTAL</b>	<b>35,369,000</b>

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<sup>1</sup>. It appears that there will be a two to three-year phase-in period to reach the projected pro-forma year. See Schedule 2.

## Findings

### 1. Wages

The category of wages includes line items for basic wages, bonuses, allowances, benefits and social security. During the course of the field work WWCG was able to confirm the total annual cost for these items in FY 92-93 at LE 13.6 million. WWCG was not able to confirm the number of employees by district or facility. WWCG has requested that AGOSD develop additional personnel data to begin the process of a human resource plan for staffing all AGOSD facilities after start-up of the new facilities in July 1993. (See Padgham memo to Chairman Sewalem of 26 August 1992) For the purpose of this report WWCG is using an unconfirmed total figure of 4790 existing employees at AGOSD

In order to project an amount for wages, the WWCG O&M section developed a recommended staffing program for AGOSD. The total staffing requirement is projected based upon a figure of 4036 employees. It should be noted that this figure could be refined. However, WWCG can not make any further refinement of this figure until additional data is developed and provided by AGOSD.

Utilizing the 4036 figure, WWCG provided an allowance for increasing the basic wage and an allowance for increasing the incentive and bonus funds available to management. The per employee overall annual wage burden therefore changes from LE 2840 to LE 3715. WWCG believes that an increase in the per employee wage burden is an important component of the transition from the current situation at AGOSD to management of a self-sustaining utility.

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### 2.A. Energy and Fuel

Wastewater utilities demand high volumes of electric energy to operate the motors, pumps and other mechanical equipment required in the treatment process. It is not unusual for the cost of electricity to range from 8% to 17%<sup>2</sup> of the total operating costs of wastewater utilities. AGOSD will not be an exception to this rule.

The immediate difficulty in projecting costs for electricity is establishing an actual consumption projection for AGOSD. WWCG has a high degree of confidence in its consumption projections for the AID-funded facilities. Total consumption for those facilities is projected at 35.3 million KWH/year. WWCG can not confirm the consumption for the existing AGOSD facilities and WWCG has recommended that AGOSD, assisted by WWCG, engage in a systematic review and documentation of all electric service at AGOSD. (See Padgham memo to Chairman Sewalem of 26 August 1992)

Additionally, WWCG can not confirm the true cost of electricity for AGOSD. The AGOSD allocation from the Ministry of Finance for FY 92-93 includes an amount of LE 85,000 for electricity. AGOSD received actual invoices from the power company for FY 90-91 and FY 91-92 for over LE 5,000,000 in each of those years.

There is a further question of the extent to which the GOE subsidizes the cost of electricity to the users throughout Egypt.

Until the total consumption requirement for AGOSD can be confirmed, and until the true cost of that electricity can be confirmed with the Ministry of Power, WWCG provided an allowance of LE 7,000,000 for total energy requirements. This allowance

## 2.B. Spare Parts

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<sup>2</sup> World Bank Technical Paper No. 73, Water Pollution Control, Guidelines for Project Planning and Financing, pp 165-170.

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The projection of an allowance for spare parts is based upon the requirements of the utility to properly operate and maintain the facilities now operating and under construction in Alexandria, including the large quantity of heavy equipment involved in the sludge hauling and disposal operations. The projection is based upon the requirements defined by the WWCG O&M section.

It should be noted that the allowance for spare parts can be phased-in over a period of time based upon the quantity of spare parts that are purchased through Phase I of the Alexandria Wastewater Project. That is, if two years of spare parts are provided then AGOSD will increase expenses for spare parts more quickly than if AID provides five years of spare parts. For the purpose of this report, it is assumed that two-years of spare parts will be provided. See Schedule 2.

#### 2.C. Maintenance

For the purpose of this report, the figure utilized for the requirement for maintenance of AGOSD facilities is derived from the budget requests submitted by AGOSD to the Ministry of Finance. For the FY 92-93 AGOSD requested LE 1,012,000 from the Ministry. (See Appendix II, Schedule No 1) Future efforts to refine the determination of financial need for AGOSD should review this item in more detail.

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#### 2.D. Rent and Utilities

For the purpose of this report, the figure utilized for the requirement for rent and utilities is derived from the budget requests submitted by AGOSD to the Ministry of Finance. For the FY 92-93 AGOSD requested LE 1,000 from the Ministry. (See Appendix II, Schedule No.1) Future efforts to refine the determination of financial need for AGOSD should review

this item in more detail.

## 2.E. Chemicals

Operation of the mechanical dewatering facilities (belt filter presses) at the West Treatment Plant will require addition of polymer in the dewatering process. At the present time there are no known manufacturing sources of suitable polymer within Egypt. Therefore, for the purpose of this report, it is assumed that all polymer will be imported. The volume requirements for polymer were derived from the WWCG-prepared BODR for the Mechanical Sludge Dewatering System, dated May 1989. It should be noted that the actual utilization rates and specific type of polymer which will be utilized can not be determined until the contractor actually pilot tests various polymers on the installed presses using Alexandria sludge. Specific sludge characteristics can demand significant variations in feed and dilution rates. These rates have a direct impact on the total cost of the polymer.

WWCG has applied current polymer costs to its 1989 engineering/design criteria to derive the LE 3,200,000 figure. Once a determination has been made as to the type of polymer to be utilized in Alexandria, the feed rates and dilution rates can be more closely specified. At that time a recalculation of polymer cost should be made.

It should also be pointed out that under the contract for the installation of the belt presses requires that the contractor supply AGOSD with a two-year supply of the selected polymer. This will postpone the budgetary impact of this new cost item. See Schedule 2.

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## 2.F. Other Miscellaneous Expenses

For the purpose of this report, the figure utilized for the requirement for rent and other miscellaneous expenses is derived from the budget requests submitted by AGOSD to the

Ministry of Finance. For the FY 92-93 AGOSD requested LE 636,000 from the Ministry. (See Appendix II, Schedule No.1) Future efforts to refine the determination of financial need for AGOSD should review this item in more detail.

### 3. Replacement Reserve

AID/Cairo specifically requested that WWCG make a recommendation in this report regarding a mechanism for AGOSD to address the question of capital cost recovery, or replacement reserve. A replacement reserve is a fund in which a utility sets money aside to cover the future expense of replacing fixed equipment, rolling stock, and other capital facilities. By United States standards, a replacement reserve is considered an essential component of the "proper" operation of wastewater utilities. That being the case, there is no consensus on how to calculate the requirement for the reserve. One prudent method would be the following:

1. Inventory all fixed equipment and rolling stock via an asset inventory
2. Establish a "landed replacement cost" for each item
3. Establish a depreciation/useful life schedule for categories of items, i.e.  
trucks - 5 years, large motors - 7 years, etc.
4. Apply the schedule to the replacement cost for the item and include the cumulative annual amount in the replacement reserve.
5. Draw upon the reserve fund to purchase new equipment when replacement is necessary.

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Such a procedure requires significant "up-front" effort to establish the system and was outside the scope of this project.

For the purpose of this report WWCG has utilized a more direct approach. U.S. based

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wastewater utilities have been known to establish an annual replacement reserve requirement using a flat percentage method. The flat percentage method derives a figure as a function of the operating revenues of the utility. The range is generally between 10% and 20% of operating revenues. Based upon the pro-forma projection in Schedule 1. of an operating requirement of LE 30,369,000, WWCG has derived 16.4%, or LE 5,000,000, as the amount for the replacement reserve. At this point in time, it may be of more importance to establish the concept of funding a replacement reserve while allowing the process of fixing the precise amount to be established utilizing the asset inventory methodology outlined above. An allowance of LE 5,000,000, with a phase-in schedule as presented in Schedule 2., is recommended.

It should also be noted that within Division III, Section A of the existing AGOSD budget there is an amount provided by the Ministry of Finance for rehabilitation/overhaul of equipment that has been documented by technical report as broken beyond "repair". Future analysis should examine this item more closely as it may, subject to a change in GOE budgeting policy, provide a source of funding for preventative maintenance programs at AGOSD.

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Schedule 2.

Recommended Full Funding Phase-In Schedule

(in 1992 I.E)

	Allocation 92-93	Adjusted 92-93	Projected 93-94	Projected 94-95	Pro forma 95-96
<b>1. Wages and Salaries</b>	13,660,000	13,660,000	14,000,000	14,500,000	15,000,000
<b>2. Recurring Expenses</b>					
2.A. Energy & Fuel	354,000	6,824,000	7,000,000	7,000,000	7,000,000
2.B. Spare Parts	550,000	550,000	1,000,000	2,250,000	3,500,000
2.C. Maintenance	122,000	122,000	500,000	750,000	1,012,000
2.D. Rent & Utilities	1,000	1,000	1,000	1,000	1,000
2.E. Chemicals	-	-	-	1,600,000	3,200,000
2.F. Other Misc. Expenses	182,000	182,000	250,000	500,000	656,000
<b>Sub-Total</b>	<b>14,869,000</b>	<b>21,339,000</b>	<b>22,751,000</b>	<b>26,601,000</b>	<b>30,369,000</b>
<b>3. Replacement Reserve</b>			1,250,000	2,500,000	5,000,000
<b>GRAND TOTAL</b>	<b>14,869,000</b>	<b>21,339,000</b>	<b>24,001,000</b>	<b>29,101,000</b>	<b>35,369,000</b>

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### Additional Findings

In addition to the findings and recommendations developed in support of the preliminary determination of financial need for AGOSD, WWCG would offer the following additional findings to AID/Cairo.

