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AGENCY FOR INTERNATIONAL DEVELOPMENT
WASHINGTON, D C 20523

EGYPT

TELECOMMUNICATIONS SECTOR SUPPORT

263-0223

PROJECT PAPER (PP)

DATED SIGNED 07/26/93

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INTERNATIONAL
DEVELOPMENT

DATE: 3/7/94

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SUBJECT: PROJECT PAPER Egypt - 0230 ✓ Yemen - 0090 ✓
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0223 PP/PID
0140 1
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PROJECT DATA SHEET

1 TRANSACTION CODE

A = Add
 C = Change
 D = Delete

Amendment Number

DOCUMENT CODE
3

COUNTRY/ENTITY Egypt

5 PROJECT NUMBER

263-0223

4 BUREAU/OFFICE

Near East

5 PROJECT TITLE (maximum 40 characters)

Telecommunications Sector Support

6 PROJECT ASSISTANCE COMPLETION DATE (PACD)

MM DD YY
09 | 3 | 09 | 9

7 ESTIMATED DATE OF OBLIGATION
(Under B below enter 1, 2, 3 or 4)

A. Initial FY 9 | 3 B. Quarter C. Final FY 9 | 6

8 COSTS (\$000 OR EQUIVALENT \$1 =)

A. FUNDING SOURCE	FIRST FY			LIFE OF PROJECT		
	B. FY	C. L/C	D. Total	E. FY	F. L/C	G. Total
AID Appropriated Total	30,000		30,000	200,000		200,000
(Grant)	(30,000)	()	(30,000)	(200,000)	()	(200,000)
(Loan)	()	()	()	()	()	()
Other U.S.						
Host Country		3,000	3,000		33,000	33,000
Other Donor(s)						
TOTALS	30,000	3,000	33,000	200,000	33,000	233,000

9 SCHEDULE OF AID FUNDING (\$000)

A. APPROPRIATION	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) ESF	701	827				30,000		200,000	
(2)									
(3)									
(4)									
TOTALS						30,000		200,000	

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

11 SECONDARY PURPOSE CODE

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

A. Code

B. Amount

13 PROJECT PURPOSE (maximum 480 characters)

To accelerate and enhance the evolution of ARENTO into a fully autonomous telecommunications utility

BEST AVAILABLE COPY

14 SCHEDULED EVALUATIONS

Interim MM YY | MM YY | Final MM YY
 | | | 0 | 1 | 9 | 6 | | 0 | 1 | 9 | 9 |

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.)

USAID/Egypt Controller concurs with the proposed methods of implementation and financing

Nimalka Wijesuriya
 Nimalka Wijesuriya, AAD/FM

17 APPROVED BY

Signature: *Christopher D. Crowley*
 Title: Christopher D. Crowley
 Acting Director, USAID/Egypt

Date Signed MM DD YY
 0 | 7 | 2 | 9 | 9 | 3 |

18 DATE DOCUMENT RECEIVED IN AID/W OR FOR AID/W DOCUMENTS DATE OF DISTRIBUTION

MM DD YY
 | | | | | |

PROJECT AUTHORIZATION

Name of Country Arab Republic of Egypt

Name of Project Telecommunications Sector Support

Number of Project: 263-0223

1 Pursuant to Section 531 of the Foreign Assistance Act of 1961, as amended (the "Act"), I hereby authorize the Telecommunications Sector Support Project (the "Project") for the Arab Republic of Egypt ("Cooperating Country") involving planned obligations not to exceed thirty million United States Dollars (\$30,000,000) in grant funds over a six year period from the date of authorization, subject to the availability of funds in accordance with the A I D Operating Year Budget/Allotment process, to help in financing the foreign-exchange and local-currency costs of goods and services required for the Project. The estimated life of the Project is six years from date of initial obligation.

2 The Project will assist the Government of Egypt in accelerating and enhancing the evolution of ARENTO into a fully autonomous and efficient telecommunications utility.

3 The Project Agreement may be negotiated and executed by the officers to whom such authority is delegated in accordance with A I D regulations and Delegations of Authority. The Project shall be subject to the following essential condition, together with such other terms, conditions, and covenants as A I D may deem appropriate.

Source and Origin of Goods and Services

Goods and services financed by A.I.D. under the Project, except for ocean shipping, shall have their source and origin in the United States, or as authorized pursuant to the requirements of AID Handbook 1B, Chapter 18, except as the USAID/Cairo Mission Director, or his/her designee, may otherwise agree in writing. Ocean shipping financed by A.I.D. under the Project shall, except as A I.D. may otherwise agree in writing, be financed on flag vessels of the United States.

4 Based upon the justification set forth in the Project Paper, I hereby determine, in accordance with Section 612(b) of the Act, that the expenditure of United States Dollars for the procurement of goods and services in Egypt is required to fulfill the purposes of this Project; the purposes of this Project cannot be met effectively through the expenditure of U.S.-owned local currencies for such procurement; and the administrative official approving local cost vouchers may use this determination as the basis for the certification required by Section 612(b) of the Act.

Christopher D. Crowley
Christopher D. Crowley
Acting Director

7/29/93
Date

Clearances

for OD/DR/PT, JHunt	<u>RJ</u>
AD/DR, PThorn	<u>RP</u>
PDS/PS, GRWhaley	<u>GRW</u>
A/AD/PDS, JMalick	<u>gm</u>
A/AD/FM, NWijesooriya	<u>WJ</u>
A/D/DIR, DClark	<u>DC</u>

Drafted:LEG:VMoore:6/24/93·PAUTH223

**PROJECT PAPER
TELECOMMUNICATIONS SECTOR SUPPORT PROJECT
(PROJECT 263-0223)**

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b

GLOSSARY OF ACRONYMS

AID	Agency for International Development
AID/W	Agency for International Development - Washington
ARENTO	Arab Republic of Egypt National Telecommunications Organization
ARETO	Arab Republic of Egypt Telecommunications Organization
AT&T	American Telephone and Telegraph Company
CFR	Code of Federal Regulations
CMC	Construction Management Contractor
COM	Centralized Operations and Maintenance (Center)
DR/PT	Directorate for Development Resources, Office of Power and Telecommunications (USAID/Cairo)
DSS	Digital Switching System
EAS	Economic Analysis and Strategy Directorate (USAID/Cairo)
FAA	Foreign Assistance Act of 1961, as Amended
FF	French Francs (currency)
FIDIC	<i>Federation Internationale des Ingenieurs-Conseils</i>
FM	Directorate for Financial Management (USAID/Cairo)
FSN	Foreign Service National Employee (USAID/Cairo)
FY	Fiscal Year
GOE	Government of Egypt
LE	Egyptian Pounds (currency)
LEG	Legal Office (USAID/Cairo)
LOP	Life of Project
MIC	Ministry of International Cooperation (GOE)

GLOSSARY OF ACRONYMS, CONT'D

MOU	Memorandum of Understanding
MTCMT	Ministry of Transport, Communications, and Maritime Transportation (GOE)
NE	Bureau for the Near East (AID)
NOC	Network Operations Center
OSP	Outside Plant Network
OYB	Operational Year Budget
PC	Project Committee
PDS/P	Directorate for Program Development and Support, Program Office (USAID/Cairo)
PDS/PS	Directorate for Program Development and Support, Office of Project Support (USAID/Cairo)
PID	Project Identification Document
PIL	Project Implementation Letter
PP	Project Paper
PSC	Personal Services Contractor
TA	Technical Assistance
USAID	United States Agency for International Development
USDH	U.S. Direct-Hire Employee of AID

TELECOMMUNICATIONS SECTOR SUPPORT PROJECT

263-0223

SUMMARY AND RECOMMENDATION

INTRODUCTION

Throughout the developing world, the unsatisfied demand for telecommunications services far exceeds supply. With accessible and reliable telecommunications services, many of the physical constraints on organizational communications are removed in various sectors of the economy, permitting increased productivity through better management in both the private and public sectors, making it possible to adopt different organizational structures and locations, and aiding the evolution of increasingly complex organizations. With improved telecommunications, markets gain in effectiveness, more rapid response to market signals becomes possible, and access to market information is extended to village, town, city, regional, national and worldwide levels.

Telecommunications within Egypt have evolved from the installation of the first telegraph service, between Cairo and Alexandria, in 1854. The Egyptian Telegraph and Telephone Administration was established in 1918 and all telecommunications facilities have remained state-owned. Overall management of the telecommunication sector is the responsibility of the Ministry of Transportation, Communication and Maritime Transportation (MTCMT), resulting from the consolidation of the Ministry of Communications and other related Ministries. When the sector was consolidated in 1957, responsibility for operation, management and development of all public telecommunications facilities was assigned to the Arab Republic of Egypt Telecommunication Organization (ARETO), a semi-autonomous entity with authority for day to day administration and operations of the telecommunications network, both domestically and internationally.

From ARETO's inception, the single major constraint impeding sector development has been insufficient investment, in large part a consequence of Egypt's general shortage of resources and the lack of foreign exchange. Consequently, service became unreliable and grossly inadequate in relation to usage, resulting in severe peak period traffic congestion in local and long distance networks and other serious problems.

Since 1978, USAID and the GOE have jointly implemented four projects in the telecommunications sector totalling \$323 million. Three projects, Telecommunications I, II, and III, were completed in 1989. The Telecommunications IV Project, authorized in 1988

and amended in 1992, is continuing the activities of the predecessor projects by providing \$82 million to finance the installation of state-of-the-art digital switching systems (DSS) to serve new exchanges, expand existing exchanges, and replace obsolete exchanges; as well as rehabilitate and expand associated outside plant (OSP) cable networks and train operations and maintenance staff. The Telecommunications IV project is also financing a series of studies and assessments of the telecommunications sector, including: a sector/institutional assessment study, a study of telecommunications services pricing (tariffs), and an operation and maintenance requirements (staffing and training) study.

As a result of these activities, significant progress has been made over the past ten years to meet a portion of the demand for effective telecommunications service in Egypt. The telecommunications network has expanded rapidly between 1981 and 1992: the number of communities connected to the direct dial network increased from seven to 189, the number of international circuits increased from 820 channels to 5560 channels; the number of telephone lines increased from 510,000 to 2.5 million lines; and the telephone density increased from 1.2 to 4 lines per 100 population in spite of a population increase of 25 percent.

In addition, there has been progress in policy and institutional reform. The legal framework to achieve the reforms was put in place with the enactment of GOE Law 153 (see Annex N), issued on July 14, 1980. Law 153 transformed the ARETO organization into the Arab Republic of Egypt National Telecommunications Organization (ARENTO) and established ARENTO as an autonomous entity. This law grants ARENTO the right to, among other things, set rates, tariffs, and cost of services, retain its tariff revenues; and, propose its own personnel regulations - all subject to approval by the Minister of Transport, Communications and Maritime Transportation.

With the passage of GOE Law No. 153 in 1980, ARENTO legally became an autonomous organization. Over the past 13 years, ARENTO has improved its management structure and financial condition. Several increases in telecommunication tariffs and connection fees have been enacted, but tariffs for domestic service are not sufficient to recover costs. Conversely, ARENTO revenues on international service far exceed costs and are its main source of foreign exchange revenue. As a result, ARENTO's operating margins have improved considerably over the decade, enabling ARENTO to borrow the necessary funds to finance system expansion and service its outstanding debt.

Even though ARENTO is legally an autonomous organization with the authority to retain its revenues for use in the expansion and maintenance of the network, in practice ARENTO remains a semi-autonomous entity dependent on the MTCMT for all major decisions involving finances, tariffs, and employment, and is subject to substantial revenues being channeled to other organizations.

within the MTCMT for their own expansion and/or operation. ARENTO must not only continue to maintain control over daily operating costs, but more importantly adjust tariffs for services, improve cash flow, retain operating surpluses, provide for the retirement of obsolete switching systems, expand the network and provide appropriate levels of maintenance of the network by ensuring sufficient revenue to keep pace with costs

A goal of the Government of Egypt (GOE) is to increase and improve the standard of living for its citizens. To achieve this goal, the GOE has embarked on a major economic reform program designed to stabilize the Egyptian economy, remove distortions, and give a new found impetus to the private sector as a central element in its growth strategy. The GOE has recognized that efficient and reliable communications, both domestic and international, are essential to achieving its productivity and standard of living goals

ARENTO has developed an investment plan for the 1992-1997 period based on the priorities and objectives of the GOE. ARENTO's five-year development and investment plan has five primary objectives. expanded telecommunication services, replacement of obsolete switching equipment, enhancement of network maintenance, improvement in network performance, efficiency and reliability (call completion rates), and enhancement of the capabilities of ARENTO employees through training. ARENTO plans to generate about 80 percent of required capital expenditures and obtain the balance of funding from other sources

The Telecommunications Sector Support Project is in conformity with Egypt's strategy for economic reforms and development of the private sector. The project would provide funding to finance equipment, technical assistance and services, and training to support ARENTO in achieving the objectives of the GOE's investment plan for telecommunication network modernization and expansion. In terms of the number of new or replaced telephone connections, the proposed project would contribute nearly 20 percent of the projected Five Year Plan output of 2.5 million lines

The Telecommunication Sector Support Project's emphasis on network modernization and expansion in line with agreed-to policy reforms will support the Mission's Strategic Plan Program Subgoal 1 - Increased Economic Growth, Strategic Objective No. 1 - Increased macro-economic stability and market pricing, and Strategic Objective No. 2 - Increased private investment and trade. Achievement of the project purpose will support the Mission's Strategic Plan Program Subgoal 2 - enhanced human resource productivity and quality of life, and Strategic Objective No. 6 - increased access to, and efficiency and reliability of, public utilities in urban target areas.

In addition to financial considerations, three other factors contributed to USAID's decision to finance a telecommunications

project (i) the importance of the orderly expansion and modernization of telecommunications systems to the efficiency and enhancement of profitability in all sectors of the Egyptian economy, particularly a growing private industrial sector, (ii) previous policy successes in the telecommunications sector, and, (iii) the need to further enhance ARENTO's project management skills and technical and organizational capabilities that have evolved through the implementation of the previous and present AID-financed telecommunications projects

PROJECT DESCRIPTION

The proposed project consists of a six year, \$200 million activity to finance capital improvements, technical assistance and training, of which \$120 million will leverage specific policy and institutional reforms to be identified during the initial stage of the project.

The Goal of this project is to provide increased access to efficient and reliable public utilities in the target areas (Cairo and Alexandria) The Purpose of the project is to accelerate and enhance the evolution of ARENTO into a fully autonomous telecommunications utility

When the Project is complete, ARENTO/GOE will have achieved all policy/institutional reforms set forth in a memorandum of understanding (MOU) to be negotiated and executed by ARENTO and USAID during the first year of the project (see Section 4.1 of this project paper) It is anticipated that the MOU will specify major policy, legal and institutional reforms aimed at streamlining management, market pricing and recovery for services, fiscal autonomy, and enhanced sustainability of the utility

The proposed project includes two broad categories of outputs, namely, policy/institutional reforms and infrastructure development (commodities and equipment). The specific policy/institutional reforms to be undertaken as a result of the project are being defined through the Sector Assessment and the Pricing and Operation and Maintenance studies currently underway. The specific reforms are expected to be defined by ARENTO and agreed to by USAID during the third quarter of FY 94. These reforms will include, among other things, the modernization of ARENTO's operating procedures and management policies as they relate to autonomy of operation, retention of net income, employee retention and staff development. Other reforms would include pricing strategies to insure an adequate return on ARENTO's investment and adequate cash generation to provide appropriate levels of maintenance. It is anticipated that ARENTO will require technical assistance to implement some of the policy reforms which are agreed to under the project The exact quantity and type(s) of technical assistance to be provided to ARENTO can not be specified until the specific reforms to be

implemented are identified and agreed upon within the GOE and agreed to by USAID.

Infrastructure development will include a mix of digital switching systems (DSS) for network expansion and associated outside plant (OSP), replacement of obsolete crossbar switching systems, and the hardware, software and auxiliary systems for a Network Operations Center (NOC). The NOC will provide ARENTO's staff with network performance data that will be utilized to make network management decisions on a real-time basis to achieve optimum reliable network operation. Outside plant, consisting of multiple pair cables, conduit and duct systems, and termination cabinets will be provided, consistent with the digital switch capacity of each installation. In the five year plan ARENTO has tentatively identified 364,000 new lines of digital switching and another 102,000 replacement lines of digital switching to replace obsolete crossbar switches. The Network Planning and Service Improvement Task (Task 3) of the Pricing Strategy Study being carried out under the Telecommunications IV Project, to be completed in late FY 1993, will contain detailed recommendations on network expansion and service improvements to the network. The project will provide the necessary U.S. technical assistance and consulting services to engineer, specify, procure and oversee installation of the Network Operations Center, the digital switching systems, and the outside plant networks that will connect subscribers to the DSS at the various exchanges.

The project will fund both in-country and participant training. Implementation of training will be through a technical assistance contractor who will also be responsible for developing the life-of-project training plan and a detailed budget. Specialized operations and maintenance training will be provided by equipment suppliers for the equipment financed under the project.

From the results of the sector assessments and studies currently underway, ARENTO, assisted by the Assessment contractor, will identify a package of reforms to be achieved over the life of the project, together with a time-sequenced plan for achieving the reform objectives acceptable to USAID. It is anticipated that the agreed-upon reforms will emphasize (but not necessarily be limited to) those involving ARENTO's autonomy and financial viability. The reform package and plan will be incorporated in a Memorandum of Understanding (MOU) between MTCMT, MIC and USAID, to be signed during FY 1994.

USAID's contribution of \$200 million in LOP funds will be authorized and obligated in four annual tranches, with an initial authorization and obligation of \$30 million at the end of FY 1993, followed by annual authorization/obligations of approximately \$50 million in FY 1994, and \$60 million each in FYs 1995 and 1996. All funds will be used by ARENTO to finance equipment and services. There is no explicit policy conditionality associated with the initial \$30 million obligation (FY 1993). Authorization/obligation of the \$50 million FY 1994

tranche will be conditioned on formal ARENTO adoption (based on signature of the MOU) of a telecommunications sector reform program acceptable to USAID

The mechanism for implementing the policy reform feature of the project is as follows. The sector reform strategy adopted by ARENTO and approved by USAID during the fourth quarter of FY 1994 will set out a two year reform program with the goal of ARENTO achieving substantial institutional and financial autonomy. The MOU agreed to in FY 1994 will describe a set of "reform objectives," some of which ("medium term") are to be achieved by ARENTO and/or the GOE by the end of FY 1995, and the remainder ("longer term") by the end of FY 1996. The reform objectives will be well-defined, results-oriented, and preferably quantifiable. For each of the reform objectives, the MOU will identify a set of "milestones" that define specific policy actions or quantified indicators of progress toward achievement of the particular reform objective.

Joint USAID-ARENTO-MTCMT reviews of policy performance in comparison to the agreed milestones will be conducted semi-annually (first and third fiscal year quarters) beginning in FY 1995. On the basis of these reviews, USAID will determine whether ARENTO is making appropriate progress in fulfilling the specific milestones and thus toward achieving the reform objectives agreed to in the MOU for that fiscal year. Obstacles to achieving the specified milestones will be identified and appropriate corrective actions will be discussed. The project includes provisions for a long-term technical assistance contractor to assist ARENTO in implementing the reform program. If deemed necessary, specialized short-term technical assistance, financed from the project, will be encouraged.

If, during the fourth quarter of FY 1995, it is determined that the reform objectives specified for that fiscal year have been or will be met, and if other project conditions and covenants are being satisfactorily observed, USAID will authorize and obligate the relevant tranche. The same approach will be followed in FY 1996. In case of partial achievement of the reform objectives, the size of each year's obligation may be adjusted to reflect the magnitude of ARENTO reform efforts and of the sector's progress toward achievement of the agreed-to reform objectives for that year. Similarly, USAID may decide to advance (pending availability of funds) or defer obligation of either or both of the two planned tranches if ARENTO accelerates or delays its implementation of the policy reform program described in the MOU.

As in the case of the Telecommunications IV Project, the grant agreement will include a condition precedent to disbursement calling for evidence that project funds for procurement of equipment and installation services (projected at 85 percent of LOP funding) will be loaned to ARENTO from the GOE. Funds for technical assistance and training will be passed to ARENTO as a grant.