#### AF. 1. Underfunding at AGOSD

WWCG has found that there is a basis for statements made by AGOSD managers regarding the lack of funding for the operations and maintenance of the existing system. Within the line items of Division II of the budget, which supports the operation and maintenance of the facilities, AGOSD has received substantially less than it requested from the Ministry of Finance. (At this point in time WWCG can not make any subject judgement as to the validity of the amounts requested.)

#### Division II Amounts

(in LE 000)

	<u>Request</u>	<u>Allocated</u>	<u>% Allocated</u>
FY 90-91	2208	1660	75 %
FY 91-92	3022	2084	69 %
FY 92-93	4379	1209	28 %

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#### AF. 2. Preventative Maintenance

There are serious structure problems within the GOE system for successful implementation of preventative maintenance systems. The two major problems appear to be

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philosophical/managerial and budgetary. The philosophical/management problems appears to be a belief on the part of managers and governmental officials that a program of preventative maintenance costs more than a program of "run it until it breaks and then fix it". Some consideration should be given to demonstrating the relative costs of both approaches.

Second, the existing governmental budgeting system, in which AGOSD operates, does not provide funds to support a comprehensive preventative maintenance program. This could be corrected in the short term by modifying the system. In the long term, a self-sustaining, autonomous utility company concept will provide the necessary budgetary flexibility.

#### AF 3. Overhead Calculation

During the course of the field work for this project, WWCG has made a calculation of the current overhead rate for AGOSD. It would appear that the current overhead rate is in the order of 148%.

Based upon experience with large wastewater utilities in the United States, an overhead rate of 125% appears reasonable. This difference would suggest that there are areas within AGOSD organization where greater efficiency can be realized.

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FOR INSTITUTIONAL REFORM

Appendix VI

Preliminary Water and Wastewater Surcharge Data <sup>1</sup>

- A. Water Consumption, Fees Rate and Sanitary Drainage Data - Period ending June 30, 1989
- B. Water Consumption, Fees Rate and Sanitary Drainage Data - Period ending June 30, 1990
- C. Water Consumption, Fees Rate and Sanitary Drainage Data - Period ending June 30, 1991
- D. Water Consumption, Fees Rate and Sanitary Drainage Data - Period ending June 30, 1992
- E. Water and Drainage Surcharge Billings and Collections Forecast - Fiscal Year 92/93

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<sup>1</sup> Based upon information made available by the Alexandria Water Authority

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**WATER CONSUMPTION, FEES RATE AND SANITARY DRAINAGE  
SURCHARGE DATA ANALYZED ACCORDING TO USAGE CATEGORY FOR THE  
PERIOD FROM JULY 88 TO JUNE 89  
IN THOUSANDS**

Use Category	Water				Sanitary Drainage				
	Potable Water with Meter (A) Alexandria area	Volume in Cubic Meter	Effective Rate (Pt.)	Value (Billing) LE	Collection LE	Volume in Cubic Meter	Effective Rate (Pt.)	Value (Billing) LE	Collection LE
1. Domestic Use		160,100	6.63	10,618					
2. Filter Water for non-domestic purpose.									
2.1 Commercial activities & other miscellaneous participant		10,000	22.56	2,256					
2.2 Large Productive Factories		48,300	16.00	7,728					
2.3 Touristic & Investment Use		7,300	9.11	665					
2.4 Construction & Building Service		1,500	16.00	241					
2.5 Governmental (authorities)		22,900	15.00	3,432					
2.6 Service Use		2,400	5.51	130					
2.7 Alexandria Port.		300	399.33	1,198					
Subtotal		92,700	16.88	15,648					
Total (A)		252,800	10.39	26,266					

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Service Use: (Sport Clubs, youth care centers, registered charitable societies)

- 10% from these collections are kept with Water Authority as billing and collection remains charges while the remaining balance is paid (i.e. reimbursed) to Sanitary & Drainage Authority after deducting any other claims and expenses.

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**WATER CONSUMPTION, FEES RATE AND SANITARY DRAINAGE  
SURCHARGE DATA ANALYZED ACCORDING TO USAGE CATEGORY FOR THE  
PERIOD FROM JULY 88 TO JUNE 89  
IN THOUSANDS**

Use Category  (B) El Amria and North Coast	Water				Sanitary Drainage			
	Volume in Cubic Meter	Effective Rate (Pt.)	Value (Billing) LE	Collection LE	Volume in Cubic Meter	Effective Rate (Pt.)	Value (Billing) LE	Collection* LE
1. Domestic Use	8,000	6.96	557					
2. Filter Water for non-domestic purpose.								
2.1 Commercial activities & other miscellaneous participant	3,600	15.11	544					
2.2 Large Productive Factories	5,800	15.60	905					
2.3 Tounstic & Investment Use	1,300	30.92	402					
2.4 Construction & Building Service	-	-	1					
2.5 Governmental (authorities)	5,100	16.96	865					
2.6 Service Use			2					
Subtotal	15,800	17.21	2,719					
Total (B)	23,800	13.76	3,275					
Total Potable Water with meter (A) & (B)	276,600	10.68	29,541					
Total Potable Water without meter			286					
<u>Send</u> Total Unfiltered (turbid) water			9					
Grand Total**			29,835			1,988	1,619	

\*\* Analysis of Sanitary Drainage Surcharge according to usage category is performed on a judgmental basis.

S.D. surcharge is about 6.66% of water billing.

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**WATER CONSUMPTION, FEES RATE AND SANITARY DRAINAGE  
SURCHARGE DATA ANALYZED ACCORDING TO USAGE CATEGORY FOR THE  
PERIOD FROM JULY 89 TO JUNE 90  
IN THOUSANDS**

Use Category	Water				Sanitary Drainage				
	Potable Water with Meter (A) Alexandria area	Volume in Cubic Meter	Effective Rate (Pt.)	Value (Billing) LE	Collection LE	Volume in Cubic Meter	Effective Rate (Pt.)	Value (Billing) LE	Collection* LE
1. Domestic Use		173,400	7.29	12,652					
2. Filter Water for non- domestic purpose.									
2.1 Commercial activities & other miscellaneous participant		15,600	15.00	2,337					
2.2 Large Productive Factories		47,500	18.99	9,022					
2.3 Touristic & Investment Use		2,100	31.05	652					
2.4 Construction & Building Service		2,400	18.67	448					
2.5 Governmental (authorities)		24,300	15.03	3,653					
2.6 Service Use		2,600	6.46	167					
2.7 Alexandria Port.		300	399.00	1,197					
Subtotal		94,800	18.43	17,476					
Total (A)		268,200	11.23	30,129					

Service Use: (Sport Clubs, youth care centers, registered charitable societies)

- 10% from these collections are kept with Water Authority as billing and collection remains charges while the remaining balance is paid (i.e. reimbursed) to Sanitary & Drainage Authority after deducting any other claims and expenses.

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**WATER CONSUMPTION, FEES RATE AND SANITARY DRAINAGE  
SURCHARGE DATA ANALYZED ACCORDING TO USAGE CATEGORY FOR THE  
PERIOD FROM JULY 89 TO JUNE 90  
IN THOUSANDS**

Use Category  (B) El Amria and North Coast	Water				Sanitary Drainage			
	Volume in Cubic Meter	Effective Rate (Pt.)	Value (Billing) LE	Collection LE	Volume in Cubic Meter	Effective Rate (Pt.)	Value (Billing) LE	Collection* LE
1. Domestic Use	8,500	8.06	687					
2. Filter Water for non-domestic purpose.								
2.1 Commercial activities & other miscellaneous participant	1,400	15.07	213					
2.2 Large Productive Factories	11,100	16.90	1,867					
2.3 Touristic & Investment Use	2,100	35.00	741					
2.4 Construction & Building Service	-	19.00	11					
2.5 Governmental (authorities)	4,900	18.70	917					
2.6 Service Use	500	7.67	35					
Subtotal	20,000	18.92	3,784					
Total (B)	28,500	15.67	4,471					
Total Potable Water with meter (A) & (B)	296,700	11.66	34,600					
Total Potable Water without meter			337					
<u>Send</u> Total Unfiltered (turbid) water			139					
Grand Total**			35,075			2,278	1,966	

\*\* Analysis of Sanitary Drainage Surcharge according to usage category is performed on a judgmental basis.

S.D. surcharge is about 6.49% of water billing.

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**WATER CONSUMPTION, FEES RATE AND SANITARY DRAINAGE  
SURCHARGE DATA ANALYZED ACCORDING TO USAGE CATEGORY FOR THE  
PERIOD FROM JULY 90 TO JUNE 91  
IN THOUSANDS**

Use Category	Water				Sanitary Drainage				
	Potable Water with Meter (A) Alexandria area	Volume in Cubic Meter	Effective Rate (Pt.)	Value (Billing) LE	Collection LE	Volume in Cubic Meter	Effective Rate (Pt.)	Value (Billing) LE	Collection* LE
1. Domestic Use		178,900	9.33	16,699					
2. Filter Water for non- domestic purpose.									
2.1 Commercial activities & other miscellaneous participant		15,400	18.78	2,893					
2.2 Large Productive Factories		46,800	25.06	11,724					
2.3 Touristic & Investment Use		4,100	48.41	1,985					
2.4 Construction & Building Service		2,900	23.65	686					
2.5 Governmental (authorities)		23,700	15.93	3,780					
2.6 Service Use		3,500	8.3	294					
2.7 Alexandria Port.		300	425.33	1,276					
Subtotal		96,700	23.41	22,638					
Total (A)		275,600	14.27	39,336					

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Service Use: (Sport Clubs, youth care centers, registered charitable societies)

- 10% from these collections are kept with Water Authority as billing and collection remains charges while the remaining balance is paid (i.e. reimbursed) to Sanitary & Drainage Authority after deducting any other claims and expenses.

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**WATER CONSUMPTION, FEES RATE AND SANITARY DRAINAGE  
SURCHARGE DATA ANALYZED ACCORDING TO USAGE CATEGORY FOR THE  
PERIOD FROM JULY 90 TO JUNE 91  
IN THOUSANDS**

Use Category  (B) El Amria and North Coast	Water				Sanitary Drainage			
	Volume in Cubic Meter	Effective Rate (Pt.)	Value (Billing) LE	Collection LE	Volume in Cubic Meter	Effective Rate (Pt.)	Value (Billing) LE	Collection LE
1. Domestic Use	10,900	9.83	1,071					
2. Filter Water for non-domestic purpose.								
2.1 Commercial activities & other miscellaneous participant	4,900	18.13	888					
2.2 Large Productive Factories	8,300	24.42	2,027					
2.3 Touristic & Investment Use	3,300	45.99	1,518					
2.4 Construction & Building Service	100	18.88	18					
2.5 Governmental (authorities)	7,900	18.94	1,496					
2.6 Service Use	300	8.60	26					
Subtotal	24,800	24.08	5,973					
Total (B)	35,700	19.70	7,045					
Total Potable Water with meter (A) & (B)	311,300	14.90	46,382					
Total Potable Water without meter			405					
Send Total Unfiltered (turbid) water			466					
Grand Total**			47,253			3,928	2,570	

\*\* Analysis of Sanitary Drainage Surcharge according to usage category is performed on a judgmental basis.

S.D. surcharge is about 8.31% of water billing.

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**WATER CONSUMPTION, FEES RATE AND SANITARY DRAINAGE  
SURCHARGE DATA ANALYZED ACCORDING TO USAGE CATEGORY FOR THE  
PERIOD FROM JULY 91 TO JUNE 92  
IN THOUSANDS**

Use Category	Water				Sanitary Drainage				
	Potable Water with Meter (A) Alexandria area	Volume in Cubic Meter	Effective Rate (Pt.)	Value (Billing) LE	Collection LE	Volume in Cubic Meter	Effective Rate (Pt.)	Value (Billing) LE	Collection* LE
1. Domestic Use		187,400	11.16	20,930					
2. Filter Water for non- domestic purpose.									
2.1 Commercial activities & other miscellaneous participant		15,900	25.41	4,040					
2.2 Large Productive Factories		49,000	31.03	15,204					
2.3 Touristic & Investment Use		5,200	58.01	3,020					
2.4 Construction & Building Service		3,900	28.22	1,100					
2.5 Governmental (authorities)		23,400	20.30	4,749					
2.6 Service Use		3,300	9.10	300					
2.7 Alexandria Port.		300	435.93	1,307					
Subtotal		101,000	29.40	29,723					
Total (A)		288,400	17.56	50,653					

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Service Use: (Sport Clubs, youth care centers, registered charitable societies)

- 10% from these collections are kept with Water Authority as billing and collection remains charges while the remaining balance is paid (i.e. reimbursed) to Sanitary & Drainage Authority after deducting any other claims and expenses.

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**WATER CONSUMPTION, FEES RATE AND SANITARY DRAINAGE  
SURCHARGE DATA ANALYZED ACCORDING TO USAGE CATEGORY FOR THE  
PERIOD FROM JULY 91 TO JUNE 92  
IN THOUSANDS**

Use Category (B) El America and North Coast	Water <sup>1</sup>				Sanitary Drainage			
	Volume in Cubic Meter	Effective Rate (Pt.)	Value (Billing) LE	Collection LE	Volume in Cubic Meter	Effective Rate (Pt.)	Value (Billing) LE	Collection LE
1. Domestic Use	9,000	12.49	1,124					
2. Filter Water for non-domestic purpose.								
2.1 Commercial activities & other miscellaneous participant	4,700	23.40	1,100					
2.2 Large Productive Factories	8,300	29.41	2,441					
2.3 Touristic & Investmetn Use	3,800	55.70	2,116					
2.4 Construction & Building Service	200	28.93	57					
2.5 Governmental (authorities)	10,800	22.04	2,380					
2.6 Service Use	2,200	12.82	282					
Subtotal	30,000	27.93	8,378					
Total (B)	39,000	24.36	9,502					
Total Potable Water with meter (A) & (B)	327,400	18.37	60,155					
Total Potable Water without meter			526					
Send Total Unfiltered (turbid) water			490					
Grand Total **			61,172			7,510	5,712	

\*\* Analysis of Sanitary Drainage Surcharge according to usage category is performed on a judgmental basis.

S.D. surcharge is about 12.28% of water billing.

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**WATER AND DRAINAGE SURCHARGE BILLINGS AND  
COLLECTION FORECAST FOR THE  
FISCAL YEAR 92/93 IN THOUSANDS**

Period 92/93 Potable Water with Meter (A) Alexandria area	Projection for Water				Projection for Sanitary Drainage <sup>1</sup>			
	Volume In Cubic Meter	Rate (Pt.)	Value (Billing) (LE)	Collection LE	Volume In Cubic Meter	Rate (Pt.)	Value (Billing) LE	Collection <sup>2</sup> LE
1. Domestic Use	206,140	13.39	27,602					
2. Filter Water for non-domestic purpose.								
2.1 Commercial activities & other miscellaneous participant	17,490	30.49	5,333					
2.2 Large Productive Factories	53,900	37.24	20,072					
2.3 Touristic & Investment Use	5,720	69.61	3,982					
2.4 Construction & Building Service	4,290	33.86	1,453					
2.5 Governmental (authorities)	25,740	24.36	6,270					
2.6 Service Use	3,630	10.92	396					
2.7 Alexandria Port.	330	523.12	1,726					
Subtotal	111,100	35.31	39,232					
Total (A)	317,240	21.07	66,834					

Service Use: (Sport clubs, youth care centers, registered charitable societies)

This projection is based on 91/92 financial figures in addition to an estimate of 10% as increment of the volume consumption and an average increase of 20% in the rate applied. However, estimate for the period 93/95 was not prepared due to the lack of available information.

<sup>1</sup> Areas which do not benefit from Sanitary Drainage services during this projection period (92/93) are as follows: El Agamy, North Coast, Maryout, El Dekhela, and some areas in Abu Qir, El Asafra (south railway) and El Mandara (south railway).