Project feasibility analyses indicate that the proposed project is viable from a technical, economic, financial, social, administrative, and environmental standpoint.

The project will finance state-of-the-art telecommunication equipment typical of equipment being installed throughout the world on telephone systems of similar size and diversity to Egypt. The equipment incorporates technology compatible to ARENTO's technical expertise.

Based on the cost and benefit assumptions outlined in the full analysis in ANNEX I, the financial internal rate of return (FIRR) is estimated at 11 percent, which indicates that the investment proposed for this project is financially viable.

Employing a conservative approach, the economic analysis indicates that the economic return to the resources invested in the project, roughly 16 percent, is high.

The project will produce significant social benefits, and there is no significant adverse environmental impact.

COST ESTIMATES AND FINANCIAL PLAN

The project cost estimates are summarized below:

Table 1. Summary Cost Estimate and Financial Plan (000).

Use of Funds	Source of Funds	
	USAID - \$	GOE - LE
Engineering Services	17,000	--
Equip. and Instal. Services	141,300	87,000 ¹
TA and Training	13,000	--
Audit and Evaluation	300	--
Contingency	28,400 ²	--
TOTAL	200,000	100,000³

¹See Table 4, Section 3.6

²Based on 20 percent of equipment cost

³Includes LE 13 million in-kind contribution - see Table 4, Section 3.6

AID obligation will be \$200 million in life-of-project funds, with an initial obligation of \$30 million at the end of FY 1993 as summarized below

Table 2. Obligation of Project Funds (\$000).

Project Element	Obligation Schedule				Total
	FY 93	FY 94	FY 95	FY 96	
Engineering Services	15,000	1,000	1,000	0	17,000
Equip and Instal Services	14,900	31,000	49,900	45,500	141,300
TA and Training	0	10,000	3,000	0	13,000
Audit and Evaluation	100	0	100	100	300
Contingency	0	8,000	6,000	14,400	28,400
TOTAL	30,000	50,000	60,000	60,000	200,000
CUMULATIVE TOTAL	30,000	80,000	140,000	200,000	--

The AID annual obligation will cover the expenditures for engineering services, technical assistance and training, equipment and installation services, audit and evaluation, and contingency. The AID annual projected expenditures by project elements are shown in Table 3 below

Table 3. Expenditure Projections (\$000).

Project Element	Expenditure Schedule							Total
	FY 93	FY 94	FY 95	FY 96	FY 97	FY 98	FY 99	
Engineering Services	0	2,000	5,000	6,000	2,000	1,500	500	17,000
Equip and Instal Services	0	5,000	20,000	60,000	40,000	16,000	300	141,300
TA and Training	0	0	4,000	5,000	2,000	1,500	500	13,000
Audit and Evaluation	0	100	0	100	0	0	100	300
Contingency	0	0	7,000	6,000	15,000	400	0	28,400
TOTAL	0	7,100	36,000	77,100	59,000	19,400	1,400	200,000
CUM TOTAL	0	7,100	43,100	120,200	179,200	198,600	200,000	

The projected GOE cash and in-kind contribution is presented in Table 4 below.

Table 4. Estimated GOE Contribution (LE 000).

Item	Contribution Schedule						Total
	1993	1994	1995	1996	1997	1998	
Cash - BAB 3	0	20,000	20,000	20,000	20,000	7,000	87,000
In kind Land	0	5,000	5,000	0	0	0	10,000
In kind Buildings	0	1,000	0	0	0	0	1,000
In-kind BAB 1 Salaries	0	200	200	200	200	200	1,000
In kind BAB 2 Operating Costs	0	200	200	200	200	200	1,000
TOTAL	0	26,400	25,400	20,400	20,400	7,400	100,000

PROJECT NEGOTIATION STATUS

The proposed project activities, required resources, and implementation arrangements have been discussed with ARENTO and the MTCMT. The GOE and ARENTO agree in principle with the objectives and implementation guidelines set forth for the project. It should be noted that the actual reforms to be undertaken by ARENTO within the project will not be agreed upon until the end of the first year of implementation.

RECOMMENDATION

The Project Team recommends that a grant of \$200 million be approved for the Telecommunications Sector Support Project, to be authorized and obligated in tranches as described in the attached project paper. The grant will be for a six year period, and will be authorized/obligated in four increments - \$30 million in FY 1993, \$50 million in FY 1994, \$60 million in FY 1995, and \$60 million in FY 1996.

LIST OF CONTRIBUTORS

USAID

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DR/PT, R Youssef	Project Development Officer
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FM/FA, M Mounir	Financial Analyst
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1.0 PROJECT BACKGROUND AND RATIONALE

1.1 INTRODUCTION

Telecommunications infrastructure is a significant input to the productive process. Throughout the developing world, the unsatisfied demand for telecommunications services far exceeds supply, and typically applications for service represent a substantial percentage of the number of existing telephone lines. New applicants frequently wait many years to obtain service and all too often, a large proportion of the potential demand for telecommunications services remains unrecorded and emerges only as the system is perceived to be expanding. When there are acute shortages of telephone lines, the proportion of subscribers who are very intensive users tends to be high, and the average number of calls per line is also high, leading to frequent congestion of the local and long distance services. This congestion is due in part to insufficient call traffic handling capacity of telephone exchanges and from the high proportion of the time the called telephone is in use.

With accessible and reliable telecommunications services, many of the physical constraints on organizational communications are removed in various sectors of the economy, permitting increased productivity through better management in both the private and public sectors, making it possible to adopt different organizational structures and locations, and aiding the evolution of increasingly complex organizations. With improved telecommunications, markets gain in effectiveness, more rapid response to market signals becomes possible, and access to market information is extended to village, town, city, governorate, regional, national and worldwide levels. Not to be overlooked is the rise in the efficiency of household operations as telecommunication allows improved access to goods and services, and forms of work are supported that require some integration of the work place and home.

1.2 BACKGROUND

Telecommunications within Egypt have evolved from the installation of the first telegraph service, between Cairo and Alexandria, in 1854. The first telephone exchange in Egypt was manufactured by the American Bell Edison Company in 1881. The Egyptian Telegraph and Telephone Administration was established in 1918 and all telecommunications facilities have remained state-owned. Overall management of the telecommunication sector is the responsibility of the Ministry of Transportation, Communication and Maritime Transportation (MTCMT), resulting from the consolidation of the Ministry of Communications and other related Ministries. When the sector was consolidated in 1957, responsibility for operation, management and development of all public telecommunications facilities was assigned to the Arab

Republic of Egypt Telecommunication Organization (ARETO), a semi-autonomous entity with authority for day to day administration and operations of the telecommunications network, both domestically and internationally

From ARETO's inception, the single major constraint impeding sector development has been insufficient investment, in large part a consequence of Egypt's general shortage of resources and the lack of foreign exchange. As a result, the Egyptian telecommunications system lacked the necessary financing to expand the existing system to meet the growing public demand for telephone service, or to maintain the existing network. Consequently, service became unreliable and grossly inadequate in relation to usage, resulting in severe peak period traffic congestion in local and long distance networks. Nationwide, less than 1 2 telephones existed per 100 population. In the urban areas of Cairo and Alexandria, there were fewer than five telephones per 100 population, and even among those with telephones only 25 percent of the calls attempted were successfully completed. Telephone service was so unreliable that even next door neighbors could not successfully call one another over the telephone, let alone make calls to the rest of the city or to other cities and countries

Responding to a request by the Government of Egypt (GOE) in 1977, USAID financed an in-depth telecommunications sector study, the scope of which included an investigation, review and evaluation of the performance of the Egyptian telecommunications system; the development of a Master Plan for meeting the short and long term telecommunication needs of Egypt, and, the preparation of a plan to strengthen the existing network until the more comprehensive and longer term development plans were implemented. The study resulted in the launching by the Egyptian Government of an ambitious 20-year, \$20 billion program to rehabilitate and modernize the telecommunications network

Since 1978, USAID and the GOE have jointly implemented four projects in the telecommunications sector totalling \$323 million. Three projects, Telecommunications I, II, and III, were completed in 1989. These three projects, totalling \$241 million, provided financing for: (i) consultant services; (ii) equipment to replace 10 obsolete motor-driven rotary telephone switching systems in Cairo and Alexandria with electronically controlled switching systems, increasing their capacity from 127,000 lines to 295,000 lines; (iii) equipment and materials to expand and rehabilitate associated outside plant cable networks; and, (iv) training of operations and maintenance staff.

Comprehensive policy conditionality affecting the financial performance of ARETO was included in the 1978 Telecommunications I Project. Key policy reform project covenants required ARETO and/or the GOE to prepare a tariff structure sufficient to cover

the costs of future operations, service debt, and provide an acceptable contribution to long-term investment; maintain a debt/equity ratio of 70.30; freeze staff size and restrict the number of new hires to the annual turnover rate; and, reorganize ARETO under its own special charter as an autonomous entity. The latter reform was to include authorities and rights for ARETO to: establish subsidiary companies able to participate in joint ventures; establish a reasonable rate/tariff structure; establish a reasonable wage structure, be free from GOE employment quotas, discharge unproductive workers; eliminate ARETO's legal obligation to turn over all its profits to the Ministry of Finance and to depend on the GOE budgetary process to obtain necessary operating and investment funds; appoint top managers without prior GOE approval; and, establish accounting, financial reporting and inventory disposal systems designed to serve the telecommunications industry, free of governmental requirements.

All of the above policy reform covenants were extended into the Telecommunications II, and, eventually, the Telecommunications III Project. The Telecommunications II Project added a covenant to assure that ARETO would collect payment for telecommunications services provided to GOE entities. Ultimately, the legal framework to achieve the reforms was put in place with the enactment of GOE Law 153 (see Annex N), issued on July 14, 1980. Law 153 transformed the ARETO organization into the Arab Republic of Egypt National Telecommunications Organization (ARENTO) and established ARENTO as an autonomous entity. The law grants ARENTO considerable autonomy in key areas such as pricing of services, retention of revenues, and establishment of internal policies and procedures. Key provisions of the law are contained in Articles 6 and 8, wherein ARENTO is authorized to retain its revenues and profits, including reimbursement from the GOE for the difference between tariffs set by ARENTO's Board of Directors and those fixed by the GOE (if the latter are lower than the former). Other provisions of the law describe the composition of ARENTO's Board of Directors and its powers (Article 17), including the power to override a ministerial veto (Article 20), and grant the Board wide authority for determining ARENTO's plans and programs, defining the organizational structure, setting rates and tariffs, proposing personnel regulations, etc. (Article 18).

The Telecommunications IV Project, authorized in 1988, provided \$40 million to finance: (i) consultant services; (ii) the installation of state-of-the-art digital switching systems (DSS) to serve new exchanges with a capacity of 74,000 lines; (iii) expansion of two existing exchanges by 24,000 lines; (iv) rehabilitation and expansion of associated outside plant (OSP) cable networks; and, (v) training of ARENTO operations and maintenance staff. A \$42 million amendment to Telecommunications IV was authorized in 1992. This amendment is financing: (1) the expansion and initial replacement of the obsolete

electromechanical (crossbar) switching systems in four exchanges (totalling 80,000 lines) with digital switching systems, (11) initial development of a centralized operation and maintenance (COM) center for the DSS, and, (111) training of ARENTO staff to effectively operate and maintain the DSS and COM facilities. While the Telecommunications IV Project did not include policy conditionality, a covenant provided that specified funds be utilized for a series of studies and assessments of the Telecommunications Sector that would include: a sector/institutional assessment study, a study of telecommunications services pricing (tariffs), and an operation and maintenance requirements (staffing and training) study.

USAID has also provided \$83.6 million in additional assistance to the telecommunications sector from the Commodity Import Program. These funds were utilized for the procurement of microwave communications systems totalling \$78.9 million and for the procurement of a digital switching system for Alexandria totaling \$4.7 million. USAID's overall assistance to the Egyptian telecommunications sector totals \$406.6 million. Other donor activity is summarized in Section 1.7 below.

1.3 ACCOMPLISHMENTS

As a result of these activities, significant progress has been made over the past ten years to meet a portion of the demand for effective telecommunications service in Egypt. ARENTO has dramatically improved its physical plant and has made limited improvements in its institutional capacity. The Egyptian telecommunications network has expanded rapidly between 1981 and 1992. The number of communities connected to the direct dial network increased from seven to 189, the number of international circuits increased from 820 channels to 5560 channels, the number of telephone lines increased from 510,000 to 2.5 million lines; and the telephone density increased from 1.2 to 4 lines per 100 population in spite of a population increase of 25 percent.

With regard to policy reform progress under the Telecommunications I, II and III projects, ARENTO implemented a new rate structure in 1982, and increased telephone subscription rates by 50 to 66 percent in 1985. In 1988, ARENTO limited local, unmetered call duration to six minutes, resulting in an increase in intracity revenues of approximately 25 percent. ARENTO implemented a new rate structure in 1991 that increased telephone subscription rates by 50 percent and increased installation fees by 20 to 38 percent in 1992. ARENTO revalued its assets at present market value, and made some progress in collecting telephone service bills from GOE entities. Under Law 153, ARENTO has the right to freeze the number of its employees. However, under GOE regulations ARENTO is sometimes forced to hire new graduates. As of May 1982, total ARENTO staff had declined

from the previous peak of 50,000 to 48,000 employees. However, the staff increased to over 54,000 by 1991, signalling ARENTO's functional inability to set limits on the size of its work force.

The successful implementation (full or partial) of some of these measures has significantly improved ARENTO's financial position, but ARENTO continues to utilize annual or semi-annual subscriber billing and archaic billing, collection and accounting practices that diminish cash generation. However, ARENTO is collecting sufficient revenue on its international and domestic services to cover its entire operations and maintenance costs, service its debt, and finance a portion of its capital costs. The annual subscriber charge of LE 45 (\$13.50¹) does not recover ARENTO's investment in the domestic phone service including operation and maintenance costs. As a result, ARENTO's domestic service is dependent on a cross-subsidy from connection fees and international tariffs.

1.4 PERCEIVED PROBLEM

With the passage of GOE Law No 153 in 1980, ARENTO legally became an autonomous organization. Over the past 13 years, ARENTO has improved its management structure and financial condition. Several increases in telecommunication tariffs and connection fees have been enacted, but tariffs for domestic service are not sufficient to recover costs. Conversely, ARENTO revenues on international service far exceed costs and are its main source of foreign exchange revenue. As a result, ARENTO's operating margins have improved considerably over the decade, enabling ARENTO to borrow the necessary funds to finance system expansion and service its outstanding debt.

However, even though ARENTO is legally an autonomous organization with the authority to retain its revenues for use in the expansion and maintenance of the network, in practice ARENTO remains a semi-autonomous entity dependent on the MTCMT for all major decisions involving finances, tariffs, and employment, and is subject to substantial revenues being channeled to other organizations within the MTCMT for their own expansion and/or operation. ARENTO's cash flow is not satisfactory due to semi-annual and annual billing cycles and inordinately long collection cycles, which result in additional debt service. ARENTO must not only continue to maintain control over daily operating costs, but more importantly adjust tariffs for services, improve cash flow, retain operating surpluses, provide for the retirement of obsolete switching systems, expand the network and provide appropriate levels of maintenance of the network by ensuring sufficient revenue to keep pace with costs.

¹\$1 00 = LE 3 33

ARENTO's high level of employment is in part required by the slow pace of automation of the billing, collection and accounting systems, and manual record keeping systems for operations and maintenance activities. The lack of computerized business systems adversely impacts cash flow, financial planning and tariff design.

Even with a total investment equivalent to LE 4.25 billion (\$1.28 billion²), of which the GOE has provided LE 2.53 billion (\$760 million) and financing agencies have provided LE 1.72 billion (\$516 million) between 1980 and 1992 to expand the Egyptian telecommunications network, the network has not been able to meet demand. Telephone service is available in only 548 of the nearly 27,000 cities and villages in Egypt. While more than 2.5 million subscribers are presently being served, an additional 1.2 million potential subscribers have applied for service, paid an application fee of LE 50, and have been waiting from five to ten years for a connection. Current connection fees, including the application fee (LE 400 for a routine connection and LE 3,000 for an immediate connection) no doubt discourage many people from even applying for a telephone. In addition, the subscriber must pay all installation costs. In other instances, due to the lag between application and service, potential subscribers are discouraged from applying. Other potential subscribers, in areas served by an exchange, are not able to pay either the application fee or the connection fee for service.

The network remains inefficient, congested and dependent on obsolete and unreliable switching systems. System performance data necessary for the moment to moment operation of the network are not available for operational decision making. ARENTO's staff is not receiving adequate training on some of the new (non-USAID-financed) systems being installed, and in some cases preventive maintenance sufficient for a modern and sophisticated telecommunication network is not being carried out.

Substantial additional investment in the sector is absolutely essential if Egypt is to achieve its economic potential and to lay the groundwork for future development. Although USAID and other donor assistance has been the primary factor in improving Egypt's telecommunications system, much remains to be done to provide the level of telecommunications service required to sustain economic development in Egypt. In addition to the traditional telephone and telex demand, the introduction of computers has led to an increased demand in Egypt for business user service requirements for data, image, text and voice. ARENTO must invest in an additional 45,000 lines per year (above and beyond the replacement of outmoded equipment which will go

²\$1.00 = LE 3.33

out of service) just to maintain its current telephone density of 4.2 telephones per 100 population.

In accordance with the USAID-financed 20 year master plan, ARENTO plans to reach a telephone density of 7 telephones per 100 population by the year 2000 (compared to telephone density of 7 per 100 in Turkey, 12 per 100 in Portugal and 80 per 100 in the U.S.). This effort will require the addition of approximately 300,000 new lines per year.

As a part of this program, ARENTO is now a partner in a joint-venture with the German firm Siemens for a digital switch production facility in Egypt. Initially, the facility will assemble digital switching systems incorporating imported Siemens components, and, at a later time, manufacture Siemens digital switches under license. Until the facility is in full operation, significant amounts of plant and equipment will have to be imported in order to meet the increasing demand for telecommunications service. To meet near term demand, ARENTO must identify foreign exchange resources and appropriate suppliers for the bulk of the switching systems and outside plant materials.

1.5 CONFORMITY WITH THE GOE'S DEVELOPMENT STRATEGY

A goal of the Government of Egypt (GOE) is to increase and improve the standard of living for its citizens. To achieve this goal, the GOE has embarked on a major economic reform program designed to stabilize the Egyptian economy, remove distortions, and give a new found impetus to the private sector as a central element in its growth strategy. The GOE has recognized that efficient and reliable communications, both domestic and international, are essential to achieving its productivity and standard of living goals. The GOE considers telecommunications infrastructure to be a significant input to the production process, and has allocated (but not yet approved) in excess of LE 4.8 billion (LE 3.4 billion - GOE, LE 1.4 billion - donors) in its 1993 - 1997 Five Year Plan for telecommunications network modernization and expansion. Under this plan, ARENTO intends to install 2.5 million new or replacement lines of telephone service. Approximately 240 individual telephone exchanges will be either newly built, expanded, or wholly or partially replaced. In terms of the number of new or replaced telephone connections, the proposed project would contribute nearly 20 percent of the projected Five Year Plan output.

ARENTO developed the investment plan for the 1992-1997 period based on the priorities and objectives of the GOE. ARENTO's five-year development and investment plan has five primary objectives: expanded telecommunication services; replacement of obsolete switching equipment, enhancement of network maintenance;

improvement in network performance, efficiency and reliability (call completion rates); and enhancement of the capabilities of ARENTO employees through training ARENTO plans to generate about 80 percent of required capital expenditures and obtain the balance of funding from other sources

The Telecommunications Sector Support Project is in conformity with Egypt's strategy for economic reforms and development of the private sector. The project would provide funding to finance equipment, technical assistance and services, and training to support ARENTO in achieving the objectives of the GOE's investment plan for telecommunication network modernization and expansion.