<sup>2</sup> The average collection period is about 3 months, consequently billing for the last 3 months of the fiscal year is being collected in the following fiscal year

**WATER AND DRAINAGE SURCHARGE BILLINGS AND  
COLLECTION FORECAST FOR THE  
FISCAL YEAR 92/93 IN THOUSANDS**

Period 92/93 Potable Water with Meter (B) El America & North Coast	Projection for Water				Projection for Sanitary Drainage <sup>1</sup>			
	Volume in Cubic Meter	Rate (Pt.)	Value (Billing) (LE)	Collection LE	Volume in Cubic Meter	Rate (Pt.)	Value (Billing) LE	Collection <sup>2</sup> LE
1. Domestic Use	9,900	14.99	1,484					
2. Filter Water for non-domestic purpose.								
2.1 Commercial activities & other miscellaneous participant	5,170	28.08	1,452					
2.2 Large Productive Factories	9,130	35.29	3,222					
2.3 Touristic & Investment Use	4,180	66.84	2,794					
2.4 Construction & Building Service	220	34.72	76					
2.5 Governmental (authorities)	11,880	26.45	3,142					
2.6 Service Use	2,420	15.38	372					
Subtotal	33,000	33.51	11,058					
Total (B)	42,900	29.23	12,542					
Total Potable Water with meter (A) & (B)	360,140	22.04	79,376					
Total Potable Water without meter			579					
Send Total Unfiltered (turbid) water			539					
Grand Total **			80,494			9,882	7,516	

\*\* Analysis of Sanitary Drainage Surcharge according to usage category is performed on a judgmental basis.

sm (WCI-S)

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AGOSD ACTION PLAN  
FOR INSTITUTIONAL REFORM

Appendix VII

Various Actions of  
Gen. Eng M. Farid Sewalem, Chairman of AGOSD

- A. English Translation of Decision No. 396, dated 30 August 1992
- B. Schedule of Fees to be Paid for Connecting Buildings to the System (396/1992)
- C. English Translation of Decision No. 497, dated 19 October 1992
- D. Schedule of Fees to be Paid for Direct Services Provided by AGOSD (497/1992)
- E. Translation of Letter to MHPU Regarding AGOSD Review of North Coast  
Development
- F. Translation of Memo Regarding Proposal for Fees for Lab Services to Industry

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AGOSD  
Chairman's Office

Decision No. 396 for the year 1992  
Issued on 30th August 1992

**The Chairman:**

- After reviewing the Law No. 47 for the year 1978 regarding the state civilian employees and the executive regulations and modifying laws of the above law;
- and - the Republican Decision No. 363 for the year 1979 regarding establishing AGOSD;
- and - The Regulating Law No. 26 for the year 1983 concerned with regulations for staff working in Sewage and Sanitary Drainage and the executing laws;
- and - the AGOSD Board's decision made in the meeting held on 12th July 1992 and the Governor's approval on 24th August 1992;
- and - the decisions connected with assignment of responsibilities and authorization of power;

"Decided"

**First Article:** Beginning 1st September 1992, the General Directories for "Licensing, Execution, and Design" shall carry out the following as per their assignment:

First - Building Licensing:

1. The required costs shall be collected in accordance with the yearly unit prices and the equipment hiring rates valid in AGOSD at the time of execution.
2. Owner contributions in the cost of the main system (network) of sanitary drainage shall be accounted as follows:

	Apartment Type Number of Rooms	Required Payment for Each Apartment
1	Apartment with 2 rooms and hall (or less)	100 LE
2	Apartment with 3 rooms and hall	200 LE
3	Apartment with 4 rooms and hall	300 LE
4	Apartment with 5 rooms and hall (or more)	500 LE
5	Tourist establishments (per room)	75 LE
6	Washing rooms (per room)	50 LE

	Apartment Type Number of Rooms	Required Payment for Each Apartment
7	Basement, storage area, or stores	1000 LE
8	Garage	1000 LE
9	Swimming pools	5000 LE

Second - Licensing Requests for Industrial Activities:

1. An inspection fee of 75 LE shall be paid against transportation, inspection, and checking the drainage system and making necessary estimations.
2. The required costs shall be collected according to the annual price lists and the hiring rates of equipment which are valid within AGOSD at the time of execution.
3. Contribution amounts for the cost of the main system (network) shall be collected as 10 LE per square meter of the total surface area of the building for all floors, including the ground floor and all subsequent floors. This includes non-housing, industrial, and companies.
4. Ten percent shall be added as administrative fees.
5. The requesting party is responsible for obtaining digging and traffic permits and for restoring matters as they were.
6. Ten percent shall be collected against supervision of execution only if AGOSD supervision is required.

Second Article: Governmental establishments are exempted from the contribution amount in the system (network), and only pay the cost of connecting these establishments with the sanitary drainage system and related construction.

Third Article: All concerned authorities have to execute this Decision, each authority in its own concern.

Chairman (signature)  
Engineer Mohamed Farid Sweelam

Dated 30th August 1992

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**AGOSD**  
**PHASE 1 O&M RECOVERY**

**FEEES TO BE PAID FOR CONNECTING THE BUILDINGS TO THE SEWER SYSTEM**

ITEM	PREVIOUS CONNECTION CHARGES	NEW CONNECTION CHARGES L.E.
FLAT WITH 2 ROOM AND A RECEPTION	0	100
3 ROOM AND A RECEPTION	0	200
4 ROOM AND A RECEPTION	0	300
5 ROOM AND A RECEPTION	0	500
HOTEL - PER ROOM	0	75
LAUNDRY - PER ROOM	0	50
WARTHOUSS - BASEMENT	0	1000
GARAGES	0	1000
SWIMMING POOL	0	5000

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**THE TOTAL ESTIMATED INCOME PER YEAR 3 M.L.E.**

**PER DECISION NO. 396/1992  
EFFECTIVE: 1 SEPTEMBER 1992**

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TRANSLATION

AGOSD  
In Front of 21 Mohamed Shafik  
Ghorbal (Archimedis Formerly)  
El Shatby, Alexandria  
19 October 1992

**Decision No. (497) For The Year 1992  
Issued on 19 October 1992**

After reviewing Law No. 47 for the year 1978 regarding the system of the civilian staff in the State, and its executing regulations and modifying laws; and

- Republican Decision No. 363 for the year 1979 regarding the establishment of AGOSD, and
- Law No. 26 for the year 1983 regarding the staff system of Sanitary Drainage and its executing laws; and
- Law No. 457 for the year 1990 issued on 30 September 1990; and
- Comments by the Engineer; the Chief of the Central Department of Vehicles and related equipment for the dewatering of Residential and non-residential purposes. This is due to the rising cost of repairs of these cars and equipment and the rising prices of spare parts and petroleum materials; and
- Upon decisions which regulate responsibilities and authorization of power, and
- Upon our approved:

\* Decided \*

Article One:

Organisation's vehicle operation costs and its ancillary equipment for the residential and non-residential purposes shall be as follows:

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**First:**

Cost of operating vehicles for residential purposes in all six city quarters – as "per each trip"

1. Operating cost of vehicles, capacity of 3 m<sup>3</sup> "Braga/Hino" "per each trip": L.E 10.00
2. Operating cost of vehicles, capacity of 5 m<sup>3</sup> "per each – trip": L.E 15.00
3. Operating cost of vehicle; capacity of 10 m<sup>3</sup> "Ford/Internash" per each trip" L.E 25.00

**Second:**

The operating cost of dewatering vehicles, heavy equipment and other vehicles of the Organization for non – residential purposes: – "as per hour"

1. Operating Cost of "Niva" vehicle per hour L.E 10.00
2. Operating Cost of "Isozo" pick-up Diesel per hour L.E 10.00
3. Operating Cost of "Datsun" pick-up Gasoline per hour L.E 15.00
4. Operating Cost of "Ford" pick-up Gasoline per hour L.E 20.00
5. Operating Cost of half lorry Gasoline per hour L.E 20.00
6. Operating Cost of Lorry per hour L.E 30.00
7. Operating Cost of Mechanical pipe cleaner per hour L.E 50.00
8. Operating Cost of "Braga" Auto Dewatering per hour L.E 25.00
9. Operating Cost of "Hino" Auto Dewatering per hour L.E 25.00
10. Operating Cost of "Internash" Auto Dewatering per hour L.E 50.00
11. Operating Cost of "Ford" Deposits Dewatering per hour L.E 50.00
12. Operating Cost of "Vector" Deposits Dewatering per hour L.E 50.00
13. Operating Cost of "Super Vector Camel" per hour L.E 50.00
14. Operating Cost of "Nafory" per hour L.E 50.00
15. Operating Cost of "Clampshell" per hour L.E 50.00
16. Operating Cost of "Lorry" Bedford/Mercedes/Ford per hour L.E 25.00
17. Operating Cost of "Crane" 18 Ton vehicle per hour L.E 150.00
18. Operating Cost of "Crane" 10 Ton vehicle per hour L.E 100.00
19. Operating Cost of "Crane" 5 Ton vehicle per hour L.E 75.00
20. Operating Cost of "Heavy Loader" vehicle per hour L.E 100.00
21. Operating Cost of "Light Loader" vehicle per hour L.E 75.00
22. Operating Cost of "Forklift" vehicle per hour L.E 20.00
23. Operating Cost of "Drilling" vehicle per hour L.E 100.00
24. Operating cost "Hammering" vehicle per hour L.E 100.00
25. Operating Cost of "Compressor" vehicle per hour L.E 25.00

**Article Two:**

With regard to the operating cost of vehicles and equipment of the Organization inside the Camps of Armed Forces and Central Security Forces, operating cost is "per each trip" for residential purposes.

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**ARTICLE THREE:**

The above-mentioned operating costs for all categories of vehicles and general equipment of the Organization, either for residential or non-residential purposes, includes all other costs of equipment use, operation, maintenance, fuel, oils and the 10% administrative fees.