1.6 RELATIONSHIP TO USAID STRATEGY, AID POLICIES, AND SIMILAR PROJECTS

The primary goal of the Mission's Country Program Strategy for FY 1992-1996, dated May 1992, is the enhancement of Egypt's role as a model of stability, democracy, free markets and prosperity in the region. A comprehensive approach to the political and economic development of Egypt is essential if Egypt is to achieve the program goal. Three program sub-goals are essential: increased economic growth, enhanced human resource productivity and quality of life; and strengthened democratic systems.

To accomplish these sub-goals, the Mission is placing greater emphasis on economic policy reform through fast-disbursing policy-based programs and projects. Greater emphasis will be placed on policy constraints in those infrastructure sectors such as telecommunications where the Mission has made, and will continue to make, major investments.

The Telecommunication Sector Support Project's emphasis on network modernization and expansion in line with agreed-to policy reforms will support the Mission's Strategic Plan Program Subgoal 1 - Increased Economic Growth; Strategic Objective No. 1 - Increased macro-economic stability and market pricing, and Strategic Objective No. 2 - Increased private investment and trade. Achievement of the project purpose will support the Mission's Strategic Plan Program Subgoal 2 - enhanced human resource productivity and quality of life, and Strategic Objective No. 6 - increased access to, and efficiency and reliability of, public utilities in urban target areas.

In addition to financial considerations, three other factors contributed to USAID's decision to finance a telecommunications project: (1) the importance of the orderly expansion and modernization of telecommunications systems to the efficiency and enhancement of profitability in all sectors of the Egyptian

economy, particularly a growing private industrial sector; (11) previous policy successes in the telecommunications sector; and, (111) the need to further enhance ARENTO's project management skills and technical and organizational capabilities that have evolved through the implementation of the previous and present AID-financed Telecommunications Projects.

In sum, USAID is prepared to provide support for a good performer in terms of both management and policy and to assist with essential infrastructure for organizational and institutional development

1.7 RELATIONSHIP TO OTHER DONOR SUPPORT AND STRATEGY

Since 1980 ARENTO has received financial assistance of one form or another (mostly soft loans and/or supplier credits) totalling \$520 million (equivalent) from France, Germany, Austria, Japan, Italy and Greece. These funds have been used for the procurement of switching systems, outside plant facilities, transmission equipment, and sea cables. No policy reform conditionality was or is connected to any of this support. Historically, ARENTO has installed switching equipment from various suppliers according to the following geographical distribution (with limited exceptions)

United States	Cairo and Alexandria
Germany	Canal Cities, Cairo, Upper Egypt
France	Delta, Alexandria, North Coast
Japan	Sinai

Based on the authority to establish stock companies (solely or with outside partners) granted in Article 4 of Law 153, in 1989 MTCMT signed an agreement with the German telecommunications manufacturer Siemens to establish the Egyptian-German Telecommunications Company for the production (assembly) of digital switching systems of the Siemens design. Under the agreement, ARENTO will receive approximately 200,000 lines of digital switching equipment per year, comprising switches made in Egypt and concessional financing for Siemens equipment imported from Germany. Importation of the German-sourced equipment will be phased out as the local plant approaches its annual production capacity of 200,000 lines (projected for operational year 1995/96). The plant recently began operations, and produced 60,000 lines during its first operational year. These locally manufactured switches will compete on price with switches from other sources.

Other current donor activity includes a FF 150 million loan (under negotiation) from Alcatel (France) for 90,000 lines of digital switching equipment.

2.0 PROJECT DESCRIPTION

2.1 PROJECT GOAL AND PURPOSE

The Goal of this project is to provide increased access to efficient and reliable public utilities in the target areas (Cairo and Alexandria)

The Purpose of the project is to accelerate and enhance the evolution of ARENTO into a fully autonomous telecommunications utility

2.2 END OF PROJECT STATUS

When the Project is complete, ARENTO/GOE will have achieved all policy/institutional reforms set forth in a memorandum of understanding (MOU) to be negotiated and executed by ARENTO and USAID during the first year of the project (see Section 4.1 of this project paper). It is anticipated that the MOU will specify major policy, legal and institutional reforms aimed at streamlined management, market pricing and cost recovery for services, fiscal autonomy, and enhanced sustainability of the utility. Another useful, but secondary, measure of Purpose level achievement is the extent to which ARENTO and the GOE are in compliance with the terms of Law 153 of 1980, since, among other things, the law grants ARENTO considerable autonomy in key areas such as pricing of services, retention of revenues, and establishment of internal policies and procedures (see Section 1.2 of this project paper and Annex N for an English translation of the law).

2.3 PROJECT OUTPUTS

The proposed project includes two broad categories of outputs, namely, policy/institutional reforms and infrastructure development (commodities and equipment).

The specific policy/institutional reforms to be undertaken as a result of the project are being defined through the Sector Assessment, Cost of Services, and Operation and Maintenance studies. The specific reforms are expected to be defined by ARENTO and agreed to by USAID during the third quarter of FY 94. These reforms will include, among other things, the modernization of ARENTO's operating procedures and management policies as they relate to autonomy of operation, retention of net income, employee retention and staff development. Other reforms would include pricing strategies to insure an adequate return on ARENTO's investment and adequate cash generation to provide appropriate levels of maintenance.

2.3.1 Operating Policies/Procedures and Management Policies

The project will result in the modernization of ARENTO's internal operating procedures and management policies. The Sector Assessment, Cost of Services, and Operation and Maintenance studies, to be completed by the second quarter of FY 1994, will identify specific policy, organizational and institutional constraints, operation and maintenance procedures, personnel and compensation practices, billing procedures, and record keeping systems that if uncorrected would limit or prevent ARENTO from effectively managing and maintaining the state-of-the-art systems being installed on the network. The process by which specific policy and procedural reforms will be identified and implemented is discussed in Section 4.0 of this project paper.

2.3.2 Rationalization of Tariff Structure

ARENTO is a rapidly expanding utility and, like any other utility world-wide, needs to continually expand and improve its facilities, its institutional capabilities and its training programs. The Cost of Services Study, to be completed in the fourth quarter of FY 1993, will provide ARENTO with a basis for both designing and implementing an effective strategy for future telecommunications pricing in Egypt and will recommend a tariff structure that will provide adequate revenue to self finance a substantial portion of future network expansion and refurbishment and provide appropriate levels of maintenance of the existing system.

2.3.3 Expansion and Enhancement of Service Network

Infrastructure development will include a mix of digital switching systems (DSS) for network expansion and associated outside plant (OSP), replacement of obsolete crossbar switching systems, and the hardware, software and auxiliary systems for a Network Operations Center (NOC). The NOC will provide ARENTO's staff with network performance data that will be utilized to make network management decisions on a real-time basis to achieve optimum reliable network operation. Outside plant, consisting of multiple pair cables, conduit and duct systems, and termination cabinets will be provided, consistent with the digital switch capacity of each installation. In the five year plan ARENTO has tentatively identified 364,000 new lines of digital switching and another 102,000 replacement lines of digital switching to replace obsolete crossbar switches. The Network Planning and Service Improvement Task (Task 3) of the Cost of Services Study being carried out under the Telecommunications IV Project, to be completed in late FY 1993, will contain detailed recommendations on network expansion and service improvements to the network.

A Network Operations Center (NOC) will centralize and expand ARENTO's capability to monitor the condition of the switching, transmission, and other network equipment, detect the existence and location of problems in the system, and transmit network status information to a centralized location where it will be presented in a format conducive to network management and operational decision making. This will enable ARENTO staff to identify network problems and respond to them on a timely basis and allow for the rerouting of calls through the network to achieve optimum use of the network facilities. The NOC will also enhance network performance by providing updated network operating performance information that will allow ARENTO staff to make and implement network management decisions as the situation requires.

The centralized operations and maintenance (COM) center being supplied under the Telecommunications IV Project, serves only a limited number of AT&T "5ESS" digital switches. With more digital switches to be added to ARENTO's network during the next five year plan, this new COM center will need to be upgraded to be able to deal with a larger number of switches. Another AT&T COM center that was procured with USAID funds to serve the older analog AT&T "1AESS" switches needs to be upgraded as well in order to be able to communicate with the new COM center for the digital switches

Since ARENTO's network reflects a multi-vendor environment, each supplier has its own COM center, such as Alcatel COM, Siemens COM, Erikson COM and AT&T COM. One step toward an overall NOC for the whole network is to integrate all these COM centers under one centralized operation and maintenance center. The project will support this transition step.

2.4 PROJECT INPUTS

2.4.1 Training and Related Technical Assistance

The project will fund both in-country and participant training. Implementation of training will be through a technical assistance contractor who will also be responsible for developing the life-of-project training plan and a detailed budget. Specialized operations and maintenance training will be provided by equipment suppliers for the equipment financed under the project. This training will be incidental to the equipment supply and installation contract(s), and thus is not considered participant training.

2.4.2 Policy Reform and Project Monitoring Technical Assistance

It is anticipated that ARENTO will require technical assistance to implement some of the policy reforms which are agreed to under the project. The exact quantity and type(s) of technical assistance to be provided to ARENTO can not be specified until the specific reforms to be implemented are identified and agreed upon within the GOE and agreed to by USAID. For planning purposes it has been assumed that policy reform technical assistance will consist of 56 person-months of resident expatriate long-term assistance, and 36 person-months of intermittent short-term expatriate assistance. This level of effort is based on an in-country expatriate team of two individuals for just over two years.

In addition, the need for implementation monitoring services by means of a project-financed U.S. Personal Services Contractor for the life of project is anticipated.

2.4.3 Equipment and Commodities

ARENTO has identified a minimum of 20 digital switches with a total line capacity of 466,000 lines to be added or replaced during the life of the project. These switches will range in size from 2,000 line capacity to 80,000 line capacity, with a weighted average switch capacity of 20,000 lines. The capacity of the outside plant, based on good engineering practice, will be in the order of 410,000 pairs (360,000 for the new DSS and 50,000 for outside plant upgrading for the crossbar replacement switches). Additional switches could be financed from the project subject to availability of funds.

The Network Operations Center will utilize software customized for the ARENTO network and off-the-shelf computer hardware systems.

2.4.4 Consulting Engineering Services

The project will provide the necessary U.S. technical assistance and consulting services to engineer, specify, procure and oversee installation of the Network Operations Center, the digital switching systems, and the outside plant networks that will connect subscribers to the DSS at the various exchanges. The consultant will provide assistance to ARENTO in the planning and preliminary design for equipment installation, evaluation of responses to procurement solicitations, recommendation for awards, negotiation of contracts, and the supervision and monitoring of the performance of the equipment supply and installation contractors. Based on experience under the Telecommunications IV Project, consulting engineering services in the range of 350 person-months of resident expatriate staff long-

term assistance, 720 person-months of local staff technical and clerical staff and 30 person-months of intermittent short-term expatriate assistance will be required to provide adequate levels of professional advice, support and assistance in the implementation of the network expansion, replacement and NOC installation, and as ARENTO's agent in the administration of the various equipment and material supply contracts.

3.0 COST ESTIMATE AND FINANCIAL PLAN

3.1 PROJECT COST ESTIMATE

The project cost estimates are summarized below.

Table 1. Summary Cost Estimate and Financial Plan (000).

Use of Funds	Source of Funds	
	USAID - \$	GOE - LE
Engineering Services	17,000	--
Equip. and Instal. Services	141,300	87,000 ¹
TA and Training	13,000	--
Audit and Evaluation	300	--
Contingency	28,400 ²	--
TOTAL	200,000	100,000³

¹See Table 4, Section 3 6

²Based on 20 percent of equipment cost

³Includes LE 13 million in-kind contribution - see Table 4, Section 3 6

3.2 AID PLANNED OBLIGATION

The AID obligation will be \$200 million in life-of-project funds, with an initial obligation of \$30 million at the end of FY 1993 as summarized below

Table 2. Obligation of Project Funds (\$000).

Project Element	Obligation Schedule				Total
	FY 93	FY 94	FY 95	FY 96	
Engineering Services	15,000	1,000	1,000	0	17,000
Equip and Instal Services	14,900	31,000	49,900	45,500	141,300
TA and Training	0	10,000	3,000	0	13,000
Audit and Evaluation	100	0	100	100	300
Contingency	0	8,000	6,000	14,400	28,400
TOTAL	30,000	50,000	60,000	60,000	200,000
CUMULATIVE TOTAL	30,000	80,000	140,000	200,000	--

3.3 DETERMINATION PURSUANT TO SECTION 611(A) OF THE FOREIGN ASSISTANCE ACT OF 1961, AS AMENDED

Project activities include foreign exchange financing for the supply and installation of digital telephone switching equipment, outside plant networks, and network operating equipment; consulting engineering services; technical assistance and equipment support for implementation of policy reforms; and training relevant to all components of the project. The estimated costs of the goods and services to accomplish the Project purpose are based on sound engineering practice as well as experience gained in implementing the Telecommunications I - IV projects. The plans for accomplishing the Project purpose are consistent with good utility practices. The project cost estimates were prepared by DR/PT based on information provided by the ARENTO Projects and Planning Department for both the AID dollar funds and the GOE Egyptian Pound (LE) contribution. ARENTO's projections are based on ARENTO's Five Year Plan. DR/PT has reviewed the cost estimates and finds them reasonable.

As the foregoing indicates, all plans necessary to carry out this project and a reasonably firm estimate of the cost to the United States government have been completed. It is the conclusion of the Project Committee that the requirements of Section 611(a) of the Foreign Assistance Act of 1961, as amended, have been satisfied.

3.4 AID EXPENDITURES PROJECTIONS

The AID annual obligation will cover the expenditures for engineering services, technical assistance and training, equipment and installation services, audit and evaluation, and contingency. The AID annual projected expenditures by project elements are shown in Table 3 below:

Table 3. Expenditure Projections (\$000).

Project Element	Expenditure Schedule							Total
	FY 93	FY 94	FY 95	FY 96	FY 97	FY 98	FY 99	
Engineering Services	0	2,000	5,000	6,000	2,000	1,500	500	17,000
Equip and Instal Services	0	5,000	20,000	60,000	40,000	16,000	300	141,300
TA and Training	0	0	4,000	5,000	2,000	1,500	500	13,000
Audit and Evaluation	0	100	0	100	0	0	100	300
Contingency	0	0	7,000	6,000	15,000	400	0	28,400
TOTAL	0	7,100	36,000	77,100	59,000	19,400	1,400	200,000
CUM TOTAL	0	7,100	43,100	120,200	179,200	198,600	200,000	--

3.5 FUNDING RESPONSIBILITIES

AID grant funds will finance the foreign exchange and local currency costs for consultant services. AID will also finance the foreign exchange costs associated with design, supply, installation and training contracts for the NOC, DSS and OSP equipment. Payment will be made by USAID through direct letters of commitment. The GOE contribution of LE 87 million cash and LE 13 million in-kind will finance the other local currency costs associated with the project including land acquisition, exchange building construction and OSP civil works. For the GOE cash contribution, the GOE will issue appropriate local currency letters of credit to eligible suppliers of equipment and materials. The in-kind contributions include counterpart personnel costs, services, administrative costs, fair market value of land contributed and other similar costs.

3.6 GOE CONTRIBUTION

The projected GOE cash and in-kind contribution is presented in Table 4 below

Table 4. Estimated GOE Contribution (LE 000).

Item	Contribution Schedule						Total
	1993	1994	1995	1996	1997	1998	
Cash BAB 3	0	20,000	20,000	20,000	20,000	7,000	87,000
In kind Land	0	5,000	5,000	0	0	0	10,000
In kind Buildings	0	1,000	0	0	0	0	1,000
In kind BAB 1 Salaries	0	200	200	200	200	200	1,000
In-kind BAB 2 Operating Costs	0	200	200	200	200	200	1,000
TOTAL	0	26,400	25,400	20,400	20,400	7,400	100,000

The cash contribution will be allocated in the implementing agency's annual budget BAB 3 - Capital Investment, as approved by the GOE Ministry of Planning and Ministry of Finance. The implementing agency will maintain records on both cash and in-kind contributions to the project. The implementing agency will submit annual and quarterly reports to the USAID project office, according to the guidance provided in a Project Implementation Letter. The implementing agency reports on planned and actual contributions will be based on its accounting system and financial regulations.

3.7 ASSESSMENT OF ARAB REPUBLIC OF EGYPT NATIONAL TELECOMMUNICATION ORGANIZATION CONTRACTING AND VOUCHER PROCESSING CAPABILITIES

ARENTO is the Government of Egypt implementing agency for the Telecommunications I, II, III and IV projects and will serve in the same capacity for the Telecommunications Sector Support Project. Throughout the implementation of the existing projects, ARENTO has performed well in the review of project documents and host country contracting; including advertising, award, negotiating contracts, monitoring contract implementation, and examining invoices. An assessment of ARENTO's capability to undertake host country contracts including accounting and internal controls was completed by a local CPA firm, and the host country implementing agency was certified to this effect. An update assessment and certificate on ARENTO capability is planned to be completed by the end of December 1994.

3.8 AUDIT, ASSESSMENT, AND EVALUATION COVERAGE

Funds provided by this project will be used to finance lump sum host country contracts with U S companies. Since these are lump sum, competitively bid, fixed price contracts they are not subject to audit of costs except for any cost reimbursable items. They are however subject to audit for compliance with other AID regulations and, therefore, a small amount of audit funds are allocated for this purpose. The project will also utilize consultant engineering services financed through an AID-direct contract which is subject to audit of costs. The project budget includes approximately \$200,000 to cover the estimated auditing costs of these contracts as well as updating ARENTO's host-country contracting and voucher examination capability; and \$100,000 for evaluation(s). Evaluation arrangements are discussed in Section 8 0 of this project paper.

3.9 METHODS OF IMPLEMENTATION AND FINANCING

The following table illustrates the methods of implementation and financing for AID funds as planned in the Telecommunications Sector Support Project Paper.

Table 5. Proposed Methods of Implementation and Financing.

Project Element	Approximate Value (\$000)	Proposed Method of		Type of Contract	Implementing Agency
		Implementation	Financing		
Engineering Services	17,000	AID Direct	Direct Payment	Cost + Fixed Fee	AID
Equip and Instal Services	141,300	Host Country	Direct L/Com	Lump Sum	ARENTO
TA/Training	13,000	AID Direct	Direct Payment	Cost + Fixed Fee	AID
Audit/Eval	300	AID Direct	Direct Payment	Cost Reimburse	AID
TOTAL	171 600	--	--	-	--

The justification for using Direct Letters of Commitment is that the host country does not have sufficient foreign exchange to make payment and then seek reimbursement from AID.

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4.0 IMPLEMENTATION PLAN

4.1 PROJECT APPROACH

The proposed project consists of a six year, \$200 million activity to finance capital improvements, technical assistance and training, of which \$120 million will leverage specific policy and institutional reforms to be identified during the initial stage of the project as discussed below.

ARENTO is a reasonably effective parastatal organization which generates revenue sufficient to cover its operations and maintenance costs as well as part of its capital requirements. ARENTO has demonstrated its ability to maintain equipment similar in design and complexity to equipment proposed for funding under this project. However, there are a number of political, legal, financial and administrative barriers to achieving full self-sufficiency with regard to ARENTO's ability to operate on a commercial basis and to finance a substantial portion of the capital investment program needed to meet projected future demand for telephone services in Egypt. It is thus appropriate that the project address the need to make needed sectoral reforms.

The Telecommunications IV Project (263-0177) is financing an assessment of the regulatory, legal and institutional constraints that are impeding the development of ARENTO, and studies of telecommunication pricing and operation and maintenance practices, procedures and funding. These assessments and studies, when completed by mid-FY 1994, will identify those regulatory, legal, structural, policy, managerial and financial issues that are most critical to the growth and stability of the telecommunication sector in Egypt. The Ministry of Transportation, Communication and Maritime Transportation (MTCMT) and ARENTO fully support these assessments and studies and have agreed in principle to structure a series of reforms based upon the recommendations of the assessment and studies. These reforms would involve a hierarchy of issues: issues within the control of the sector that could be dealt with by ARENTO; issues involving internal policies that must be addressed by the Minister of Transportation, Communication and Maritime Transportation; and issues involving broad policies of a national concern that can only be addressed by the most senior levels of the GOE.

During the first year of project implementation (FY 1994), ARENTO, assisted by the Sector Assessment Contractor, will review the results of the three sector studies (Sector Assessment, Cost of Services, Operations and Maintenance) which will be completed in the second quarter of FY 1994. From the results of the assessments and studies, ARENTO will identify a package of reforms to be achieved over the life of the project, together

with a time-sequenced plan, acceptable to USAID, for achieving the reform objectives.

It is anticipated that the agreed-upon reforms will emphasize (but not necessarily be limited to) those involving ARENTO's autonomy and financial viability, e g (i) ARENTO's authority to retain revenue that would be used to meet the telecommunications network's operation and maintenance requirements and to self-finance increasingly larger percentages of network expansion, (ii) ARENTO's authority to implement changes in the telecommunications tariffs to achieve necessary revenue levels, and reducing and eventually eliminating cross-subsidies from one class of service to another; (iii) automation of customer accounting systems, planning and information management, and, (iv) changes in the structure and organization of ARENTO and its authority to set and implement its own personnel policies, and to be free from GOE employment quotas, salary schedules, etc The reform package and plan would be incorporated in a Memorandum of Understanding (MOU) between MTCMT, MIC and USAID, to be signed during FY 1994

USAID's contribution of \$200 million in LOP funds will be authorized and obligated in four annual tranches, with an initial authorization and obligation of \$30 million at the end of FY 1993, followed by annual authorization/obligations of approximately \$50 million in FY 1994, and \$60 million each in FYs 1995 and 1996 All funds will be used by ARENTO to finance equipment and services There is no explicit policy conditionality associated with the initial \$30 million obligation (FY 1993) Authorization/obligation of the \$50 million FY 1994 tranche will be conditioned on formal ARENTO adoption (based on signature of the MOU) of a telecommunications sector reform program acceptable to USAID

The mechanism for implementing the policy reform feature of the project is as follows The sector reform strategy adopted by ARENTO and approved by USAID during the fourth quarter of FY 1994 will set out a two year reform program with the goal of ARENTO achieving substantial institutional and financial autonomy. The MOU agreed to in FY 1994 will describe a set of "reform objectives," some of which ("medium term") are to be achieved by ARENTO and/or the GOE by the end of FY 1995, and the remainder ("longer term") by the end of FY 1996. The reform objectives will be well-defined, results-oriented, and preferably quantifiable. For each of the reform objectives, the MOU will identify a set of "milestones" that define specific policy actions or quantified indicators of progress toward achievement of the particular reform objective

Joint USAID-ARENTO-MTCMT reviews of policy performance in comparison to the agreed milestones will be conducted semi-annually (first and third fiscal year quarters) beginning in FY

1995 On the basis of these reviews, USAID will determine whether ARENTO is making appropriate progress in fulfilling the specific milestones and thus toward achieving the reform objectives agreed to in the MOU for that fiscal year. Obstacles to achieving the specified milestones will be identified and appropriate corrective actions will be discussed. The project includes provisions for a long-term technical assistance contractor to assist ARENTO in implementing the reform program. If deemed necessary, specialized short-term technical assistance, financed from the project, will be encouraged.

If, during the fourth quarter of FY 1995, it is determined that the reform objectives specified for that fiscal year have been or will be met, and if other project conditions and covenants are being satisfactorily observed, USAID will authorize and obligate the relevant tranche. The same approach will be followed in FY 1996. In case of partial achievement of the reform objectives, the size of each year's obligation may be adjusted to reflect the magnitude of ARENTO reform efforts and of the sector's progress toward achievement of the agreed-to reform objectives for that year. Similarly, USAID may decide to advance (pending availability of funds) or defer obligation of either or both of the two planned tranches if ARENTO accelerates or delays its implementation of the policy reform program described in the MOU

As in the case of the Telecommunications IV Project, the grant agreement will include a condition precedent to disbursement calling for evidence that project funds for procurement of equipment and installation services (projected at 85 percent of LOP funding) will be loaned to ARENTO from the GOE Funds for technical assistance and training will be passed to ARENTO as a grant. In addition to design and construction management services, technical assistance funds will be used to obtain specialized technical assistance to assist ARENTO in the implementation of agreed-upon policy reforms, and in the development, implementation and management of a training program, including training equipment as necessary.

4.2 MANAGEMENT AND ADMINISTRATIVE ARRANGEMENTS

ARENTO will have primary responsibility for the overall management of project implementation. Due to the technical complexity and interface requirements of the Network Operations Center (NOC), a Condition Precedent will require ARENTO to establish a special project management team for the NOC component of the project. This team, composed of a project manager, computer hardware and software specialists, as well as switch, outside plant, legal and financial specialists, will report directly to the ARENTO Chairman. This team will have authority to manage the NOC component on a day-to-day basis. ARENTO will continue to use project teams reporting to the Vice Chairman for

Technical Affairs for the network modernization and expansion components. This management structure has been used satisfactorily in prior telecommunications projects.

The USAID Office of Power and Telecommunications, within the Development Resources Directorate, will have monitoring responsibilities for USAID. The Office is staffed with experienced telecommunication engineers and project managers who have been responsible for the implementation of the Telecommunications IV project and for computer based-control centers serving other utilities. The staff has developed an excellent working relationship with all levels of the ARENTO organization.

4.3 PROCUREMENT PLAN

4.3.1 Consulting Engineer

ARENTO will require the services of a qualified U.S. engineering firm to assist in the preparation of equipment and material specifications, evaluation and selection of bidders, and contract management, including supervision of the work associated with the procurement and installation of the digital switching systems, outside plant and network operations center. While for developmental purposes, a Host Country contract would be preferable to develop ARENTO's project management and contracting capabilities, AID Direct Contracting procedures for Architect and Engineering (A&E) services will be used in consideration of the need to assure timely award, efficient administration and effective management of the contractor in its supervision of the DSS, OSP and NOC work. A FIDIC-type scope of work will permit the consulting engineer to work closely with ARENTO in managing the Host Country equipment contracts.

The consulting engineer contract will be for a level of effort given the supervisory nature of the work and the inappropriateness of defining a specific deliverable. Nonetheless, the contractor will provide monthly reports detailing the progress of the installations as well as its own level of effort and quality control work. The cognizant project officer will monitor the performance of the consulting engineer through regular and frequent site visits and meetings as well as the routine reporting requirements and voucher reviews.

To facilitate project/contract management, a single A&E contract will be awarded for an initial five year period with an option to extend services for up to an additional year. The contract may be further modified to include additional work under the project as necessary and appropriate. The participation of disadvantaged enterprises in this procurement will be encouraged in accordance with Mission policy. The technical complexity, need for

demonstrated experience and size of this procurement makes it inappropriate for an 8(a) set-aside.

4.3.2 Equipment

It is anticipated that ARENTO will follow competitive bidding procedures under AID Handbook 11, Chapter 3 (Equipment) in awarding design-build contract(s) for the DSS, OSP and NOC. In the form of services incidental to the equipment procurement, the DSS, OSP and NOC contract(s) will include training of ARENTO personnel in the operation and maintenance of the equipment supplied. The OSP contractor will subcontract the civil works to a suitably qualified Egyptian construction firm. The U.S. prime contractor(s), however, will be held responsible for the quality and performance of all works. Utilization of disadvantaged enterprises will be encouraged.

A single pre-qualification round will be held for the DSS and OSP procurements which will be used as a basis for competing the qualified firms over the life of the project. This will minimize the number of individual procurement actions while fostering maximum competition among U S suppliers. For procurements under subsequent tranches, the Consulting Engineer will assist ARENTO in the development of the specifications, solicitations, negotiations and awards.

Reasonable prices in the procurement of this equipment will be assured through enhanced cost/price analysis by the consulting engineer in support of ARENTO's review and negotiation, if necessary. This effort may be supplemented by subjecting the Form AID 1450-4 submitted by the winning supplier(s) to audit by the Monitoring Branch within the Office of Procurement in AID/Washington. The form AID 1450-4 requires refund of any amounts over current market prices plus interest from the time of payment to the supplier.

4.3.3 Institutional Development Contract

One or more technical assistance contractors will be required to provide assistance in policy reform, institutional development and manpower development training. The scope of work for these contractors will be developed in close collaboration with ARENTO based on the telecommunications sector assessment. AID Direct Contracting procedures for Technical Assistance services will be used to insure that the institutional development objects of the project are not minimized or relegated to a secondary status. The scope of work will permit the technical assistance contractor(s) to work closely with ARENTO in managing the implementation of the reforms. As an alternative, a host country contract, under AID Handbook 11, Chapter 1 (Technical Services) procedures, could marginally strengthen ARENTO's commitment to the implementation of the recommendations.

In this respect, ARENTO will be heavily involved in the scope development, evaluation of proposals, negotiation of award and contract management. The key factor in the decision would be ARENTO's commitment to these contracts in assuring ultimate success which would clearly outweigh the administrative requirements of either form of contracting. The decision on the contracting mode will be determined in consultation with ARENTO at the time the MOU is negotiated

4.3.4 Mode of Contracting and Financing Procedures

AID Grant funds will finance the foreign exchange and foreign exchange equivalent of local currency costs for the consulting engineering and institutional development AID Direct contracts. These contracts are anticipated to be cost type with payment made directly by USAID.

Funds provided by this project will be used to finance Host-Country contracts between ARENTO and U S. suppliers of equipment and installation services. The DSS, NOC and OSP turnkey contracts will be firm, fixed price contracts. All equipment and materials to be financed by AID funds will comply with the standard U S source/origin rules. Since the NOC must ultimately interface with a variety of centralized operation and maintenance (COM) centers and switching systems utilizing differing computer protocols, a Condition Precedent to Disbursement of funds for the NOC will require that ARENTO confirm that ARENTO has acquired and will provide to the NOC contractor the protocols for each COM or switch that will be communicating with the NOC. A second Condition Precedent to the First Disbursement for the NOC will require that ARENTO agree to furnish, either from its own resources or through arrangements with non-U S. equipment suppliers, all foreign exchange costs to integrate non-U S COMs or switches with the project financed NOC. The proposed implementation methods and contracting procedures have been successfully utilized for the contracts financed by AID under the Telecommunications I, II, III and IV projects. The contractors will be paid through use of Mission Direct Letters of Commitment, and, where ARENTO is responsible for payment, LE Letters of Credit issued to the contractors.

4.3.5 Buy America Considerations

With the exception of audits and an assessment of ARENTO's host country contracting capability, the source of all inputs obtained under this project will be AID Geographic 000 as all inputs will be provided through U S contractors. Audit services will be obtained locally, but as these will be professional services contracts estimated not to exceed \$250,000, they are exceptions in line with HB 1, Supplement B, Chapter 18, Item A1c(4)

It is anticipated that the U S. contractors will spend approximately \$5 million on residential and office rent, utilities, temporary lodging allowances, education tuition and fees, local per diem, salaries of local staff, office consumables 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)

4.4 TRAINING PLAN

The project will fund both in-country and participant training. Implementation of training will be through a technical assistance contractor who will also be responsible for developing the life-of-project training plan and budget.

Although it is not possible at this stage to identify the exact types of training or the number of trainees, experience under the Telecommunications I, II, III, and IV projects indicates that fields of training will most likely include basic technical training, administrative and financial training, training in various computer applications, training of trainers, and management training. Although it is anticipated that most of the training will be carried out in-country, some U S and possibly third-country participant training will be required such as observational study tours and short-term technical training. Trainees will be drawn from a variety of occupational groups within the work force of ARENTO's 52,000 employees.

The Sector Assessment, pricing study, and operations and maintenance (O&M) study will soon be completed. The Sector Assessment will, among other things, provide detailed information on the human resource and training needs of ARENTO. The Sector Assessment as well as the O&M study will provide the necessary information to enable ARENTO and the implementing technical assistance and training contractor to develop a training plan and a more refined training budget.

One of the first tasks of the technical assistance and training contractor will be to review the O&M Study and Sector Assessment, including the training needs analysis produced by the Sector Assessment. The contractor will, in coordination with ARENTO, refine the needs assessment if necessary. Then based on the needs assessment, the contractor will develop a comprehensive training plan and budget covering both in-country and participant training. The training plan will be developed in accordance with guidelines in Handbook 10 (Participant Training) and Mission Order 10-1 (Participant and In-country Training) and will include the needs assessment, implementation plan, monitoring, reporting and follow-up plans, and a training evaluation plan. As required by Mission Order 10-1, the plan will be approved by the

Telecommunication Sector Support project committee as well as DR/PT and HRDC/ET prior to implementation and disbursement of funds for training

As noted in the Technical Analysis (Annex H, Section C 5) and in Section 7 2 of this project paper, ARENTO will provide an existing building to house a comprehensive training facility for the on-going training of ARENTO staff. A second task of the technical assistance and training contractor will involve working with ARENTO to determine the kinds of training courses to be provided, review and refine curriculum for existing training programs offered by ARENTO, determine the need for additional training courses including the development of curriculum and training material, identify and procure appropriate training-related equipment, develop a cadre of skilled trainers to conduct programs, and develop ARENTO staff to plan, manage, and implement an on-going, comprehensive staff development and training program for its personnel.

In addition to providing appropriate personnel for technical assistance activities, the technical assistance and training contractor will provide a combination of both long-term and short-term training expertise to develop the training plan and implement training activities over the life of project. At least one long-term, resident training specialist will be required as well as short-term consultants to assist in the development of the training plan and budget. Short-term training specialists (expatriate and Egyptian) will also be required to assist ARENTO with planning and implementing, monitoring, reporting on, and evaluating the in-country training and in institutionalizing ARENTO's in-house training capacity and training facility.

Although precise estimates of training costs cannot be made at this time, \$30 million in project funds are to be allocated for engineering consulting services and non-engineering technical assistance and training. Of this \$30 million, \$17 million will be required for engineering consulting services, leaving \$13 million for other technical assistance and training.

During the initial stage of project implementation, funding in support of training will be required primarily for training technical assistance to develop the life-of-project training plan. Expenditures of in-country and participant training are not expected until after completion and approval of the plan, which should be within approximately 18 months after project start up.

4.5 IMPLEMENTATION SCHEDULE

Below is an illustrative list of major implementation actions and a projected schedule This schedule will be updated by ARENTO annually, at a minimum

IMPLEMENTATION SCHEDULE ¹

ACTIVITY	FISCAL YEAR QUARTER						
	FY93	FY94	FY95	FY96	FY97	FY98	FY99
	1234	1234	1234	1234	1234	1234	1234
Project paper authorization	■						
Consultant advertized	■						
Project agreement signed	■						
Consultant short list approved	. ■						
Consultant interviews done	. ■						
RFP issued to top ranked firms	. ■						
Conditions precedent met	. ■						
ARENTO host country contr. capability assessment for TA if needed		. ■					
Consultant negotiations		. ■					
RFP for TA advertised		. ■					
Consultant contract award		. ■					
Reform action plan developed		. ■					
TA proposals evaluated		. ■					
Consultant mobilized		. ■					
Best/Final proposals from TA offerors		. ■					
MOU signed		. ■					
TA selected and awarded		. ■					
FY 94 obligation of \$50 million		. ■					
TA team mobilized		. ■					
ARENTO host country contracting capability assessment		. ■					
OSP advertized		. ■					
DSS advertized		. ■					
OSP contractors qualify		. ■					
DSS contractors qualify		. ■					
NOC specifications completed		. ■					
OSP RFQ issued		. ■					
DSS RFQ issued			. ■				
NOC procurement advertized		. ■					

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IMPLEMENTATION SCHEDULE ¹

ACTIVITY	FISCAL YEAR QUARTER						
	FY93	FY94	FY95	FY96	FY97	FY98	FY99
	1234	1234	1234	1234	1234	1234	1234
1st sector reform semi annual review		. ■					
OSP contract awarded		. ■					
DSS contract awarded			. ■				
NOC contractors qualify		. ■					
NOC RFQ issued			. ■				
NOC contract award			... ■				
2nd sector reform semi annual review			. ■				
First equipment delivery			. ■				
FY 95 obligation of \$60 million			. ■				
Audit				. ■			
Second OSP RFQ issued			. ■				
Second DSS RFQ issued				■			
3rd sector reform semi annual review			. ■				
Mid-Term evaluation			. ■				
OSP contract awarded				. ■			
DSS contract awarded				. ■			
4th sector reform semi annual review				. ■			
Second equipment delivery				. ■			
FY 96 obligation of \$60 million				. ■			
3rd OSP RFQ issued				. ■			
3rd DSS RFQ issued					. ■		
5th sector reform review				. ■			
OSP contract awarded					. ■		
DSS contract awarded					. ■		
Third equipment delivery					. ■		
All equipment installed						. ■	
Final evaluation							. ■
Project Assistance Completion Report.							. ■

¹Key: "." = Activity start, "■" = Activity complete

5.0 MONITORING PLAN

5.1 INSTITUTIONAL FOCUS

Both the DR and EAS Directorates in USAID monitor policy developments in the telecommunications sector as part of their ongoing responsibilities. Information on the impacts of telecommunications pricing reforms on the macro economy are continuously gathered via special studies designed by USAID staff economists and/or via external project evaluations. Data necessary to facilitate decisions regarding obligation and release of funds under the Telecommunications Sector Support Project will be collected, analyzed, and presented to Mission management and to the Project Committee by USAID's EAS Directorate

Monitoring responsibilities related to the installation of the DSS, OSP, and NOC will be carried out by the Office of Power and Telecommunications (PT) of the Development Resources (DR) Directorate. In addition to participating in reviews of contractors' progress and preparation of contractors' work plans (described below), DR/PT representatives will conduct periodic site visits to confirm progress indicated in monthly contractor reports (described below). USAID has had considerable experience implementing projects similar to the proposed project. The Project Officers within DR/PT are experienced and will adequately carry out this responsibility.

5.2 PROJECT OUTPUTS, INDICATORS, AND DATA COLLECTION - METHODOLOGIES

Project outputs necessary to achieve objectives include the modernization of ARENTO's operating procedures and management policies; the rationalization of ARENTO's tariff structures; and expansion and enhancement of ARENTO's service network through supply and installation of DSS, OSP, and NOC equipment.

The indicators of Project output achievement are:

- ▶ Institutional development training program completed.
- ▶ Revised operating procedures published and implemented.
- ▶ Cost of domestic telephone service is covered by local service tariffs.
- ▶ ARENTO's revenues are sufficient to cover 100 percent of O&M requirements and a significant portion of capital expansion.

- ▶ 20 digital switches and associated outside plant networks consisting of 466,000 lines installed and operational
- ▶ Network Operations Center (NOC) installed and operational.

The key output level questions are: (1) whether the agreed-upon policy and institutional reforms are being implemented as planned; and, (11) whether the procurement and installation of the DSS, OSP, and NOC systems is proceeding as planned. If the answer to either of these questions is "no," then what factors are constraining timely or appropriate policy reform and/or installation/construction of network infrastructure? How can these constraints be overcome?

Procedures will be developed by the Project consultants and DR/PT for collecting information on output level indicators.

The engineering services contractor will have primary responsibility for monitoring all equipment supply/installation activities and approving invoices submitted by all equipment suppliers. The engineer will assist ARENTO in monitoring the contractors' performance and will provide general support to ARENTO. Likewise, the technical assistance contractor will monitor policy reform progress as well as progress under the institutional development training program. Each contractor will implement monitoring systems with the following features

- ▶ Monthly and Quarterly Reports
- ▶ Annual Work Plans
- ▶ Joint Annual Reviews of Progress

5.2.1 Monthly Progress Reports

The purpose of the monthly progress report will be to communicate implementation progress and problems to the implementing agency and to USAID project management. These reports will discuss planned versus actual procurement and construction/installation, accomplishments of tasks and subtasks, and costs; will identify existing or expected problems/constraints which have or could result in delays or slippage; will propose and rank solutions to these problems; and, if appropriate, will present revised timetables for accomplishment of tasks.

These reports will be brief, concise and action oriented. They should avoid unnecessary detail. They should be written to be read by a busy project manager. The reports will include a prioritized list of issues which require action by either ARENTO or USAID project management. Issues will be presented in tabular format with entries for the following: assigned priority; brief description of issue; date identified; assistance needed; by

when; and, current status Issues will be repeated in the table until they are resolved

Monthly progress review meetings will be held at each site. The monthly meetings will be attended by USAID, ARENTO, and the appropriate engineering consultant and contractor(s) Problems will be identified as they occur and will be resolved either on-site or submitted for discussion and resolution at the monthly site meetings. The consultants' monthly progress report will be the basis for the monthly progress review.