**ARTICLE FOUR:**

The vehicles and equipment shall not be operated in marble, tile, or cement factories, or quarries to protect them from damage, misuse or failures due to the nature of its original function which is the dewatering of the water and deposits of Sanitary Drainage.

**ARTICLE FIVE:**

This decision shall be effective starting 20<sup>th</sup> October 1992.

**ARTICLE SIX:**

Concerned authorities shall execute this decision; each in its assignment.

Chairman,

---

M. F. Sewelam

MF:sa(A\Dec)



**AGOSD**  
**PHASE 1 O&M COST RECOVERY**  
**FEEES FOR SERVICES PROVIDED BY AGOSD**

EQUIPMENT	PREVIOUS CHARGE L E.	NEW CHARGE L.E.
<b><u>DOMESTIC USES</u></b>		
COST OF VACUUM 3M. TRUCK/HR	2	10
COST OF VACUUM 5M. TRUCK/HR	4	15
COST OF VACUUM 10M. TRUCK/HR	6	25
<b><u>INDUSTRIAL USES</u></b>		
VACUUM TRUCK - IZUZU	3	10
VACUUM TRUCK - NIVA	2.9	10
VACUUM TRUCK - DATSUN	4.7	20
VACUUM TRUCK - FORD	3.5	20
VACUUM TRUCK - LOADING	8.5	30
VACUUM TRUCK - REGATA	8	25
SEWER RODDING TRUCK	8.5	50
VACUUM TRUCK - HINO	8	25
VACUUM TRUCK - INTERNATIONAL	25.3	50
VACUUM TRUCK - FORD	21	50
VACUUM TRUCK - VACTOR	31	50
VACUUM TRUCK - SUPER VACTOR	36	50
VACUUM TRUCK - JETS	29	50
CLAM SHELL BUCKET	28	50
CRANE 18T	78	150
10T	50	100
5T	22	75
SMALL LOADER	30	75
FORK LIFT	3	20
EXCAVATOR	50	100
HAMMER	50	100
COMPRESSOR	7.5	25

THE TOTAL ESTIMATED INCOME, PER YEAR 3 M L E.

PER DECISION NO. 497/1992

## TRANSLATION

AGOSD  
In Front of 21 Mohamed Shafik  
Ghorbal (Archemidis Formerly)  
El Shatby, Alexandria

To the Engineer/ The First Undersecretary  
for Housing & Utilities / Ministry of Development,  
New Communities, Housing & Public Utilities

Dear Sir,

Reference is made to your letter to AGOSD that was received on October 1992 concerning the report made by the special committee for studying the building permits in the Northern Coast area, and to what was said about the cost of revision and approval of drawings and the supervision on construction and receiving the utility networks of Northern Coast projects.

Please be informed of the following:

1. AGOSD has no objection to revising and approving the drawings of the Sanitary Drainage works of the Northern /Coast projects. This is to be against the following fees:  
  
1.5% of the Sanitary Drainage network for the projects of values less than one million Egyptian Pounds.  
  
1.0% of the Sanitary Drainage network for the projects of values of One Million Egyptian Pounds or more. This is as per the above-mentioned committee conclusions.
2. With regard to supervising the construction; appointing engineers and their daily patrol vehicles are required. This necessitates the payment of fees not less than 3% of the project value. These fees will be against appointments of supervision engineer and preparation of the vehicles and necessary fuel; since AGOSD has no excess of such facilities .
3. With regard to receiving (handing over) the networks AGOSD has no objection; on condition that the Societies provides the required staff and contract with them for O&M activities, since AGOSD has no such staff; in addition, our current structure does not allow for their provision. The AGOSD task in this job shall be limited to be existing throughout the handing over from the construction contractor to the Society O&M representative-in-charge.

Very truly yours,

Eng. Mohamed Farid Sewelam  
Chairman - AGOSD

me(EF)

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Alexandria General Organization  
for Sanitary Drainage

**MEMO**

**To Be Circulated To The Members Of Board For Review, Concerning The Services Offered To Factories & Commercial Stores**

Mrs. Dr. Nareeman Moustafa, the Director of the Central Laboratories Department, has submitted a memo. She indicated the services offered by the Organization/Central Laboratory and Technical Research Department for Factories and Commercial Stores upon their request to use such reports in studies connected with wastewater treatment; as:

- Factories wastewater sampling for obtaining permits or specifying the factories treatment unit efficiencies and periodical sampling for factories connected to the city collection system.
- Analysis of these samples for chemical and bacterial content.
- Training of chemists working in various factories which analyze the industrial wastewater.
- Specifying the required instruments and chemicals to furnish to new labs built in various factories.
- Providing for consultancy in case of any problem arising in factory treatment units.
- Performing research related to specification of treatment units for factory wastewater treatment.

The request was made in order to cover the cost of consumption of chemicals, lab instruments, transportation vehicles and staff charges. This also coincides with the general policy of the Ministry of Rehabilitation and Housing. Also, this coincides with the principle of self-financing and cost recovery. This releases a burden on the State financial support to the Organization.

Therefore, this matter is offered for opinion of the Board to approve the following:-

- 1- Cost of transportation for sampling and inspection of the factory effluent to be L.E 75 - as it was valid earlier in the Organization and approved by the Board.

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- 2- Analysis the sample of wastewater (except for heavy metals) to be L.E 100 per sample – added to this the amount in item 1 for transportation to be known that such fees are L.E 300.
- 3- Bacterial analysis of wastewater to be L.E 75 per sample; in addition to the transportation cost.
- 4- The cost of training one factory chemist for a week in the Central Laboratories shall be L.E 75 per person.
- 5- In case of a need for special studies or a special report on analysis results or studies, an estimate shall be prepared and approved by the Central Lab Manager. The requesting party shall be notified of this estimate which should be paid before performing these studies. The amount shall be paid to the Organization.

This matter is offered to the board for review and approval. =

Chairman.

Eng. M. F. Sewelam

Names

Signature

		<u>Agree</u>	<u>Not Agree</u>
1.	Eng/ M.F. Sewelam	_____	_____
2.	Dr/ Yossry Elshadqeq	_____	_____
3.	Dr/ Fahmy Elsharqawy	_____	_____
4.	Eng/ M. Ahmed Marzouq	_____	_____
5.	Consultant/Aly Ahmed Hassan	_____	_____
6.	Eng/Abdel – Moniem Twafiq	_____	_____
7.	Dr./ Fayeq M. Hassan	_____	_____
8.	Eng/ M. Mahmoud Ismail.	_____	_____

MF:sa(Memo)

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AGOSD ACTION PLAN  
FOR INSTITUTIONAL REFORM

Appendix VIII

Preliminary Draft of a  
Proposed Decree by the Government of Egypt  
Authorizing the Reorganization of AGOSD

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1 Outline of Decree Language  
2 Authorization to Establish an Autonomous Wastewater Utility  
3

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4  
5 **PRELIMINARY DRAFT**<sup>1</sup>

6 Decree from the President *or* the Prime Minister of A.R.E.

7 No. /1993

8 for the Reorganization of the General Organization for

9 Sanitary Drainage in Alexandria

10 (AGOSD)  
11  
12

13 The President *or* The Prime Minister.

14 After reviewing the constitution, and...

15 The law No. 93/1962 regarding wastewater disposal, and...

16 The law for general organization for which the law No. 61/1963 was issued, and...

17 The law for the local governing system that was issued by the law No. 43/1979, and...

18 The decree from the President of the Republic No. 135/1979

19 The decree from the President of the Republic No. 363/1979  
20 .....  
21 .....  
22 .....

23  
24 The following is hereby directed:

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25  
26 Section 1:

27 In order to better serve the people of the Governorate of Alexandria as to their needs  
28 in the protection of the public health with adequate sanitation services, and to be  
29 consistent with the policy of the Government of Egypt regarding the elimination of

---

30 <sup>1</sup>. Decree is presented as a first draft of the authorization decree and requires a thorough  
31 legal review.

*PRELIMINARY DRAFT*

1 subsidies for utility services, that a new law shall be presented and passed before the  
2 People's Assembly, and that said law shall provide for the reorganization of the  
3 authorities and functions of the General Organization for Sanitary Drainage to make  
4 an autonomous wastewater utility organization in the place of the AGOSD.  
5

6 **BEST AVAILABLE COPY**  
7

8 Section 2

9 The draft law to provide for the autonomous utility organization for Alexandria should  
10 be drafted to be consistent to the following principles:  
11

- 12 1. The draft law should have all the authorities, powers of Decree No.  
13 363/1979 as well as all other grants of executive powers now granted  
14 by the Government of Egypt.
- 15 2. The draft law should provide for a new type of utility organization to  
16 be formed for Egypt which can commercialize the business affairs and  
17 management of the wastewater and sanitary drainage as such an  
18 organization shall be operated and managed on the basis that it is a an  
19 autonomous utility.
- 20 3. The draft law should provide that an independent board of directors  
21 shall have all the powers and authorities to govern the organization as  
22 an independent entity and to control all the internal affairs and  
23 decisions of the organization without requirement for the approval of  
24 any outside government agency. Said board of directors shall be able  
25 to make binding contracts and enforce binding contracts in its own  
26 name with all parties. The draft law shall provide for the manners and  
27 methods of audit and review of the services and functions of the  
28 organization over time.
- 29 4. The draft law should have an independent budget which follows the  
30 financial rules adopted in the commercial projects. The board of  
31 directors shall take care that the total and true costs of operating the

*PRELIMINARY DRAFT*

1 sanitation facilities within the Governorate of Alexandria shall be  
2 recovered by fees and tariffs set for the users of the system. The draft  
3 law shall recover, on an annual basis, the revenues to be sufficient to  
4 equal the costs. The tariffs and fees shall be set on such a basis that  
5 there shall be no direct subsidy of the operating and maintenance costs  
6 of the wastewater utility organization.

7 5. The draft law should provide that the fixed assets of the wastewater  
8 and drainage works within the Governorate of Alexandria shall be  
9 under the control of the board of directors provided that, by principle,  
10 the fixed assets shall be legally reserved ultimately to the Governorate.

11 6. The draft law should provide that the wastewater utility organization  
12 is authorized to own lands and estates including the right of acquisition  
13 for public use. The draft law shall provide that the organization can  
14 rent its lands owned by others to achieve the objectives of its purposes,  
15 or to achieve the welfare of its own employees, or to establish projects  
16 for the improvement of the sanitary drainage in its service area.

17 7. The draft law should provide that the new wastewater utility  
18 organization shall have the clear and precise authority to make its own  
19 rules regarding the employment of its workers. The draft law shall  
20 provide that the utility organization shall fund from its own revenues  
21 those employees it deems necessary for the conduct of the drainage  
22 systems. The draft law shall provide that the board of directors may  
23 employ others for indirect services provided that salaries and benefits  
24 for the other employees shall be provided from governmental sources  
25 outside the direct revenues from tariffs and fees.

26  
27 Section 3

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28  
29 The Minister of Housing and Public Utilities shall prepare a draft law for introduction  
30 to the People's Assembly. The law shall be prepared in such a manner that it shall be  
31 presented to the People's Assembly at its session beginning in November 1993.

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*PRELIMINARY DRAFT*

1 The Minister of Housing and Public Utilities shall convene one or more committees,  
2 as he shall determine, to prepare the draft law. The Minister of Finance, the Minister  
3 of Planning, the Ministry of Local Administration the Council of State and all other  
4 Ministries, as well as the Alexandria Water General Authority, shall provide all  
5 cooperation and assistance to the Minister of Housing and Public Utilities to prepare  
6 the draft law.

7  
8 Section 4

9 This matter shall deserve the attention and high priority of the Government of Egypt  
10 and the following schedule shall govern the development of the new organization:

11 Autonomy

12	November 1993	Draft Law Presented to the People's Assembly
13	November 1994	Implementing Decree(s) signed by the President
14	April 1995	New Wastewater Utility Organization Implemented

15 Cost Recovery

16	July 1994	Agreement on new Tariffs and Fee Schedules
17	July 1995	GOE Subsidy of O&M Costs Eliminated

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18  
19 Section 5

20 During the period of this reorganization of AGOSD, all efforts should be made by the  
21 Government of Egypt to reduce the subsidy required to maintain the sanitary drainage  
22 of the Governorate of Alexandria. The Ministry of Housing and Public Utilities and  
23 the High Committee on Utilities shall take care to manage the tariffs for water in such  
24 a way that the amount of the subsidy of sanitation shall be declining.

25 Section 6

26 During the period of this reorganization of AGOSD the Minister of Housing, the  
27 Minister of Finance and Council of State shall take all actions, deemed appropriate  
28 under the current laws and regulations of the Government of Egypt, to extend to  
29 AGOSD any additional powers and authorities which may be granted to improve the  
30 administrative capacity, autonomy and cost recovery of AGOSD.

31 #

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## AGOSD Position Paper Regarding

Letter of Mr. Henry Bassford - 7 February 1993

March 1993

**BEST AVAILABLE COPY**Plan for Discontinuing GOE Subsidies for Personnel

The objective of the AGOSD Action Plan is to achieve a fully self-sustaining, independent wastewater utility in Alexandria by July 1995. Implicit in this concept is the elimination of the GOE subsidy for wages, salaries and benefits that now exists in the GOE funding of AGOSD. The Action Plan calls for the development and implementation of a labor force adjustment plan. The specific purpose and effect of the labor force adjustment plan will be:

- Identification of the proper level and qualifications of staff for all functions in the independent wastewater utility.
- Options and recommendations for out-placement, early retirement and discontinuation of personnel not necessary for the operation of the utility.
- Establishment of mechanisms to implement the options and recommendations for the adjustment of the AGOSD labor force.
- Full implementation of the labor force adjustment program.

In this regard, AGOSD has already taken some actions. The new developments of the tourist villages along the North Beach can now be served under a contract arrangement for the operations and maintenance of the package systems and local networks. These new contract arrangements will allow AGOSD to reallocate staff to be directly supported by new sources of revenues.

The development and implementation of the complete AGOSD labor force adjustment plan will require close coordination with the appropriate offices and agencies of the Governorate of Alexandria and the Government of Egypt. It is not within legal scope and authority of my position as Chairman of AGOSD to take unilateral actions on these matters. However, through the process of the labor force adjustment plan, I will present the available options to the appropriate officials in the Governorate and within the GOE so that AGOSD can meet the objective of a utility labor force in-place in July

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## Long Term Investment Needs

In the Action Plan presented to you AGOSD has projected that it can meet all of its financial requirements for operations, maintenance and replacement by July 1995. The replacement reserve will provide a source of funds to make major repairs to the large mechanical components of the system, including the equipment funded and installed under the USAID-funded portions of the project. This means that the investment made by the United States Government in the Alexandria facilities will be carefully protected by AGOSD.

This is an ambitious and aggressive schedule. In order to accomplish this objective major reforms in the institutional arrangements between AGOSD, the Governorate and several key Ministries in the GOE will be required. AGOSD and the GOE are committed to these reforms so as to make a new, financially self-sustaining utility in the place of AGOSD.

It is agreed with you conceptually that independent wastewater utilities should have access to capital to meet the long term system maintenance and improvement requirements. To be effective, capital should be available in sufficient quantities and at reasonable cost to serve the public interest of meeting the sanitation needs of the citizens. In real terms, one must acknowledge that while Egypt is making great progress in its program of economic reforms, that program is still in its early stages. For instance, Egypt is only now addressing the requirement to provide mechanisms for capital for investment in newly-privatized enterprises. Secondly, relative to the United States, Egypt is not a wealthy nation and can not be expected, in the short-run, to meet the same standards as may now exist in North America or Europe.

In the United States the central government has provided direct grants of 90% of the costs for the construction of wastewater facilities over the twenty year period 1972 to 1992. This construction grants program of the Clean Water Act was authorized by Congress at a level between \$ 1.8 and \$ 2.2 billion per year. Further, since 1992 the Congress has provided direct grants to the States to capitalize revolving loan funds which can provide capital for operating agencies at a subsidized (below market) cost. Finally, several large scale urban wastewater projects are continuing to get direct grants from the U.S. central government. A total of \$ 500 million per year has been appropriated by the Congress for various large scale projects such as the Boston Harbor Project (\$100 million/year). It should be pointed out that some of the independent utilities in the United States face problems in collecting the revenues required for full cost recovery.

During the development of the new tariffs and fees schedules to support the self-sustaining utility, AGOSD and WWCG will perform a financial capability analysis for the Governorate of Alexandria. This analysis, based upon economic data, will establish in general terms the ability to pay for sanitary services within the Governorate.

There are two key questions to be addressed in the plan:

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capital requirements) within the Governorate of Alexandria.

- In financial terms, what mechanisms exist (or should exist) to provide capital to independent wastewater utilities for long-term system improvements.

In order to be fully effective this plan will require a substantial effort as we will have to establish the new policies and procedures within the framework of the privatization efforts in Egypt. In order to accomplish this we will have to meet with and engage the key Ministries and authorities that are in responsible charge of these efforts. With them we can establish the proper priority for the provision of capital for wastewater system maintenance and improvements.

It would be my objective to see that the GOE develop a specific program of grants and loans to provide capital to the independent wastewater utilities. Over a 25 to 30 year period the program of grants and loans would be supplemented by a private bond market which could provide capital through revenue bonds and, if it was deemed feasible by the GOE, the grants could be gradually phased-out.

In this regard, I have prepared my preliminary thoughts regarding the scheduled sequence to move AGOSD to full O,M & R and capital financial self-sufficiency. This type of sequencing will be fully developed in the plan that I have discussed above. The preliminary schedule identifies the AGOSD targets for moving to full financial self-sufficiency.