5.2.2 Annual Work Plans and Reviews

The annual work plan for each component of the Project will be developed together with the consultants, USAID Project management, and ARENTO counterparts, using conceptual guidance contained in the Project Paper along with changes suggested by review of implementation experience to date. The annual work plan is intended to answer the questions, "What exactly will we achieve this year?" and, "How will we achieve it?" The annual work plan will detail

- ▶ The coming year's impact on the End of Project Status, output milestones, and a plan for data collection; and,
- ▶ A strategy for attaining these milestones (e.g , tasks, sequencing, responsible parties, target dates, deliverables), possible impediments/constraints to success, ways of alleviating these impediments/constraints, and alternative courses of action to pursue if they do materialize

Joint annual reviews will be to assess the past year's progress under each contract and to develop a strategy for attaining next year's milestones. This strategy will be embodied in the annual work plan for each contract. The contractors, ARENTO counterparts, the USAID Project Officer and selected USAID Project Team members will participate in the joint annual review. Participants will assess progress on selected indicators to determine whether implementation is progressing satisfactorily and assess the impact of the project outputs on beneficiaries Implementation problems will be identified at the annual review along with proposed corrections or solutions.

6.0 SUMMARIES OF ANALYSES

6.1 SUMMARY OF TECHNICAL ANALYSIS

The Digital Switching System (DSS) which is the basis of the project is a proven technology. Digital switching exchanges, particularly in the larger sizes, are less costly to install and maintain than any other type of exchange. Among the advantages of digital switching are its compatibility with computer output and potential savings when operated in conjunction with digital systems. Digital equipment and other advanced technology have been used by ARENTO under prior USAID projects. Given the many years of ARENTO operating experience with a wide variety of telephone exchange facilities, minimal additional personnel training will be required to effectively operate and maintain the proposed Network Operation Center (NOC) and the digital switching systems.

The exchange buildings that will house the equipment are already owned by ARENTO. Utilities, water, sewer and electricity are connected to the exchanges.

The outside plant system will be of the same design and technical specifications, successfully utilized under the previous telecommunications projects.

Given the essential contribution which an adequate telecommunications network provides to a developing economy together with the specific needs of Egypt in terms of the economic expansion, population growth, back-log of demand and capabilities of the existing network -- the proposed resources, allocation and organization of this project render it technically sound.

The project will finance state-of-the-art telecommunication equipment typical of equipment being installed throughout the world on telephone systems of similar size and diversity to Egypt. The equipment incorporates technology compatible to ARENTO's technical expertise. Given the many years of ARENTO operating experience with a wide variety of switching systems, USAID believes that the GOE implementing agency will require only minimal training to effectively operate and maintain the network addition. This additional training is an integral part of the project. Accordingly, the proposed project design is determined to be technically appropriate and cost effective.

6.2 SUMMARY OF FINANCIAL ANALYSIS

ARENTO's operating margins have improved substantially during the last five years as a result of reduced operating

expenses and increased revenues from its international services. This financial improvement was a result of exercising good management controls. However, additional institutional changes are needed to enhance ARENTO's ability to function as a fully autonomous telecommunications utility.

Based on the cost and benefit assumptions outlined in the full analysis in ANNEX I, the financial internal rate of return (FIRR) is estimated at 11 percent, which indicates that the investment proposed for this project is financially viable.

6.3 SUMMARY OF ECONOMIC ANALYSIS

The economic analysis of this project was carried out using conservative assumptions. Economic benefits resulting from the ARENTO expansion financed with project resources are measured solely in terms of the extra tariff revenues generated as a result of this expansion. This approach ignores the consumer surplus benefits likely to occur as a result of the subsidized tariffs for local and national calls. Also, no effort has been made to quantify benefits resulting from adoption by ARENTO of the policy reforms leveraged by project conditionality.

Despite this conservative approach, the economic analysis indicates that the economic return to the resources invested in the project, roughly 16 percent, is relatively high. Sensitivity analysis indicated that if less conservative benefit assumptions are employed, then the economic return increases to about 37 percent. On the other hand, if project-financed ARENTO expansion occurs more slowly than assumed in the base case (i.e. at a rate of only 60,000 new lines per year), then the economic return to the project declines to 10 percent.

6.4 SUMMARY OF SOCIAL SOUNDNESS ANALYSIS

The overriding hypothesis of this project is that a commercially viable organization is essential to provide reliable telecommunications services to a growing modern industrial society.

It is estimated that approximately 364,000 new telephone connections and the replacement of 102,000 lines of antiquated crossbar switches will be provided by the project, and will benefit 4-6 million of Egypt's population. In addition, numerous small businesses, hotels and other facilities will be established, thus generating increased employment opportunities. Everyone in some way will gain from a reliable communications system, a well run utility and overall economic growth.

6.5 SUMMARY OF ADMINISTRATIVE ANALYSIS

The Arab Republic of Egypt National Telecommunications Organization (ARENTO) is the Government of Egypt's authority responsible for the planning, engineering, procurement, distribution, operation and maintenance of the Egyptian telecommunications system. ARENTO has many years of extensive and successful experience in undertaking similar projects, particularly USAID funded projects. This project will build on this experience.

The project will be managed by an ARENTO team headed by a senior ARENTO official and reporting directly to the Chairman. USAID/DR/PT staff will provide technical and managerial oversight of the project and will work closely with ARENTO in all aspects of the project.

7.0 CONDITIONS PRECEDENT AND COVENANTS

7.1 CONDITIONS PRECEDENT TO DISBURSEMENT

The project agreement shall contain the following Conditions Precedent.

(1) First Disbursement:

Prior to any disbursement or to the issuance of any commitment document under the Grant, the Cooperating Country shall, except as the parties may otherwise agree in writing furnish to USAID, in a satisfactory form and substance:

- (a) Evidence that the proceeds of the Grant, with the exception of funds to be used to finance consultant services and technical assistance, training, studies and audits, will be lent by the Cooperating Country to the Arab Republic of Egypt National Telecommunications Organization (ARENTO) on terms and conditions acceptable to the Cooperating Country and ARENTO, and for the purpose of financing eligible costs under the Project,
- (b) Evidence that the local currency financing for the Project has been budgeted by the Cooperating Country and will be available for timely expenditure by ARENTO, pursuant to ARENTO's cost estimate, and
- (c) Evidence that accounting records for local currency and in-kind contributions to the Project will be maintained by ARENTO

(2) Second Obligation

Prior to the second obligation of Grant funds under the project, ARENTO shall, except as the Parties may otherwise agree in writing, enter into an agreement with USAID in the form of a Memorandum of Understanding (MOU) The MOU will elaborate on a two year reform program at the end of which ARENTO will have achieved substantial institutional and financial autonomy

(3) Future Obligations.

Prior to the third and fourth obligations of Grant funds under this project, ARENTO shall provide USAID with evidence, in satisfactory form and substance, that ARENTO has achieved the policy reform objectives set forth in the MOU for completion during each of the two years of the program

(4) Disbursement to Finance Infrastructure Costs.

Prior to disbursement or to the issuance by USAID of any commitment documents to finance digital switching systems, network operation center, or outside plant, the Cooperating Country shall, except as USAID may otherwise agree in writing, furnish to USAID, in form and substance satisfactory to USAID, evidence that ARENTO owns the sites for the exchanges and that ARENTO has firm commitments for making available the necessary places to house the equipment being financed by USAID

(5) Disbursement for Network Operations Center

Prior to disbursement or to the issuance by USAID of any commitment documents to finance the network operation center (NOC), the Cooperating Country shall, except as USAID may otherwise agree in writing, furnish to USAID, in form and substance satisfactory to USAID, evidence that (1) ARENTO has established a special project management team for the NOC component of the project This team, composed of a project manager, computer hardware and software specialists, as well as switch, outside plant, legal and financial specialists, will report directly to the ARENTO Chairman. This team will have the authority to manage the NOC component on a day-to-day basis (11) ARENTO has acquired and will provide to the NOC contractor the protocols for each COM or switch that will be communicating with the NOC (111) ARENTO agrees to finance all foreign exchange costs to integrate non-U S COMs or switches with the project financed NOC

7.2 COVENANTS

The Cooperating Country shall covenant as follows

- (1) Training of Personnel The Cooperating Country, through ARENTO, shall allocate an existing building to house a comprehensive training facility and to promote and make available appropriate numbers and types of personnel for project-related training as identified throughout the implementation of the project
- (2) Periodic Discussions The Cooperating Country and USAID will periodically review the status of the Project and associated policy and institutional reforms

- (3) Local Currency and In-Kind Contributions The Cooperating Country, through ARENTO, will provide USAID, on both a quarterly and annual basis, with reports on its accounting records on local currency and in-kind contributions provided for the Project
- (4) Social Insurance and Taxes on Expatriates The Cooperating Country shall covenant that any social insurance assessment and any taxes on expatriates (non-Egyptians) arising under Grant-financed work will be paid by the Cooperating Country from its own resources.

8.0 EVALUATION ARRANGEMENTS

A final evaluation will be undertaken to measure both the extent that appropriate policy reforms were accomplished and to determine the project's impact on beneficiaries. Given that there will be disbursements under this project for reforms carried out by ARENTO, and that these reforms will be monitored on an annual basis, a mid-term evaluation may be unnecessary. However, the project does include funding provisions for a mid-term evaluation, should USAID and ARENTO determine that such an evaluation would be beneficial.

Key to the evaluation of this project are three sector studies being financed under the Telecommunications IV Project: Cost of Services, Operations and Maintenance, and Institutional and Sector Assessment. The findings and recommendations generated from these studies will be used in developing a policy and institutional reform program for ARENTO to be implemented under this project. The Cost of Services and Operations and Maintenance studies will be completed in August 1993. The Institutional and Sector Assessment, which among other things, will consolidate the findings and conclusions of the Cost of Services and Operations and Maintenance studies, should be completed by early 1994.

These three studies will provide a wealth of information on ARENTO, the telecommunications sector in Egypt, and, indirectly, the impact of the previous four telecommunications projects. In addition, the studies will provide the baseline information necessary for a final evaluation of the Telecommunications Sector Support Project as well as assist in identifying key issues to be examined under the final evaluation.

Evaluation issues concerning policy reforms will include the quality of ARENTO management, both in terms of financial management and bureaucratic structure. The evaluation will determine the extent of ARENTO's increased independence in decision-making along with greater levels of accountability. Concurrently, the evaluation will analyze ARENTO's progress in earning and retaining its revenues. In addition, the evaluation will examine the extent of ARENTO's investment in the proper training and development of its work force as it relates to improved operations and maintenance.

Questions on impact to be addressed will include:

- ▶ What are the different classes of consumers?
- ▶ What proportion of total demand is served by the project, and how has demand grown as a result of the introduction of services?

- ▶ What is the cost of services delivered? Do fees charged for the services cover their costs?
- ▶ To what use are the services put? Are these uses economically efficient?
- ▶ What economic or social activities do the services permit which previously did not exist?

ANNEX A

PID APPROVAL MEMORANDUM



UNITED STATES AGENCY for INTERNATIONAL DEVELOPMENT

CAIRO EGYPT

ACTION MEMORANDUM FOR THE ACTING DIRECTOR

DATE : June 25, 1992

FROM : Beth Cypser, AOD/PDS/PS

THROUGH : Jeffery Malick, AAD/PDS

SUBJECT : Approval of the Telecommunications Sector Support Project Identification Document (PID)

PROBLEM : Your signature is required to approve the Telecommunications Sector Support PID (263-0223) for \$200 million

DISCUSSION : The subject PID has been reviewed by the Project and Executive Committees, and (as a draft document) by the NE Bureau. In accordance with the decisions made at the Executive Committee review held on January 19, 1993, the PID was modified as indicated below

The discussion in the PID of the specific types of policy changes envisioned by the project was expanded

The life of project (LOP) was changed to six years

It was specified that ARENTO will receive project funds for equipment as a loan from the GOE. Only funds for technical assistance (TA) and training will be passed as a grant to ARENTO.

The project will include provisions for financing specialized TA to help ARENTO implement any or all of the policy reforms undertaken in the course of the project

The project purpose statement was modified to convey the notion of ARENTO achieving full institutional and financial autonomy as a result of the project

The PID was revised to envision a project featuring an initial (FY 93) obligation with no conditionality (since the policy reform agenda will still be under development at that time), an FY 94 obligation conditioned on ARENTO agreement to a reform program acceptable to USAID, and all subsequent obligations completely contingent upon

achievement by ARENTO and/or the GOE of specific telecommunication sector policy reform benchmarks

On January 22, 1993 (STATE 20420) the NE Bureau agreed in principle to delegate PID approval authority to the Mission, but requested that a copy of the PID "in draft" be provided for informal Bureau review prior to issuing a delegation of authority. The Mission transmitted the PID, revised as above, ("cleared" but not "approved" by the Mission Director) as a draft document to the Bureau on March 29, 1993. On April 23, 1993 (STATE 145705), the Acting AA/NE approved an ad hoc delegation of authority to the USAID/Cairo Mission Director to approve the PID

The attached PID is identical to the version which was "cleared" by the Mission Director for transmittal to the NE Bureau on March 29, 1993. All necessary clearances have been obtained.

RECOMMENDATION

That you approve the subject PID by signing in block No 18 of the Project Identification Document facesheet

APPROVAL Christopher D. Crowley

DISAPPROVAL _____

DATE 7/7/93

Clearance

D/DR/PT J Hunt
D/DR, P Thorn
D/LEG, T Carter
D/DIR/CS, J Dunlap

GRW

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ANNEX B

**EXECUTIVE COMMITTEE DECISION
MEMORANDUM**

UNITED STATES GOVERNMENT
memorandum

DATE July 25, 1993

FROM Glenn Rutanen-Whaley, PDS/PS ^{GRW}
thru Beth Cypser, (A) OD/PDS

SUBJECT Telecommunications Sector Support Project (263-0223)
Project Paper (PP)

TO See Distribution

The Executive Committee (ExCom) reviewed and approved the subject PP on July 21, 1993. Attached is a record of the decisions which were made and other guidance and comments received

Clearance:

(A)AD/PDS, J Malick
AD/DR, Paul Thorn

jm
PT

Distribution:

Executive Committee

(A)DIR, Christopher Crowley
(A)AD/PDS, Jeffery Malick
(A)AD/HRDC, Thomas McKee
AD/TI, Priscilla del Bosque
(A)AD/AGR, John Foti
DIR/CS, James Dunlap
(A)AD/FM, Nimalka Wijesooriya

(A)DDIR, Douglas Clark
AD/DR, Paul Thorn
AD/MGT, John Liebner
AD/LEG, Theodore Carter
(A)AD/EAS, Paul Mulligan
(A)OD/PDS/P, Richard Handler

cc:

1. Project Team

DR/PR, R Gohar
DR/PT, R Youssef
EAS, M. Gellerson
PDS/PS, L Latif
PDS/P, J Giusti
FM/FA, M Mounir

DR/PT, F Mahmoud
FM/FA, M Shaarani
HRDC/ET, D. Leach
PDS/PS, T Gehr
LEG, V Moore
DIR/CS, M Walsh

2. OD/DR/PT, J Hunt

[Drafted by GRWhaley PDS/PS 07/25/93 DocID PWT\TC5\PPXCDES 793]

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Executive Committee Issues and Concerns

Issue 1 ARENTO Autonomy - The project purpose is to accelerate and enhance the evolution of ARENTO into a fully autonomous telecommunications utility. Conditions reflecting purpose achievement will be a set of policies in place that will give ARENTO autonomy to become a viable utility, and evidence that ARENTO and the GOE are implementing the new policies. There is no explicit discussion in the project paper as to whether existing legislation in its current form (Law 153), if implemented, will provide an adequate framework for ARENTO to become an autonomous utility. **To this end, is Law 153 in its current form adequate, or is new legislation needed?**

Decision - This issue will be fully examined in the telecommunications sector assessment study to be carried out in the coming months. If Law 153 needs to be amended or replaced, such an action could form the basis of a policy reform measure called for under the project.

Issue 2 Policy Conditionality - There is little discussion in the PP on whether the project's proposal to condition the obligation of funds on policy performance in FYs 95 and 96 is feasible. There is an implicit assumption that equipment needed for system expansion and modernization can be packaged into discrete, self-contained components linked to policy performance. **Is this assumption correct, or is AID's policy leverage with ARENTO likely to be undermined by pressures to obligate funds in order to avoid the problem of funding incomplete systems?**

Decision - Given that funds obligated each year for equipment and installation services will be used to procure discrete, modular-type, stand-alone systems, the problem of funding incomplete systems will not arise. None of the equipment contracts will be dependent on incremental funding from follow-on obligations. The engineering services and technical assistance contracts, which will be funded out of more than one obligation, will be phased by using "priced options" or some other appropriate mechanism.

Issue 3 Project Schedule - The PP proposes a condition precedent to the second disbursement (FY 94) that requires ARENTO to enter into a memorandum of understanding (MOU) with USAID which sets out the specific reforms to be achieved by ARENTO and/or the GOE. The MOU will be based on the findings of three sector studies being financed under the Telecommunications IV project. The studies are expected to be completed during the second quarter of FY 1994. **What assurances does the Mission have that the studies will be completed as scheduled, especially the sector and institutional assessment, the contract for which has not been awarded yet? How confident is the Mission that the MOU can be agreed upon in time for a FY 94 obligation? If delays in completing the sector studies and/or negotiating the MOU prevent an FY 94 obligation, what are the consequences for meeting project objectives?**

Decision - The Cost of Services Study and the Operations and Maintenance Study are nearly complete. The PIO/T for the Sector Assessment Study is in clearance. At the request of the Acting Director, DIR/CS agreed to give this procurement action priority. If the procurement is not delayed, the Sector Assessment will be completed by February 1994. That would allow six months for the negotiation and execution of the MOU, which should be sufficient. If this process suffers delays such that the MOU cannot be signed in time for an FY 94 obligation, then the funds could be "rolled-over" into FY 95 and be obligated early during that year (assuming the MOU is signed in a timely fashion).

Concern 1 Incremental Authorization - The project paper contains a full description, with supporting analyses, of a \$200 million (plus LE 100 million GOE contribution) telecommunications project. In order to underscore the incremental nature of AID funding for the project, and the linkage of release of funds to policy performance on the part of ARENTO, the project will not initially be authorized at the life of project (LOP) level of \$200 million. Instead, project funds will be incrementally authorized as well as obligated, in annual tranches of \$30, \$50, \$60, and \$60 million in FYs 93, 94, 95, and 96, respectively. Operationally, this will require that the project authorization be amended each year in advance of amending the project agreement to obligate the annual tranche of funds. **Does the Executive Committee agree that amending the project authorization on an annual basis will not result in an overly burdensome paperwork requirement in the case of this project?**

Decision - In a meeting between the (A)DIR and the principals of DR and PDS after the ExCom meeting, it was decided that the paperwork burden of an annual authorization amendment will be inconsequential, and that each new tranche of project funds will be added to the authorized amount via an authorization amendment immediately prior to obligation of the tranche. However, after the MOU is signed, USAID will consider authorizing the balance of the funds for the remaining authorizations.

Concern 2 Contingency Funds - The project financial plan includes a \$28.4 million contingency element (based on 20 percent of the \$141.3 million equipment and installation services component). **What is the rationale for this relatively large contingency amount?**

Decision - Although slightly higher than is customary for such projects, the contingency level is acceptable given the various uncertainties facing the project at this time, including the outcome of the sector studies, inaccuracies in ARENTO's planning, inflation rates, etc.

Other Substantive Comments/Guidance Requiring Further Action

- ▶ A list of policy reforms accomplished as a result of the Telecommunications I - III projects should be added to Section 1.3 of the project paper.