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Preliminary

Sequence of Steps for Financial Self-Sufficiency

Steps	Activity	Date of Implementation
1.	Recurring Operation and Maintenance Expenses	July 1995
2.	Wages, Salaries, Bonuses and Incentives	July 1995
3.	Replacement Reserve for Mechanical Equipment	July 1995
4.	Capital Repair/Major Maintenance of Sewer Network	2005
5.	Extensions/Expansion of Sewer Network to New Areas	2009
6.	Capital Repair/Major Maintenance of Treatment Plants and Pump Stations	2014
7.	Major New Facilities	2024

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UNITED STATES AGENCY for INTERNATIONAL DEVELOPMENT

AUG 17 1992

Excellency:

Thank you for your letter No. 1074, requesting AID financing of construction to expand the Alexandria Wastewater system. In this respect, AGOSD's Chairman, General Eng. Sewailem has made a similar request to AID, by letter of July 5, 1992. In my response to Chairman Sewailem's letter, I indicated how important I believe it is that we both understand the need for the facilities constructed under the program to be efficiently operated and properly maintained throughout their useful life. I also indicated in my letter that any assistance we could provide would have to be in the context of structural and administrative reforms which need to address both the issue of cost recovery as well as AGOSD's transformation to an autonomous utility.

As mentioned to Chairman Sewailem, USAID is prepared to finance technical assistance to help AGOSD define necessary legal, administrative and management reforms and develop a time-phased action plan for achieving autonomy and cost recovery. Once the action plan is prepared and the timing of reforms are agreed to, USAID can begin preparation of project documentation necessary to fund future activities. Commitment of funds for project design could take place upon GOE commitment to carry out the policy reform agenda. However, progress in implementing reforms would have to be clearly shown prior to USAID financial support of my new construction activities.

Thank you, Excellency, for your cooperation and understanding. I would be very pleased to discuss this matter further with you at your convenience.

Sincerely

Henry H. Bassford  
Mission Director

His Excellency  
Eng. Hassaballah Mohamed El Kafrawi  
Minister of Reconstruction, New Communities,  
Housing and Public Utilities  
1, Ismail Abaza Street  
Garden City, Cairo

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## AGOSD

### Supplement to the Action Plan

15 March 1993

This supplement to the AGOSD Action Plan of 16 December 1992 is intended to respond to issues identified in the letter of 7 February 1993 from Mr. Henry Bassford, AID/Cairo Mission Director, to Gen. Eng. M. Farid Sewalem, AGOSD Chairman.

#### Plan for Discontinued GOE Subsidies for Personnel

The objective of the AGOSD Action Plan is to achieve a fully self-sustaining, independent wastewater utility in Alexandria by July 1995. Implicit in this concept is the elimination of the GOE subsidy for wages, salaries and benefits that now exists in the GOE funding of AGOSD. The Action Plan calls for the development and implementation of a labor force adjustment plan. The specific purpose and effect of the labor force adjustment plan will be:

- Identification of the proper level and qualifications of staff for all functions in the independent wastewater utility.
- Options and recommendations for out-placement, early retirement and discontinuation of personnel not necessary for the operation of the utility.
- Establishment of mechanisms to implement the options and recommendations for the adjustment of the AGOSD labor force.
- Full implementation of the labor force adjustment program.

In this regard, AGOSD has already taken some actions. The new developments of the tourist villages along the North Beach can now be served under a contract arrangement for the operations and maintenance of the package systems and local networks. These new contract arrangements will allow AGOSD to reallocate staff to be directly supported by new sources of revenues.

The development and implementation of the complete AGOSD labor force adjustment plan will require close coordination with the appropriate offices and agencies of the Governorate of Alexandria and the Government of Egypt. It is not within legal scope and authority of my position as Chairman of AGOSD to take unilateral actions on these matters. However, through the process of the labor force adjustment plan, I will present the available options to the appropriate officials in the Governorate and within the GOE so that AGOSD can meet the objective of a utility labor force in-place in July 1995. This will mean that the employees of the independent utility will be funded solely from the revenues derived from the operations of the utility.

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## Long Term Investment Needs

In the Action Plan presented to you AGOSD has projected that it can meet all of its financial requirements for operations, maintenance and replacement by July 1995. The replacement reserve will provide a source of funds to make major repairs to the large mechanical components of the system which have a useful life of 5 to 15 years, including the equipment funded and installed under the USAID-funded portions of the project.

This means that the investment made by the United States Government in the Alexandria facilities will be carefully protected by AGOSD. It is important to point out that the current projected amount of the replacement reserve of LE 5 million in 1995 will be subject to further review. Ultimately, the replacement reserve will be set a level sufficient to meet the needs and purposes of the system.

This is an ambitious and aggressive schedule. In order to accomplish this objective major reforms in the institutional arrangements between AGOSD, the Governorate and several key Ministries in the GOE will be required. AGOSD and the GOE are committed to these reforms so as to make a new, financially self-sustaining utility in the place of AGOSD.

It is agreed with you conceptually that independent wastewater utilizes should have access to capital to meet the long term system maintenance and improvement requirements. To be effective, capital should be available in sufficient quantities and at reasonable cost to serve the public interest of meeting the sanitation needs of the citizens. In real terms, one must acknowledge that while Egypt is making great progress in its program of economic reforms, that program is still in its early stages. For instance, Egypt is only now addressing the requirement to provide mechanisms for capital for investment in newly-privatized enterprises. Secondly, relative to the United States, Egypt is not a wealthy nation and can not be expected, in the short-run, to meet the same standards as may now exist in North America or Europe.

In the United States the central government has provided direct grants of 90% of the costs for the construction of wastewater facilities over the twenty year period 1972 to 1992. This construction grants program of the Clean Water Act was authorized by Congress at a level between \$ 1.8 and \$ 2.2 billion per year. Further, since 1992 the Congress has provided direct grants to the States to capitalize revolving loan funds which can provide capital for operating agencies at a subsidized (below market) cost. Finally, several large scale urban wastewater projects are continuing to get direct grants from the U.S. central government. A total of \$ 500 million per year has been appropriated by the Congress for various large scale projects such as the Boston Harbor Project (\$100 million/year). It should be pointed out that some of the independent utilities in the United States face problems in collecting the revenues required for full cost recovery.

During the development of the new tariffs and fees schedules to support the self-sustaining utility, AGOSD and WWCG will perform a financial capability analysis for the Governorate of Alexandria. This analysis, based upon economic data, will establish in general terms the ability to pay for sanitary services within the Governorate.

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There are two key questions to be addressed in the plan:

- In economic terms, what is the "ability to pay" for sanitation (OM&R and capital requirements) within the Governorate of Alexandria.
- In financial terms, what mechanisms exist (or should exist) to provide capital to independent wastewater utilities for long-term system improvements.

In order to be fully effective this plan will require a substantial effort as we will have to establish the new policies and procedures within the framework of the privatization efforts in Egypt. In order to accomplish this we will have to meet with an engage the key Ministries and authorities that are in responsible charge of these efforts. With them we can establish the proper priority for the provision of capital for wastewater system maintenance and improvements.

It would be my objective to see that the GOE develop a specific program of grants and loans to provide capital to the independent wastewater utilities. Over a 25 to 30 year period the program of grants and loans would be supplemented by a private bond market which could provide capital through revenue bonds and, if it was deemed feasible by the GOE, the grants could be gradually phased-out.

In this regard, I have prepared my preliminary thoughts regarding the scheduled sequence to move AGOSD to full O,M & R and capital financial self-sufficiency. This type of sequencing will be fully developed in the plan that I have discussed above. The preliminary schedule identifies the AGOSD targets for moving to full financial self-sufficiency.

Preliminary – Sequence of Steps for Financial Self-Sufficiency

Steps	Activity	Date of Implementation
1.	Recurring Operation and Maintenance Expenses	July 1995
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4.	Capital Repair/Major Maintenance of Sewer Network	2005
5.	Extensions/Expansion of Sewer Network to New Areas	2009
6.	Capital Repair/Major Maintenance of Treatment Plants and Pump Stations	2014
7.	Major New Facilities	2024

ACTION AND3 INFO DCM ECON /5

ANNEX C

VZCZCROC142  
PP RUEHEG  
DE RUEHC #0434 0930638  
ZNR UUUUU ZZH  
P 030637Z APR 93  
FM SECSTATE WASHDC  
TO AMEMBASSY CAIRO PRIORITY 4674  
BT  
UNCLAS STATE 100434

24-APR-93 TOR: 05:12  
CHRG: AID  
DIST: AIDA J.E.C.