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- ▶ Section 1.5 should include an indication of the extent to which the project will contribute to the GOE's overall targets for telecommunications network expansion
- ▶ Section 2.4.2 should be revised to include a reference to a project-financed personal services contractor to assist in project implementation and monitoring
- ▶ Section 4.1 should include a brief clarification of the exact mechanism and anticipated annual sequence of events culminating in an obligation of funds against policy performance. The terms "milestone," "reform objective," and "medium term goal" need to be defined and differentiated
- ▶ In a related matter, the Acting Mission Director verbally approved DR/PT's proposal to immediately publish in the *Commerce Business Daily* a request for prequalification information from firms interested in providing consulting engineering services under the project

ANNEX C
LOGICAL FRAMEWORK

PROJECT DESIGN SUMMARY

LOGICAL FRAMEWORK

Life of Project
From FY 1993 to FY 1999
Total U S Funding \$200 million
Date Prepared July 15 1993

Project Title and Number Telecommunications Sector Support Project 263 0223

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS																																															
<p>Program or Sector Goal The broader objective to which this project contributes</p> <p>Increased access to efficient and reliable public utilities in target areas</p>	<p>Measures of Goal Achievement:</p> <p>Teledensity of seven (7) telephones per 100 population</p>	<p>ARENTO statistics</p>	<p>Assumptions for achieving goal targets</p> <p>Expansion of telecommunications infrastructure remains a high priority of the GOE</p>																																															
<p>Project Purpose.</p> <p>To accelerate and enhance the evolution of ARENTO into a fully autonomous telecommunications utility</p>	<p>Conditions that will indicate purpose has been achieved End of project status</p> <p>ARENTO/GOE has achieved all policy/institutional reforms set forth in the MOU to be signed by ARENTO and USAID during the first year of the project (See Section 4.1 of the Project Paper)</p>	<p>ARENTO records Contractor reports</p>	<p>Assumptions for achieving purpose</p> <p>The overall reform climate in the GOE will remain favorable toward achievement of the needed political and policy adjustments which must accompany the desired policy reforms</p>																																															
<p>Outputs</p> <ul style="list-style-type: none"> ▶ Updating of ARENTO's operating procedures and management policies to bring them in line with modern industrial and utility practice ▶ Rationalization of ARENTO's tariff structures ▶ Expansion and enhancement of ARENTO's service network with state of the art equipment 	<p>Magnitude of outputs</p> <ul style="list-style-type: none"> ▶ Training program completed ▶ Revised operating procedures published and implemented ▶ Actual cost of domestic telephone service is covered by local service tariffs ▶ ARENTO's revenues are sufficient to cover 100 percent of O&M requirements and a significant portion of capital expansion ▶ 20 digital switches and associated outside plant networks consisting of 466 000 lines installed and operational ▶ Network Operations Center (NOC) installed and operational 	<ul style="list-style-type: none"> ▶ ARENTO records Contractor reports ▶ Site visits Contractor reports ▶ Site visits Contractor reports 	<p>Assumptions for achieving outputs</p> <ul style="list-style-type: none"> ▶ ARENTO and Ministry management support modernization of ARENTO's operating procedures and management policies and are willing to undertake agreed upon reforms ▶ The GOE macroeconomic and political environment allows the implementation of agree upon telecommunications tariff reforms ▶ ARENTO continues to operate and maintain the country's telecommunications network ▶ Project trained staff is capable and available to operate and maintain the new systems 																																															
<p>Inputs</p> <ul style="list-style-type: none"> ▶ Provide training and related policy reform TA as required for developing and implementing new operating procedures policy reforms and tariff restructuring ▶ Commodity support for digital switches outside plant NOC and installation services ▶ Consulting engineering services for design and installation management 	<p>Implementation Target (Type and Quantity)</p> <table style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <thead> <tr> <th rowspan="2"></th> <th colspan="5" style="text-align: center;">US\$ (millions) Expended</th> </tr> <tr> <th style="text-align: center;">FY93</th> <th style="text-align: center;">FY94</th> <th style="text-align: center;">FY95</th> <th style="text-align: center;">FY96-99</th> <th style="text-align: center;">TOTAL</th> </tr> </thead> <tbody> <tr> <td>Eng Serv</td> <td style="text-align: right;">0</td> <td style="text-align: right;">2 0</td> <td style="text-align: right;">5 0</td> <td style="text-align: right;">10 0</td> <td style="text-align: right;">17 0</td> </tr> <tr> <td>Equipment</td> <td style="text-align: right;">0</td> <td style="text-align: right;">5 0</td> <td style="text-align: right;">20 0</td> <td style="text-align: right;">116 3</td> <td style="text-align: right;">141 3</td> </tr> <tr> <td>TA/Trng</td> <td style="text-align: right;">0</td> <td style="text-align: right;">0</td> <td style="text-align: right;">4 0</td> <td style="text-align: right;">9 0</td> <td style="text-align: right;">13 0</td> </tr> <tr> <td>Audit/Eval</td> <td style="text-align: right;">0</td> <td style="text-align: right;">0</td> <td style="text-align: right;">0</td> <td style="text-align: right;">0 3</td> <td style="text-align: right;">0 3</td> </tr> <tr> <td>Contingency</td> <td style="text-align: right;">0</td> <td style="text-align: right;">0</td> <td style="text-align: right;">7 0</td> <td style="text-align: right;">21 4</td> <td style="text-align: right;">28 4</td> </tr> <tr> <td>TOTAL</td> <td style="text-align: right;">0</td> <td style="text-align: right;">7 0</td> <td style="text-align: right;">36 0</td> <td style="text-align: right;">157 0</td> <td style="text-align: right;">200 0</td> </tr> </tbody> </table>		US\$ (millions) Expended					FY93	FY94	FY95	FY96-99	TOTAL	Eng Serv	0	2 0	5 0	10 0	17 0	Equipment	0	5 0	20 0	116 3	141 3	TA/Trng	0	0	4 0	9 0	13 0	Audit/Eval	0	0	0	0 3	0 3	Contingency	0	0	7 0	21 4	28 4	TOTAL	0	7 0	36 0	157 0	200 0	<p>Executed contract documents Contractor reports Contractor/supplier invoices approved and paid Site visits by USAID personnel</p>	<p>Assumptions for providing inputs</p> <p>ARENTO nominates and makes available qualified staff for training, and retains the qualified staff</p> <p>ARENTO maintains its certification to undertake host country contracting</p> <p>ARENTO contributes all required local currency for project financed activities</p>
	US\$ (millions) Expended																																																	
	FY93	FY94	FY95	FY96-99	TOTAL																																													
Eng Serv	0	2 0	5 0	10 0	17 0																																													
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Audit/Eval	0	0	0	0 3	0 3																																													
Contingency	0	0	7 0	21 4	28 4																																													
TOTAL	0	7 0	36 0	157 0	200 0																																													

BEST AVAILABLE DOCUMENT

ANNEX D
STATUTORY CHECKLIST

A I D PROJECT STATUTORY CHECKLIST FOR FY 1993

5C(1) - COUNTRY CHECKLIST

Listed below are statutory criteria applicable to the eligibility of countries to receive the following categories of assistance (A) both Development Assistance and Economic Support Funds, (B) Development Assistance funds only, or (C) Economic Support Funds only

A COUNTRY ELIGIBILITY CRITERIA APPLICABLE TO BOTH DEVELOPMENT ASSISTANCE AND ECONOMIC SUPPORT FUND ASSISTANCE

1 Narcotics Certification (FAA Sec 490) (This provision applies to assistance provided by grant, sale, loan, lease, credit, guaranty, or insurance, except assistance relating to international narcotics control, disaster and refugee relief assistance, narcotics related assistance, or the provision of food (including the monetization of food) or medicine, and the provision of non-agricultural commodities under P L 480 This provision also does not apply to assistance for child survival and AIDS programs which can, under section 542 of the FY 1993 Appropriations Act, be made available notwithstanding any provision of law that restricts assistance to foreign countries) If the recipient is a "major illicit drug producing country" (defined as a country producing during a fiscal year at least five metric tons of opium or 500 metric tons of coca or marijuana) or a "major drug-transit country" (defined as a country that is a significant direct source of illicit drugs significantly affecting the United States, through which such drugs are transported, or through which significant sums of drug-related profits are laundered with the knowledge or complicity of the government)

(1) has the President in the April 1 International Narcotics Control Strategy Report (INSCR) determined and certified to the Congress (without Congressional enactment, within 45 calendar days, of a resolution disapproving such a certification), that (a) during the

N/A

MD

previous year the country has cooperated fully with the United States or taken adequate steps on its own to satisfy the goals and objectives established by the U N Convention Against Illicit Traffic in Narcotic Drugs and Psychotropic Substances, or that (b) the vital national interests of the United States require the provision of such assistance?

(2) with regard to a major illicit drug producing or drug-transit country for which the President has not certified on April 1, has the President determined and certified to Congress on any other date (with enactment by Congress of a resolution approving such certification) that the vital national interests of the United States require the provision of assistance, and has also certified that (a) the country has undergone a fundamental change in government, or (b) there has been a fundamental change in the conditions that were the reason why the President had not made a "fully cooperating" certification

N/A

2 Indebtedness to U S citizens (FAA Sec 620(c) If assistance is to a government, is the government indebted to any U S citizen for goods or services furnished or ordered where (a) such citizen has exhausted available legal remedies, (b) the debt is not denied or contested by such government, or (c) the indebtedness arises under an unconditional guaranty of payment given by such government or controlled entity?

No

3 Seizure of U S Property (FAA Sec 620(e)(1)) If assistance is to a government, has it (including any government agencies or subdivisions) taken any action which has the effect of nationalizing, expropriating, or otherwise seizing ownership or control of property of U S citizens or entities beneficially owned by them without taking steps to discharge its obligations toward such citizens or

No

ntitles?

4 Communist countries (FAA Secs 620(a), 620(f), 620D, FY 1993 Appropriations Act Secs 512, 543) Is recipient country a Communist country? If so, has the President (a) determined that assistance to the country is vital to the security of the United States, that the recipient country is not controlled by the international Communist conspiracy, and that such assistance will further promote the independence of the recipient country from international communism, or (b) removed a country from applicable restrictions on assistance to communist countries upon a determination and report to Congress that such action is important to the national interest of the United States? Will assistance be provided either directly or indirectly to Angola, Cambodia, Cuba, Iraq, Libya, Vietnam, Iran or Syria? Will assistance be provided to Afghanistan without a certification, or will assistance be provided inside Afghanistan through the Soviet-controlled government of Afghanistan? No

5 Mob Action (FAA Sec 620(j)) Has the country permitted, or failed to take adequate measures to prevent, damage or destruction by mob action of U S property? No

6 OPIC Investment Guaranty (FAA Sec 620(l)) Has the country failed to enter into an investment guaranty agreement with OPIC? No

7 Seizure of U S Fishing Vessels (FAA Sec 620(o), Fishermen's Protective Act of 1967 (as amended) Sec 5) (a) Has the country seized, or imposed any penalty or sanction against, any U S fishing vessel because of fishing activities in international waters? (b) If so, has any deduction required by the Fishermen's Protective Act been made? No

8 Loan Default (FAA Sec No

620(q), FY 1993 Appropriations Act Sec 518 (Brooke Amendment)) (a) Has the government of the recipient country been in default for more than six months on interest or principal of any loan to the country under the FAA? (b) Has the country been in default for more than one year on interest or principal on any U S loan under a program for which the FY 1990 Appropriations Act appropriates funds?

9 Military Equipment (FAA Sec 620(s)) If contemplated assistance is development loan or to come from Economic Support Fund, has the Administrator taken into account the percentage of the country's budget and amount of the country's foreign exchange or other resources spent on military equipment? (Reference may be made to the annual "Taking Into Consideration" memo "Yes, taken into account by the Administrator at time of approval of Agency OYB " This approval by the Administrator of the Operational Year Budget can be the basis for an affirmative answer during the fiscal year unless significant changes in circumstances occur)

Yes, taken into account by the administrator at time of approval of Agency OYB

10 Diplomatic Relations with U S (FAA Sec 620(t)) Has the country severed diplomatic relations with the United States? If so, have relations been resumed and have new bilateral assistance agreements been negotiated and entered into since such resumption?

No

11 U N Obligations (FAA Sec 620(u)) What is the payment status of the country's U N obligations? If the country is in arrears, were such arrearages taken into account by the A I D Administrator in determining the current A I D Operational Year Budget? (Reference may be made to the "Taking into Consideration" memo)

No arrears

12 International Terrorism

a Sanctuary and support

No

(FY 1993 Appropriations Act Sec 554, FAA Sec 620A) Has the country been determined by the President to (a) grant sanctuary from prosecution to any individual or group which has committed an act of international terrorism, or (b) otherwise support international terrorism, unless the President has waived this restriction on grounds of national security or for humanitarian reasons?

b Airport Security (ISDCA of 1985 Sec 552(b) Has the Secretary of State determined that the country is a high terrorist threat country after the Secretary of Transportation has determined, pursuant to section 1115(e)(2) of the Federal Aviation Act of 1958, that an airport in the country does not maintain and administer effective security measures?

No

13 Discrimination (FAA Sec 666(b)) Does the country object, on the basis of race, religion, national origin or sex, to the presence of any officer or employee of the U S who is present in such country to carry out economic development programs under the FAA?

No

14 Nuclear Technology (FAA Secs 669, 670) Has the country, after August 3, 1977, delivered to any other country or received nuclear enrichment or reprocessing equipment, materials, or technology, without specified arrangements or safeguards, and without special certification by the President? Has it transferred a nuclear explosive device to a non-nuclear weapon state, or if such a state, either received or detonated a nuclear explosive device? If the country is a non-nuclear weapon state, has it, on or after August 8, 1985, exported (or attempted to export) illegally from the United States any material, equipment, or technology which would contribute significantly to the ability of a country to manufacture a nuclear explosive device? (FAA Sec

No

620E permits a special waiver of Sec 669 for Pakistan)

15 **Algiers Meeting** (ISDCA of 1981, Sec 720) Was the country represented at the Meeting of Ministers of Foreign Affairs and Heads of Delegations of the Non-Aligned Countries to the 36th General Assembly of the U N on Sept 25 and 28, 1981, and did it fail to disassociate itself from the communique issued? If so, has the President taken it into account? (Reference may be made to the "Taking into Consideration" memo) No

16 **Military Coup** (FY 1993 Appropriations Act Sec 513) Has the duly elected Head of Government of the country been deposed by military coup or decree? If assistance has been terminated, has the President notified Congress that a democratically elected government has taken office prior to the resumption of assistance? No

17 **Refugee Cooperation** (FY 1993 Appropriations Act Sec 538) Does the recipient country fully cooperate with the international refugee assistance organizations, the United States, and other governments in facilitating lasting solutions to refugee situations, including resettlement without respect to race, sex, religion, or national origin? Yes

18 **Exploitation of Children** (FAA Sec 116(b)) Does the recipient government fail to take appropriate and adequate measures, within its means, to protect children from exploitation, abuse or forced conscription into military or paramilitary services? No

B COUNTRY ELIGIBILITY CRITERIA APPLICABLE ONLY TO DEVELOPMENT ASSISTANCE ("DA")

N B PART B OF THE COUNTRY CHECKLIST, WHICH IS APPLICABLE TO DEVELOPMENT ASSISTANCE ONLY, HAS BEEN OMITTED BECAUSE ALL ASSISTANCE IS ESF-FUNDED N/A

C COUNTRY ELIGIBILITY CRITERIA APPLICABLE ONLY TO ECONOMIC SUPPORT FUNDS ("ESF")

Human Rights Violations (FAA Sec 502B) Has it been determined that the country has engaged in a consistent pattern of gross violations of internationally recognized human rights? If so, has the President found that the country made such significant improvement in its human rights record that furnishing such assistance is in the U S national interest?

No

A I D PROJECT STATUTORY CHECKLIST FOR FY 1993

5C(2) - ASSISTANCE CHECKLIST

Listed below are statutory criteria applicable to the assistance resources themselves, rather than to the eligibility of a country to receive assistance. This section is divided into three parts. Part A includes criteria applicable to both Development Assistance and Economic Support Fund resources. Part B includes criteria applicable only to Development Assistance resources. Part C includes criteria applicable only to Economic Support Funds.

CROSS REFERENCE IS COUNTRY CHECKLIST UP TO DATE? Yes

A CRITERIA APPLICABLE TO BOTH DEVELOPMENT ASSISTANCE AND ECONOMIC SUPPORT FUNDS

1 **Host Country Development Efforts** (FAA Sec 601(a)) Information and conclusions on whether assistance will encourage efforts of the country to (a) increase the flow of international trade, (b) foster private initiative and competition, (c) encourage development and use of cooperatives, credit unions, and savings and loan associations, (d) discourage monopolistic practices, (e) improve technical efficiency of industry, agriculture, and commerce, and (f) strengthen free labor unions

The Goal of this project is increased access to efficient and reliable public utilities in target areas. The project will result in the modernization of Egypt's telecommunication utility and rationalization of its tariff structures. State-of-the-art digital switching technology and network connections will be provided for approximately 466,000 private and commercial telephone subscribers. It is expected that the project will (a) increase the flow of international trade, will (b) foster private initiative and competition, will not directly (c) encourage development and use of cooperatives, credit unions, and savings and loan associations, will not directly (d) discourage monopolistic practices, will (e) improve technical efficiency of industry, agriculture, and commerce, and, will not directly (f) strengthen free labor unions

2 **U S Private Trade and Investment** (FAA Sec 601(b)) Information and conclusions on how assistance will encourage U S private trade and investment abroad and encourage private U S participation in foreign assistance programs (including use of private trade channels and the services of U S private enterprise)

U S private enterprises will be a source of procurement of goods and services required for this project

3 **Congressional Notification**

a **General requirement** (FY 1993 Appropriations Act Sec 522, FAA Sec 634A) If money is to be obligated for an activity not previously justified to Congress, or

Standard Congressional Notification procedures will be satisfied prior to obligation of funds

for an amount in excess of amount previously justified to Congress, has Congress been properly notified (unless the Appropriations Act notification requirement has been waived because of substantial risk to human health or welfare)?

b Notice of new account obligation (FY 1993 Appropriations Act Sec 514) If funds are being obligated under an appropriation account to which they were not appropriated, has the President consulted with and provided a written justification to the House and Senate Appropriations Committees and has such obligation been subject to regular notification procedures?

N/A

c Cash transfers and nonproject sector assistance (FY 1993 Appropriations Act Sec 571(b)(3)) If funds are to be made available in the form of cash transfer or nonproject sector assistance, has the Congressional notice included a detailed description of how the funds will be used, with a discussion of U S interests to be served and a description of any economic policy reforms to be promoted?

N/A

4 Engineering and Financial Plans (FAA Sec 611(a)) Prior to an obligation in excess of \$500,000, will there be (a) engineering, financial or other plans necessary to carry out the assistance, and (b) a reasonably firm estimate of the cost to the U S of the assistance?

Yes Refer to Section 3 3 of project paper

5 Legislative Action (FAA Sec 611(a)(2)) If legislative action is required within recipient country with respect to an obligation in excess of \$500,000, what is the basis for a reasonable expectation that such action will be completed in time to permit orderly accomplishment of the purpose of the assistance?

The People's Assembly should ratify the Grant Agreement in a timely manner In the past, the Assembly has ratified all grant agreements in time to permit orderly accomplishment of the project

6 Water Resources (FAA Sec 611(b), FY 1993 Appropriations Act Sec 501) If project is for water or water-related land resource construction, have benefits and costs been computed to the extent practicable in accordance with the principles, standards, and procedures established pursuant to the Water Resources Planning Act (42 U S C 1962, et seq)? (See A I D Handbook 3 for guidelines)

N/A

7 Cash Transfer and Sector Assistance (FY 1993 Appropriations Act Sec 571(b)) Will cash transfer or nonproject sector assistance be maintained in a separate account and not commingled with other funds (unless such requirements are waived by Congressional notice for nonproject sector assistance)?

N/A

8 Capital Assistance (FAA Sec 611(e)) If project is capital assistance (e.g., construction), and total U S assistance for it will exceed \$1 million, has Mission Director certified and Regional Assistant Administrator taken into consideration the country's capability to maintain and utilize the project effectively?

The Mission Director has so certified
See Annex F of project paper

9 Multiple Country Objectives (FAA Sec 601(a)) Information and conclusions on whether projects will encourage efforts of the country to (a) increase the flow of international trade, (b) foster private initiative and competition, (c) encourage development and use of cooperatives, credit unions, and savings and loan associations, (d) discourage monopolistic practices, (e) improve technical efficiency of industry, agriculture and commerce, and (f) strengthen free labor unions

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practices, will (e) improve technical efficiency of industry, agriculture, and commerce, and, will not directly (f) strengthen free labor unions

10 U S Private Trade (FAA Sec 601(b)) Information and conclusions on how project will encourage U S private trade and investment abroad and encourage private U S participation in foreign assistance programs (including use of private trade channels and the services of U S private enterprise)

U S private enterprises will be a source of procurement of goods and services required for this project

11 Local Currencies

a Recipient Contributions (FAA Secs 612(b), 636(h)) Describe steps taken to assure that, to the maximum extent possible, the country is contributing local currencies to meet the cost of contractual and other services, and foreign currencies owned by the U S are utilized in lieu of dollars

The GOE contribution is LE 87 million in cash and LE 13 million in-kind, and should contribute to equipment and installation services, land acquisition, exchange building construction and OSP civil works

b U S -Owned Currency (FAA Sec 612(d)) Does the U S own excess foreign currency of the country and, if so, what arrangements have been made for its release?

No

c Separate Account (FY 1993 Appropriations Act Sec 571) If assistance is furnished to a foreign government under arrangements which result in the generation of local currencies

N/A

(1) Has A I D (a) required that local currencies be deposited in a separate account established by the recipient government, (b) entered into an agreement with that government providing the amount of local currencies to be generated and the terms and conditions under which the currencies so deposited may be utilized, and (c) established by agreement the responsibilities of A I D and that government to monitor and account for deposits into and

disbursements from the separate account?

(2) Will such local currencies, or an equivalent amount of local currencies, be used only to carry out the purposes of the DA or ESF chapters of the FAA (depending on which chapter is the source of the assistance) or for the administrative requirements of the United States Government?

(3) Has A I D taken all appropriate steps to ensure that the equivalent of local currencies disbursed from the separate account are used for the agreed purposes?

(4) If assistance is terminated to a country, will any unencumbered balances of funds remaining in a separate account be disposed of for purposes agreed to by the recipient government and the United States Government?

12 Trade Restrictions

a Surplus Commodities (FY 1993 Appropriations Act Sec 520(a)) No
If assistance is for the production of any commodity for export, is the commodity likely to be in surplus on world markets at the time the resulting productive capacity becomes operative, and is such assistance likely to cause substantial injury to U S producers of the same, similar or competing commodity?

b Textiles (Lautenberg Amendment) (FY 1993 Appropriations Act Sec 520(c)) No
Will the assistance (except for programs in Caribbean Basin Initiative countries under U S Tariff Schedule "Section 807," which allows reduced tariffs on articles assembled abroad from U S -made components) be used directly to procure feasibility studies, prefeasibility studies, or project profiles of potential investment in, or to assist the

establishment of facilities specifically designed for, the manufacture for export to the United States or to third country markets in direct competition with U S exports, of textiles, apparel, footwear, handbags, flat goods (such as wallets or coin purses worn on the person), work gloves or leather wearing apparel?

13 Tropical Forests (FY 1991 Appropriations Act Sec 533(c)(3)(as referenced in section 532(d) of the FY 1993 Appropriations Act) Will funds be used for any program, project or activity which would (a) result in any significant loss of tropical forests, or (b) involve industrial timber extraction in primary tropical forest areas?

No

14 PVO Assistance

a Auditing and registration (FY 1993 Appropriations Act Sec 536) If assistance is being made available to a PVO, has that organization provided upon timely request any document, file, or record necessary to the auditing requirements of A I D , and is the PVO registered with A I D ?

N/A

b Funding sources (FY 1993 Appropriations Act, Title II, under heading "Private and Voluntary Organizations") If assistance is to be made to a United States PVO (other than a cooperative development organization), does it obtain at least 20 percent of its total annual funding for international activities from sources other than the United States Government?

N/A

15 Project Agreement Documentation (State Authorization Sec 139 (as interpreted by conference report)) Has confirmation of the date of signing of the project agreement, including the amount involved, been cabled to State L/T and A I D LEG within 60 days of the agreement's entry

Case - Zablocki Act reporting procedures will be followed with respect to this project

into force with respect to the United States, and has the full text of the agreement been pouched to those same offices? (See Handbook 3, Appendix 6G for agreements covered by this provision)

16 Metric System (Omnibus Trade and Competitiveness Act of 1988 Sec 5164, as interpreted by conference report, amending Metric Conversion Act of 1975 Sec 2, and as implemented through A I D policy) Does the assistance activity use the metric system of measurement in its procurements, grants, and other business-related activities, except to the extent that such use is impractical or is likely to cause significant inefficiencies or loss of markets to United States firms? Are bulk purchases usually to be made in metric, and are components, subassemblies, and semi-fabricated materials to be specified in metric units when economically available and technically adequate? Will A I D specifications use metric units of measure from the earliest programmatic stages, and from the earliest documentation of the assistance processes (for example, project papers) involving quantifiable measurements (length, area, volume, capacity, mass and weight), through the implementation stage?

Yes

17 Women in Development (FY 1993 Appropriations Act, Title II, under heading "Women in Development") Will assistance be designed so that the percentage of women participants will be demonstrably increased?

The project will encourage active participation by women

18 Regional and Multilateral Assistance (FAA Sec 209) Is assistance more efficiently and effectively provided through regional or multilateral organizations? If so, why is assistance not so provided? Information and conclusions on whether assistance will encourage developing countries to cooperate in regional development programs

No

19 Abortions (FY 1993 Appropriations Act, Title II, under heading "Population, DA," and Sec 524)

a Will assistance be made available to any organization or program which, as determined by the President, supports or participates in the management of a program of coercive abortion or involuntary sterilization? No

b Will any funds be used to lobby for abortion? No

20 Cooperatives (FAA Sec 111) Will assistance help develop cooperatives, especially by technical assistance, to assist rural and urban poor to help themselves toward a better life? N/A

21 U S -Owned Foreign Currencies

a Use of currencies (FAA Secs 612(b), 636(h), FY 1993 Appropriations Act Secs 507, 509) Are steps being taken to assure that, to the maximum extent possible, foreign currencies owned by the U S are utilized in lieu of dollars to meet the cost of contractual and other services N/A The GOE contribution will finance the other local currency cost associated with the project

b Release of currencies (FAA Sec 612(d)) Does the U S own excess foreign currency of the country and, if so, what arrangements have been made for its release? No

22 Procurement

a Small business (FAA Sec 602(a)) Are there arrangements to permit U S small business to participate equitably in the furnishing of commodities and services financed? Yes

b U S procurement (FAA Sec 604(a) as amended by section 597 of the FY 1993 Appropriations Act) Will all procurement be from the U S , Yes

the recipient country, or developing countries except as otherwise determined in accordance with the criteria of this section?

c Marine insurance (FAA Sec 604(d)) If the cooperating country discriminates against marine insurance companies authorized to do business in the U S , will commodities be insured in the United States against marine risk with such a company?

Egypt does not so discriminate

d Non-U S agricultural procurement (FAA Sec 604(e)) If non-U S procurement of agricultural commodity or product thereof is to be financed, is there provision against such procurement when the domestic price of such commodity is less than parity? (Exception where commodity financed could not reasonably be procured in U S)

N/A

e Construction or engineering services (FAA Sec 604(g)) Will construction or engineering services be procured from firms of advanced developing countries which are otherwise eligible under Code 941 and which have attained a competitive capability in international markets in one of these areas? (Exception for those countries which receive direct economic assistance under the FAA and permit United States firms to compete for construction or engineering services financed from assistance programs of these countries)

No

f Cargo preference shipping (FAA Sec 603)) Is the shipping excluded from compliance with the requirement in section 901(b) of the Merchant Marine Act of 1936, as amended, that at least 50 percent of the gross tonnage of commodities (computed separately for dry bulk carriers, dry cargo liners, and tankers) financed shall be transported on privately owned U S flag commercial vessels to the extent such vessels are available at fair and reasonable rates?

No

g Technical assistance (FAA Sec 621(a)) If technical assistance is financed, will such assistance be furnished by private enterprise on a contract basis to the fullest extent practicable? Will the facilities and resources of other Federal agencies be utilized, when they are particularly suitable, not competitive with private enterprise, and made available without undue interference with domestic programs? Yes

h U S air carriers (International Air Transportation Fair Competitive Practices Act, 1974) If air transportation of persons or property is financed on grant basis, will U S carriers be used to the extent such service is available? Yes

i Termination for convenience of U S Government (FY 1993 Appropriations Act Sec 504) If the U S Government is a party to a contract for procurement, does the contract contain a provision authorizing termination of such contract for the convenience of the United States? Yes

j Consulting services (FY 1993 Appropriations Act Sec 523) If assistance is for consulting service through procurement contract pursuant to 5 U S C 3109, are contract expenditures a matter of public record and available for public inspection (unless otherwise provided by law or Executive order)? Yes

k Metric conversion (Omnibus Trade and Competitiveness Act of 1988, as interpreted by conference report, amending Metric Conversion Act of 1975 Sec 2, and as implemented through A I D policy) Does the assistance program use the metric system of measurement in its procurements, grants, and other business-related activities, except to the extent that such use is impractical? Yes

l or is likely to cause significant inefficiencies or loss of markets to United States firms? Are bulk purchases usually to be made in metric , and are components, subassemblies, and semi-fabricated materials to be specified in metric units when economically available and technically adequate? Will A I D specifications use metric units of measure from the earliest programmatic stages, and from the earliest documentation of the assistance processes (for example, project papers) involving quantifiable measurements (length, area, volume, capacity, mass and weight), through th e implementation stage?

1 Competitive Selection Procedures (FAA Sec 601(e)) Will the assistance utilize competitive selection procedures for the awarding of contracts, except where applicable procurement rules allow otherwise? Yes

23 Construction

a Capital project (FAA Sec 601(d)) If capital (e.g., construction) project, will U S engineering and professional services be used? Yes

b Construction contract (FAA Sec 611(c)) If contracts for construction are to be financed, will they be let on a competitive basis to maximum extent practicable? Yes

c Large projects, Congressional approval (FAA Sec 620(k)) If for construction of productive enterprise, will aggregate value of assistance to be furnished by the U S not exceed \$100 million (except for productive enterprises in Egypt that were described in the Congressional Presentation), or does assistance have the express approval of Congress? Yes

24 U S Audit Rights (FAA Sec 301(d)) If fund is established solely N/A

by U S contributions and administered by an international organization, does Comptroller General have audit rights?

25 Communist Assistance (FAA Sec 620(h) Do arrangements exist to insure that United States foreign aid is not used in a manner which, contrary to the best interests of the United States, promotes or assists the foreign aid projects or activities of the Communist-bloc countries? Yes

26 Narcotics

a Cash reimbursements (FAA Sec 483) Will arrangements preclude use of financing to make reimbursements, in the form of cash payments, to persons whose illicit drug crops are eradicated? Yes

b Assistance to narcotics traffickers (FAA Sec 487) Will arrangements take "all reasonable steps" to preclude use of financing to or through individuals or entities which we know or have reason to believe have either (1) been convicted of a violation of any law or regulation of the United States or a foreign country relating to narcotics (or other controlled substances), or (2) been an illicit trafficker in, or otherwise involved in the illicit trafficking of, any such controlled substance? Yes

27 Expropriation and Land Reform (FAA Sec 620(g)) Will assistance preclude use of financing to compensate owners for expropriated or nationalized property, except to compensate foreign nationals in accordance with a land reform program certified by the President? Yes

28 Police and Prisons (FAA Sec 660) Will assistance preclude use of financing to provide training, advice, or any financial support for police, prisons, or other law enforcement forces, except for narcotics programs? Yes

07

29 **CIA Activities** (FAA Sec 662) Will assistance preclude use of financing for CIA activities? Yes

30 **Motor Vehicles** (FAA Sec 636(1)) Will assistance preclude use of financing for purchase, sale, long-term lease, exchange or guaranty of the sale of motor vehicles manufactured outside U S , unless a waiver is obtained? Yes

31 **Military Personnel** (FY 1993 Appropriations Act Sec 503) Will assistance preclude use of financing to pay pensions, annuities, retirement pay, or adjusted service compensation for prior or current military personnel? Yes

32 **Payment of U N Assessments** (FY 1993 Appropriations Act Sec 505) Will assistance preclude use of financing to pay U N assessments, arrearages or dues? Yes

33 **Multilateral Organization Lending** (FY 1993 Appropriations Act Sec 506) Will assistance preclude use of financing to carry out provisions of FAA section 209(d) (transfer of FAA funds to multilateral organizations for lending)? Yes

34 **Export of Nuclear Resources** (FY 1993 Appropriations Act Sec 510) Will assistance preclude use of financing to finance the export of nuclear equipment, fuel, or technology? Yes

35 **Repression of Population** (FY 1993 Appropriations Act Sec 511) Will assistance preclude use of financing for the purpose of aiding the efforts of the government of such country to repress the legitimate rights of the population of such country contrary to the Universal Declaration of Human Rights? Yes

36 **Publicity or Propaganda** (FY 1993 Appropriations Act Sec 516) Will assistance be used for publicity No

or propaganda purposes designed to support or defeat legislation pending before Congress, to influence in any way the outcome of a political election in the United States, or for any publicity or propaganda purposes not authorized by Congress?

37 Marine Insurance (FY 1993 Appropriations Act Sec 560) Will any A I D contract and solicitation, and subcontract entered into under such contract, include a clause requiring that U S marine insurance companies have a fair opportunity to bid for marine insurance when such insurance is necessary or appropriate? Yes

38 Exchange for Prohibited Act (FY 1993 Appropriations Act Sec 565) Will any assistance be provided to any foreign government (including any instrumentality or agency thereof), foreign person, or United States person in exchange for that foreign government or person undertaking any action which is, if carried out by the United States Government, a United States official or employee, expressly prohibited by a provision of United States law? No

39 Commitment of Funds (FAA Sec 635(h)) Does a contract or agreement entail a commitment for the expenditure of funds during a period in excess of 5 years from the date of the contract or agreement? No

40 Impact on U S Jobs (FY 1993 Appropriations Act, Sec 599)

(a) Will any financial incentive be provided to a business located in the U S for the purpose of inducing that business to relocate outside the U S in a manner that would likely reduce the number of U S employees of that business? No

(b) Will assistance be provided for the purpose of establishing or developing an export processing zone or designated area in No

which the country's tax, tariff, labor, environment, and safety laws do not apply? If so, has the President determined and certified that such assistance is not likely to cause a loss of jobs within the U S ?

(c) Will assistance be provided for a project or activity that contributes to the violation of internationally recognized workers rights, as defined in section 502(a)(4) of the Trade Act of 1974, of workers in the recipient country?

No

B CRITERIA APPLICABLE TO DEVELOPMENT ASSISTANCE ONLY

N/A

N B PART B OF THE ASSISTANCE CHECKLIST, WHICH IS APPLICABLE TO DEVELOPMENT ASSISTANCE ONLY HAS BEEN OMITTED BECAUSE IT IS NOT APPLICABLE TO THIS ESF-FUNDED PROJECT

C CRITERIA APPLICABLE TO ECONOMIC SUPPORT FUNDS ONLY

1 Economic and Political Stability (FAA Sec 531(a)) Will this assistance promote economic and political stability? To the maximum extent feasible, is this assistance consistent with the policy directions, purposes, and programs of Part I of the FAA?

Yes It will enhance the ability of the GOE to sustain economic growth which will have positive political results To the extent rural areas will be served, policy directions of section I will be reflected

2 Military Purposes (FAA Sec 531(e)) Will this assistance be used for military or paramilitary purposes?

No

3 Commodity Grants/Separate Accounts (FAA Sec 609) If commodities are to be granted so that sale proceeds will accrue to the recipient country, have Special Account (counterpart) arrangements been made? (For FY 1993, this provision is superseded by the separate account requirements of FY 1993 Appropriations Act Sec 571(a), see Sec 571(a)(5))

N/A

4 Generation and Use of Local Currencies (FAA Sec 531(d)) Will ESF

N/A

funds made available for commodity import programs or other program assistance be used to generate local currencies? If so, will at least 50 percent of such local currencies be available to support activities consistent with the objectives of FAA sections 103 through 106? (For FY 1993, this provision is superseded by the separate account requirements of FY 1993 Appropriations Act Sec 571(a), see Sec 571(a)(5))

5 Cash Transfer Requirements (FY 1993 Appropriations Act, Title II, under heading "Economic Support Fund," and Sec 571(b)) If assistance is in the form of a cash transfer

a Separate account Are all such cash payments to be maintained by the country in a separate account and not to be commingled with any other funds? N/A

b Local currencies Will all local currencies that may be generated with funds provided as a cash transfer to such a country also be deposited in a special account, and has A I D entered into an agreement with that government setting forth the amount of the local currencies to be generated, the terms and conditions under which they are to be used, and the responsibilities of A I D and that government to monitor and account for deposits and disbursements? N/A

c U S Government use of local currencies Will all such local currencies also be made available to the U S government as the U S determines necessary for the requirements of the U S Government, or to carry out development assistance (including DFA) or ESF purposes? N/A

d Congressional notice Has Congress received prior notification providing in detail how the funds will be used, including the U S interests that will be served by N/A

the assistance, and, as appropriate, the economic policy reforms that will be promoted by the cash transfer assistance?

6 **Capital Projects** (Jobs Through Exports Act of 1992, Sec 306, FY 1993 Appropriations Act, Sec 595)
If assistance is being provided for a capital project, will the project be developmentally-sound and sustainable, i e , one that is (a) environmentally sustainable, (b) within the financial capacity of the government or recipient to maintain from its own resources, and (c) responsive to a significant development priority initiated by the country to which assistance is being provided (Please note the definition of "capital project" contained in section 595 of the FY 1993 Appropriations Act)

Yes

ANNEX E

GRANTEE REQUEST FOR ASSISTANCE



ARAB REPUBLIC OF EGYPT
MINISTRY OF INTERNATIONAL COOPERATION
PARMINI FOR ECONOMIC COOPERATION
WITH U.S.A

Handwritten notes: 207, 19/12

September 12, 1993

Mr Henry Bassford
Director
USAID/Cairo

Dear Mr Bassford

This is to request AID funding in the amount \$200 million for the Telecommunications Sector Support project (263-0223) Of this amount \$30 million is proposed for obligation in FY 1993 The government of Egypt (GOE) life of project contribution of cash and in-kind assistance to this project is projected to be L E 100 million

The project will enhance the evolution of the Arab Republic of Egypt National Telecommunications Organization (ARENTO) into a fully autonomous telecommunications utility through policy/institutional reforms and infrastructure development

Sincerely yours,

Dr Hassan Selim
Administrator

BEST AVAILABLE DOCUMENT

TELECOMMUNICATIONS SECTOR SUPPORT PROJECT
263-0223

**Certification Pursuant to Section 611(e)
of the Foreign Assistance Act of 1961, as Amended**

I, Christopher D Crowley, Acting Director, the Principal Officer of the U S. Agency for International Development in Egypt, having taken into account, among other things, the maintenance and utilization of projects in Egypt previously financed by the United States, do hereby certify that in my judgement Egypt has both the financial capability and the human resources to effectively install, maintain, and utilize the capital assistance to be provided for the Telecommunications Sector Support Project.

This judgement is based upon general considerations discussed in the Project Paper to which this certification is attached

Christopher D Crowley
Christopher D. Crowley
Acting Director

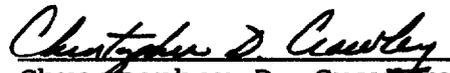
7/29/93
Date

TELECOMMUNICATIONS SECTOR SUPPORT PROJECT
263-0223

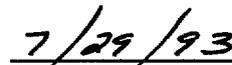
**Determination Pursuant to the Gray Amendment to the
Foreign Operations, Export Financing, and Related
Programs Appropriations Act of 1993**

As Acting Director and Principal Officer of the U.S. Agency for International Development in Egypt, I, Christopher D. Crowley, hereby certify that full consideration has been given to the potential involvement of small and/or economically and socially disadvantaged enterprises, historically black colleges and universities and minority-controlled private and voluntary organizations covered by the Gray Amendment

The project paper to which this certification is attached discusses the efforts that will be undertaken in connection with each element of the procurement plan to maximize the participation of minority-owned and small and disadvantaged organizations. At the time of each procurement action, every effort will be made to encourage the participation of these organizations and draw upon their knowledge and expertise.