ACTION TO	100434	WUEHEG
ACTION TAKEN		DUE DATE 4/15
DATE		INITIALS

AIDAC

E.O. 12356: N/A

TAGS:

SUBJECT: ALEXANDRIA WASTEWATER SYSTEM EXPANSION PROJECT  
263-0100: AD HOC DOA FOR PACD EXTENSION

REF: CAIRO 04097

1. ACTING AA/NE APPROVED AD HOC DELEGATION OF AUTHORITY TO THE USAID/CAIRO MISSION DIRECTOR TO EXTEND THE PACD OF SUBJECT PROJECT FOR TWO YEARS FOR CUMULATIVE TOTAL OF 17 YEARS 4 MONTHS.
2. WITHIN THIS LOP, THE USAID/CAIRO DIRECTOR MAY INCREASE LOP FUNDING UNDER DOA NO 653 IF ADEQUATELY JUSTIFIED BY PP AMENDMENT/SUPPLEMENT.
3. ALTHOUGH GENERALLY RELUCTANT TO CONTINUE PROJECT LIFE BEYOND ESTABLISHED GUIDELINES, BUREAU UNDERSTANDS THE UNIQUE OPPORTUNITY IDENTIFIED BY THE MISSION TO CAPITALIZE ON GOE MANAGEMENT INITIATIVES TO ENCOURAGE STRATEGICALLY IMPORTANT POLICY AND MANAGEMENT REFORMS IN THE WATER/WASTEWATER SECTOR AND ITS RATIONALE FOR AMENDING THE ONGOING PROJECT VERSUS STARTING A NEW PROJECT. PLEASE PROVIDE BUREAU WITH THE PP AMENDMENT/SUPPLEMENT WHEN COMPLETED AND APPROVED BY THE DIRECTOR.

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WWCG DESIGN ALTERNATIVES

Summary Description of four technical alternatives selected for further design and more refined cost estimates ( $\pm 25\%$ )

1. General:

The four technical alternatives selected for further design and refined cost estimates ( $\pm 25\%$ ) are as follows:

Alternative A:

"Primary treatment with sea outfall".

Alternative B:

"Primary treatment with lake discharge".

Alternative C:

"Primary treatment with lake bypass".

Alternative D:

"Secondary treatment with lake discharge or bypass".

2. Summary Description:

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Alternative A - Primary Treatment with Sea Outfall

This alternative provides for expansion of the treatment plants, and is based on continued use of primary treatment. The Central Zone would also be incorporated into the service area by means of a tunnelled collector. Final effluent disposal would be accomplished by constructing a 3.66 m diameter deep sea outfall about 10 km in length. The outfall would be located at one of three (3) locations. Because of the inland location of the East and West Treatment Plants, the outfall would require an extensive on-land conveyance system and pump station.

This alternative includes the following components:

- a) Collection System Improvements.
  - Central zone tunnel
  - Central zone connections
  - Qabbari relief sewers.
- b) Pump Station Improvements.
  - Expansion of Phase I USAID funded pump stations.
  - Rehabilitation of existing AGOSD pump stations.
- c) Treatment Plant Expansions.
  - East Treatment Plant increased capacity from 410 MLD to 544 MLD.
  - West Treatment Plant increased capacity from 175 MLD to 475 MLD.

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- d) Sludge Dewatering.
  - Expansion of the Mechanical Dewatering Facility.
  - Alternatively, Sand Drying Beds at a remote site.
- e) Sludge Transportation and Disposal.
  - Sludge haul by trucks.
  - Alternatively, sludge haul by rail.
- f) Sea Outfall.

Alternative B - Primary treatment with Lake discharge.

This alternative is largely based on a recognition of the present severely polluted state of Lake Maryout. Alternative B further recognizes that the options for more environmentally appropriate effluent disposal are very limited. And that these options are extremely expensive, such as the cost for constructing a sea outfall. As a result, Alternative B comes to the somewhat reluctant conclusion that perhaps the best value that can now be derived from the Lake is to rely upon it for future wastewater disposal. It is an alternative which cannot be dismissed out of hand, simply because it appears that it may not comply with U.S. environmental standards.

This alternative contains items "a", "b", "c", "d" and "e" of Alternative A. The item "f", Sea Outfall is deleted and replaced with direct effluent discharge into lake Maryout, similar with Phase I system.

Alternative C - Primary treatment with lake bypass.

Alternative C attempts to not only avoid further degradation of Lake Maryout, but to begin a gradual process of Lake revitalization. These goals would be achieved by keeping the treated primary wastewater out of the Lake and routing the effluent around the Lake's perimeter. Alternative C would also keep the existing agricultural runoff out of the Lake as well. This rerouting of the plant wastewater and agricultural flow would rely upon the existing agricultural drains. The specific components of this approach are as described below:

- o For the East Treatment Plant, the flow would be routed to the Kaala Drain and Pump Station. The effluent from Kaala P.S. would be connected with the existing Abis Agricultural Drain and Pump Station. From here, the effluent would flow to the Omoum Drain and onto Mex Pump Station.
- o For the West Plant, a new force main would need to be constructed pumping the effluent to Omoum Drain and discharging it near Mex Pump Station. The possibility of routing this flow by gravity would also need to be explored.

This alternative contents is similar with Alternative B except that the effluent discharge is not into the lake but instead into agricultural drains, as described above.

Alternative D - Secondary treatment with lake discharge or bypass.

Alternative D provides a considerably higher level of wastewater treatment than the previous three alternatives. Additional biological treatment is provided by means of activated sludge or bio-towers, or combinations thereof. By increasing the level of treatment to this degree, Alternative D assumes that the final effluent would then be suitable for direct disposal into Lake Maryout or alternatively, through the agricultural drains around the lake. And thereby, the possibility of long-term recovery of the Lake is enhanced.

This alternative contains items "a", "b", "c", "d" and "e" of alternative A. Additionally, secondary treatment plants are conceived to be installed at both the East and West Treatment Plant. The effluent will be discharged directly into lake Maryout, as in Alternative B or into the agricultural drains, as in Alternative C.

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UNITED STATES AGENCY for INTERNATIONAL DEVELOPMENT

CAIRO EGYPT

RECORD OF CATEGORICAL EXCLUSION FROM USAID ENVIRONMENTAL PROCEDURES

Project Location: Egypt

Project Title/ID: Alexandria Wastewater System Expansion Amendment # 3 (263-0100)

Funding (Fiscal Year and Amount): FY93 - FY96 \$35,000,000

Prepared By:

Date:

[Signature] Anne E. Patterson Environmental Advisor, NE/DR/ENR

June 24, 1993

Environmental Action Recommended: Categorical Exclusion as per 22 CFR 216.2(c)(2)(ii) and (iii)

Associate Mission Director's Concurrence:

Date:

[Signature] Paul Thorn, AD/DR

June 30, 1993

Decision of Environmental Coordinator, Bureau for the Near East:

Approved: \_\_\_\_\_

Date: \_\_\_\_\_

Clearances:

- GRWhaley, Mission Env. Officer:
RRhoda, OD/PDS/ENV
TCarter, LEG
FGuymont, OD/DR/UAD

[Signatures and dates for clearances: GAW Date: 6/24/93, RRhoda Date: 6/24/93, TCarter Date: 6/24/93, FGuymont Date: 6/30/93]

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RECORD OF CATEGORICAL EXCLUSION  
FROM USAID ENVIRONMENTAL PROCEDURES

1. Project Location: Egypt
2. Project Title/ID: Alexandria Wastewater System Expansion  
Amendment # 3  
263-0100
3. Funding (Fiscal Year and Amount): FY93 - FY96 \$35,000,000
4. Prepared By: \_\_\_\_\_ Date: June 24, 1993  
  
Anne E. Patterson  
Environmental Advisor, NE/DR/ENR
5. Action Recommended: Categorical Exclusion as per 22 CFR  
216.2(c)(2)(ii) and (iii)
6. Discussion of Major Environmental Relationships of Project

Background

This amendment will extend the PACD of the Alexandria Wastewater System Expansion project by an additional two years through 12/31/96. Amendment #3 will make \$35 million available to support the Alexandria General Organization for Sanitary Drainage (AGOSD) in its transformation toward a self-sustaining utility and to explore environmentally sound technical alternatives for future system expansion. These funds will finance the foreign exchange costs of: (a) increased technical assistance in connection with the operation, maintenance, and training of current AGOSD facilities in Alexandria; (b) preliminary investigations, designs, feasibility studies, and refined cost estimates for the sewage treatment and disposal alternatives for the next expansion of the Project outlined in the 1993 Master Plan; (c) an Environmental Assessment or Environmental Impact Statement for the sewage treatment and disposal alternatives; and (d) final project evaluation.

Discussion

Since the proposed action will not have an effect on the natural or physical environment, this action is entirely within two of the categories listed in paragraph (c)2, "Categorical Exclusions" of 22 CFR Section 216.2, "Applicability of Procedures". Pursuant to 22 CFR 216.2 (c)(2)(i) and (iii), the proposed project amendment is categorically excluded from further environmental review. Neither an initial environmental examination or an environmental assessment is required for this action.

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