Christopher D. Crowley
Acting Director



Date

TELECOMMUNICATIONS SECTOR SUPPORT PROJECT
263-0223**Technical Analysis****A. GENERAL**

Telecommunications infrastructure is a significant element in the development and productive process for Egypt similar to petroleum, electricity and transportation. Throughout Egypt, the demand for telecommunications services far exceeds available supply, and the number of applications for service are far beyond the available capacity of the installed network. When there are acute shortages of telephone lines, the proportion of subscribers who are very intensive users tends to be high, and the average number of calls per line is also high, leading to frequent congestion of the local and long distance services. This congestion is due in part to insufficient call traffic handling capacity of the telephone exchanges and the high proportion of the time the called telephone is in use

With accessible and reliable telecommunications services, many of the physical constraints on organizational communication would be eased in various sectors of the economy, permitting increased productivity through better management in both the private and public sectors. This makes it possible to adopt different organizational structures and locations, and aids the evolution of increasingly complex organizations. With improved telecommunications, markets gain in effectiveness, more rapid response to market signals becomes possible, and access to market information is extended to village, town, city, governorate, region, nation and world-wide levels

In Egypt, the development of the telecommunications network has not been able to meet demand. Currently there are only 4.2 telephone lines for every one hundred Egyptians. The lines teledensity rate is 11.3 in Cairo and 10.7 in Alexandria, outside these two urban centers the rate drops to less than 1.6 lines per 100 people. More than 2.15 million subscribers are presently being served, and an additional 1.2 million potential subscribers have applied for service, most having been on the waiting list from five to 10 years. In other instances, potential subscribers, aware of the lag between application and service, have been discouraged from applying. This strong demand prompted the government to implement a revenue generation scheme. The scheme will provide subscribers immediate telephone connection at a cost of LE 3,000. As a result, a total of 80,000 lines were installed in Cairo during 1992/1993.

To meet the telecommunications needs of both the public and

private sector which depend on reliable communications, the Arab Republic of Egypt Telecommunications Organization (ARENTO) has developed a five year investment plan for the period 1993-1997, based on the priorities and objectives of the country. The plan has five primary objectives 1) to extend telecommunications services, 2) to replace overburdened switching equipment which is reliant on outmoded technology; 3) to reduce service interruptions due to network problems through more responsive maintenance; 4) to improve call completion rates through investment in equipment (which will reduce the problem of overloaded equipment operating at or above its optimum capacity); and more rational call routing, 5) to enable ARENTO to retain skilled employees in the planning, operation, maintenance, and repair of the equipment provided under the project

The Telecommunications Sector Support Project will address all five primary objectives

B. EXISTING TELEPHONE SYSTEM

Currently only 44 percent of the total switching capacity in Egypt utilizes digital technology. Approximately 33 percent of the switching capacity in the national network utilizes analog stored program control technology, and the remaining 23 percent uses electro-mechanical (crossbar) technology, some of which was installed as early as 1962. This heavy reliance on outdated technology results in costly maintenance, poor call completion, and difficulties in procuring replacement parts --all of which will only be exacerbated over time. Since 1985, all new switching equipment procured by ARENTO for system expansion has been digital systems; and only recently has ARENTO begun the replacement of the existing crossbar switches with digital systems.

C PROJECT OBJECTIVES

The telecommunications investment plan outlined below provides for the comprehensive rehabilitation, modernization, and expansion of Egypt's telecommunications capability. The proposed plan includes engineering services, equipment procurement, software, and training all of which will help provide the necessary economic infrastructure which is crucial to Egypt's future development and growth. Egypt's large population, combined with its high annual growth rate, means that ARENTO must invest in an additional 45,000 lines per year in addition to the replacement of outmoded equipment just to maintain its current

teledensity.

C.1 Extension of Service

In order to achieve ARENTO's goal of increasing the national teledensity to 7 phones per 100 population by the year 2000, an addition 300,000 lines per year will be required. The project will extend service to a total of 364,000 households and businesses currently without access to telephones. This includes a total of 40,000 new lines for approximately twenty rural locations in the Nile Delta and along the coast west of Alexandria which currently are either served by temporary equipment or do not have access to phone service at all. This project represents 11 percent of the necessary total investment in switching equipment and OSP trunks (a direct line between two telephone switches) to meet ARENTO's long-term objective for new service extension. Service expansion will extend to 17 locations in Cairo: El Kalaa, El Kattamia, Abbassia, Bab El-Louk, Maadi III, El Omranya, Giza, El Marioteyah, Ein Shams, Rod El Farag, Opera, Maadi II, Ramses, Mokattam, Pyramids, Bulak El Dakrour, and El Zawya El Hamra. Service expansion will extend to three locations in Alexandria: Auto, Ibrahimia and Gleem.

C.2 Replacement of Crossbar Switches

The project will include a comprehensive strategy for the replacement of existing crossbar switches as part of ARENTO's objective of full digitalization of the national switching network. The project will replace a total of 102,000 lines of crossbar equipment and temporary switching equipment with modern digital equipment. This is important for several reasons. First and foremost, the older equipment is unable to handle the volume of traffic originating in other locations served by larger and faster digital technology. Second, ARENTO is experiencing difficulty procuring spare parts for the crossbar exchanges, some of which were installed as early as 1962, and these difficulties will only increase over time. Third, the old equipment is difficult and costly to maintain. Finally, the crossbar switches take up an enormous amount of floor space. A digital switch can serve 60,000 lines in the same space that a crossbar switch can serve only 5,000. As space grows ever more limited in Egypt's urban centers, digital switching will allow for service expansion in existing central offices.

currently constrained by space availability. Current installed crossbar equipment is negatively impacting the network, through call failures, lost revenue, and continued subscriber numbering confusion. ARENTO should replace all crossbar exchanges earlier than currently planned, preferably within two as opposed to five years.

C 3 Improved Maintenance

The current fault report rate is excessive, leading some subscribers to conclude that ARENTO service is unreliable and therefore not a good value. In this regard, fully 79 percent of subscribers monitored have at least one fault a year. The project calls for the provision of an operations and maintenance system which will monitor the condition of the switching, transmission, and other network equipment, will detect the existence and the location of problems in the system, and will automatically dispatch an "alarm message" to a centralized location. This will enable ARENTO to detect network problems and respond to them on a much more timely basis, consequently improving the service.

The first phase, Centralized Operation and Maintenance (COM) System is being financed by the Telecommunications IV Project (263-0177)

C.4 Improved Call Completion Rates

The national network's operations are constrained by inefficient call routing patterns which, in turn, stem from a patchwork configuration of multiple suppliers' equipment. The switching equipment in the network is divided between twelve types of equipment from a total of eight switch suppliers. Many individual components therefore cannot "talk" directly, but are connected to one another based on directions provided by the various suppliers over time. The resulting inefficiencies in how calls are routed leads to lower call completion. The crossbar replacement portion of the project will help to improve call completion rates. Currently the crossbars are unable to handle the traffic originating in areas served by digital technology, so the person trying to make the call gets a busy signal. The project will finance a centralized network operations center, which will improve call completion by routing calls more efficiently. Elimination of "blockage," as

recommended, should increase revenues by LE 16 million during the current five year plan period.

C 5 Training

The training to be provided under the project will enable ARENTO staff to improve existing skills and gain new expertise in planning, operating, and maintaining Egypt's national network. In the first year of the project, ARENTO will allocate an existing building to house a comprehensive training facility. ARENTO staff will use this facility to learn and refine skills in a wide range of fields, including network planning, engineering, problem diagnosis and response, and general management.

D. PROJECT OUTLINE AND HOW IT WILL WORK

ARENTO (which is part of the Ministry of Communications) is responsible for the operation and development of all public telecommunications facilities in the country and will be the implementing agency for the project. The project will provide telecommunications equipment, including digital switching equipment, outside plant equipment including transmission equipment, copper and fiber optic cable, and computerized support systems which will centralize network operation functions. The project will also provide engineering and consulting services to assist ARENTO in identifying appropriate solutions to meet Egypt's needs. It will also include installation services and extensive training in the operation, maintenance and repairs of the hardware transferred under the project. The project will also replace the crossbar switches. This replacement will relieve the tandem switches (a tandem switch connects two or more switches) to expand the network. Currently, all crossbar switches are connected to tandem switches for billing purposes. In addition, the project calls for the installation of a network operations center (NOC), which will centralize and rationalize the traffic management of the national network, and a centralized operations and maintenance center which will streamline billing and maintenance functions. Better coordination and timing in the area of switch deployment can reduce ARENTO's future per line cost of providing telecommunications services. ARENTO should attempt to better integrate switch planning with junction and outside plant planning.

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E. PROJECT COMPONENTS

The principal components are described in greater detail below:

E.1 Switching

Switching equipment collects an outgoing signal from a given residence or business, converts the signal from voice to digital frequency, routes the call to its proper destinations and bills the call. Switching equipment thus comprises the basic core of all network operations. All of the switch equipment provided under the proposed project will utilize the most advanced digital technology. The project includes two basic types of switching equipment Host Switches, which can handle over 60,000 lines, and remote switching modules (RSMs), which are satellite units attached to hosts to handle up to 16,000 lines and which are suitable for less densely populated geographic areas and can be later converted to full digital stand alone switches if building space permits. The proposed project calls for the addition of 364,000 new lines over the life of the project, (314,000 in Cairo and 50,000 in Alexandria), and the replacement of 102,000 lines currently utilizing old and overburdened crossbar technology with modern digital equipment. The project includes the provision of switching, outside plant, transmission, operations support systems and software to handle this additional and improved capacity. The Egyptian network will likely need more tandem switch equipment as well in order to handle the additional traffic generated by this additional switching capacity and to streamline Egypt's modernized network. The geographic scope of the new extension lines is summarized in Section C above. ARENTO is presently losing revenue by not marketing and installing additional vertical services such as call waiting and speed dialing. With increased marketing of vertical services, five year plan revenues can be expected to increase by at least LE 25 million Touchtone dialing could create central office equipment savings and call waiting can reduce trunking costs and requirements. ARENTO currently limits digital office capacity to 60,000 lines resulting in switching costs that are between LE 167 and 500 per line more than necessary. ARENTO should size switches based on customer usage and not a 60,000 line administrative limit.

E.2 Transmission Equipment

The transmission equipment and fiber optic cable which utilizes the most up-to-date technology available will address ARENTO's objective to improve the quality and range of subscriber services. Transmission equipment takes the digital output of the switch, converts it to higher frequencies, and then converts it to optical transmission speed so that many calls can be simultaneously carried on a single fiber optic cable. As the signal approaches the next digital switch, it again passes through transmission equipment which reverses the process. The project also includes digital cross-connect systems, which are controlled by microprocessors and which will enable ARENTO to restore service more quickly in the event of cable cuts or other failures.

E.3 Outside Plant Equipment

Outside plant equipment refers to the physical plant, copper cable, connectors, manhole covers, and other items which immediately surround the switch sites and extend to the residences and businesses served by the switches. This can utilize either cable carrier or fiber optics, whichever is found most cost effective for each route considered. In some instances, outside plant installation delays are causing difficulties in reducing the service waiting list, and new switching equipment is sitting idle and not producing revenue.

E.4 Operations Support System

The network's operations support system contains the software that drives the call routing and internal monitoring functions. In addition to these standard operating features, this project calls for the installation of a centralized operations and maintenance center, and a network operations center, described below.

E.5 Network Operation Center

One of the major constraints facing the Egyptian telecommunications network is the lack of effective network management. Effective management requires the collection and display of operating data in sufficient detail to permit network managers to respond to potential overloads by routing calls through other

exchanges and to monitor exchange (digital and analog switch) performance and respond quickly to exchange failures. The network operations center will provide surveillance, analysis, and control of local and toll traffic. It will route calls as efficiently as possible and will direct calls from overloaded switches.

E 6 Centralized Operations and Maintenance Center

This center will identify system problems, generate status reports, and dispatch alarms in the event of service-disruption problems to a single centralized location. This project component will help ARENTO address its objectives to improve maintenance by identifying network problems more rapidly, and by reducing the average duration of service-disruption faults

E 7 Training

The training component of the project is explicitly designed to enable ARENTO to design its own programs around specific needs and to work towards training self-sufficiency through training local instructors. The focus of the training will include both theoretical and hands-on learning. The initial focus of the training component will be to "train the trainers" in the early years of project implementation. In later years, ARENTO's own instructors will do the teaching. The equipment to be provided under the training component will include the installation of a functioning "practice switch" and related outside plant and transmission equipment; a working model of the network operations center described above so that student technicians can practice using the center's capabilities from the training center; a similar model of the operations and maintenance center described above; manuals and other documentation, and software. The plan will consider adding training modules that cover the above suggestions.

The plan will consider the use of independent contractors for training instead of vendor training. Training can then be based upon ARENTO's need as it applies to the technology or systems being taught.

The plan will consider adding network training to all system and management courses to emphasize the whole,

not just the individual parts of network dynamics.

The plan will consider training that changes senior management vision from "catch up" to "look ahead."

F CONCLUSION

Given the essential contribution which an adequate telecommunications network provides to a developing economy - together with the specific needs of Egypt in terms of the economic expansion, population growth, back-log of demand and capabilities of the existing network - the proposed resources, allocation and organization of this project render it technically sound

The project will finance state-of-the-art telecommunication equipment typical of equipment being installed throughout the world on telephone systems of similar size and diversity to Egypt. The equipment incorporates technology compatible to ARENTO's technical expertise. Given the many years of ARENTO operating experience with a wide variety of switching systems, USAID believes that the GOE implementing agency will require only minimal training to effectively operate and maintain the network addition. This additional training is an integral part of the project. Accordingly, the proposed project design is determined to be technically appropriate and cost effective.

In summary, the principal benefits that are anticipated to accrue to ARENTO from implementing this project are as follows:

- ▶ Accelerated elimination of the service waiting list,
- ▶ Elimination of blockage and increased call completion rates; creating decreased requirements for future trunking facilities;
- ▶ Increased revenues from the marketing of vertical services;
- ▶ Accelerated revenue generation from DSS and OSP investment; and,
- ▶ Increased utilization of digital switch capacity

TELECOMMUNICATIONS SECTOR SUPPORT PROJECT
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Financial Analysis

Summary of Findings

- 1 ARENTO's financial statements 1986/87 - 1990/91 reflect substantial improvement in ARENTO's overall financial picture.

ARENTO's operating margins have more than tripled during the past 5 years mainly because of tight controls over operating costs and large increases in revenues from international service. However, basic reforms need to be implemented in order to raise domestic tariffs and improve billing and collection cycles.

Implementation of these reforms will help ARENTO recover costs of domestic service currently operating at loss and improve its cash flow through more frequent billing and collection cycles.

With the proposed system expansions, ARENTO will still not meet the demand on telephone services during the next five years. Also, as the cost of service study will be completed for implementation by ARENTO, we strongly believe that greater improvements in ARENTO'S overall financial situation will be accomplished.

2. Financial Internal Rate of Return (FIRR):

Computation of FIRR for the proposed investment based on benefit and cost assumptions outlined in the analysis indicates that FIRR for the proposed project is slightly above 11 percent. This means that at a discount rate of 11 percent the project earns back all the capital and operating costs expended upon it and pays 11 percent for the use of the money.

As the above 11 percent FIRR is based on current FY 91/92 prices without changing the current fee structure of ARENTO, we have assumed under a different scenario a minimum of 5 percent increase in revenues resulting from service fee restructuring by ARENTO. The resulting FIRR was 15 percent.

In view of the above finding, we believe that the proposed investment is financially viable.

ANALYSIS OF CHANGES IN ARENTO'S
FINANCIAL CONDITION

1. Income Statements

(A) Operating Revenues.

ARENTO's total operating revenues 86/87 - 90/91 have been increasing at an average of 30 percent annually.

International telephone revenues account for 60 percent of ARENTO'S total operating revenues.

Local telephone service continues to operate at loss mainly because of the current fee structure and the annual allowance of 1,500 free calls per local telephone. Local telephone revenues during GOE fiscal year 1987/90 were L.E. 130 0 million short compared to operating costs for this category of service. This deficit was financed from surplus realized under international calls.

Analysis of Operating Revenues (in Millions of L.E.)

Operating Revenues	86/87	87/88	88/89	89/90	90/91
Telegraph	12	13	12	12	13
Local Telephone	185	218	279	367	440
International Telephone	227	376	493	601	704
Other	0	11	15	26	22
Total Revenues	422	618	799	996	1179

(B) Operating Expenses:

ARENTO's total operating expenses 86/87 - 90/91 have been increasing annually by 17 percent on average. Salaries and benefits account for approx 25 percent of annual operating expenses with an average annual increase of 14 percent.

Annual depreciation on assets and interest dues on borrowed capital accounts for 64 percent of ARENTO's operating expenses.

Analysis of Operating Expenses (in Millions of L.E.)

Operating Expenses	86/87	87/88	88/89	89/90	90/91
Salaries Social Insurance	95	113	125	140	158
Commodities	9	11	21	27	32
Services	11	12	20	22	28
Depreciation	117	146	168	193	205
Interest	114	138	160	158	205
Other	3	13	18	21	23
Total Operating Expenses	349	433	512	561	651

(C) Operating Margins*

ARENTO's operating margins (operating revenues Less operating expenses excluding depreciation and interest) have more than tripled during the past five years. This operating margin is critical to the future of ARENTO because the company has been heavily relying on debt in paying for recent system expansions. Therefore a high operating margin is needed to cover the cost of outstanding debt

**Changes in Operating Margins
Revenue and Expenses (in Million of L.E.)**

	86/87	87/88	88/89	89/90	90/91
Operating Revenue	422	618	799	996	1179
Less:					
Operating Expenses (Exclude Interest & Dep.)	115	136	166	189	218
Operating Margins	307	482	633	807	967

2 Balance Sheet

**CHANGES IN BALANCE SHEET ACCOUNTS
(Million L.E.)**

ASSETS	86/87	87/88	88/89	89/90	90/91
Net Fixed Assets	1754	2300	2758	3216	3618
Proj. Under Construction	158	201	299	382	398
Investments	7	7	7	9	15
Current Assets	364	373	399	554	727
LIABILITIES & EQUITY					
Current Liabilities	172	220	268	330	336
Subscript Deposits	73	62	52	30	4
Long Term Debt	985	1212	1353	1418	1372
Equity	1052	1388	1791	2383	3046

- (A) Net Working Capital
ARENTO's net working capital (current assets less current liabilities) has more than doubled during the five years period 86/87 - 90/91

Net working capital represents the amount that is left free and clear if all current debts are paid off. Therefore, ARENTO's ability to meet its obligations, expand its volume and take advantage of opportunities is largely dependent upon its net working capital

- (B) Current Ratio
ARENTO's current ratio (current assets to current liabilities) has increased from an average of 1.8 prior to 90/91 to 2.2 in 90/91.

3 Changes in Receivables:

ARENTO bills many services on a semi-annual or annual basis, at customer discretion. The combination of infrequent billing with a long collection lag means that ARENTO is incurring service costs more than a year in advance of receiving payment from customer. Because of this situation, ARENTO is compelled to finance much of its operating costs, thereby increasing its debt service expense.

**CHANGES IN RECEIVABLES
(Million L.E.)**

	1979	86/87	87/88	88/89	89/90	90/91
Beginning Balance	16	80	85	137	132	215
New Charges	60	426	669	795	1079	1360
Payments	57	421	617	800	997	1179
Ending Balance	19	85	137	132	215	395
Collection Ratio	3 68	2 35	2 16	2 02	2 09	3 10

The collection ratio (12 X average receivables/revenues) represents the average number of months that customer bills are outstanding. In 1979, the ratio stood at 3.68. Subsequently, there were some years of improvement, but the 1990/91 financial statement show a ratio back up above three.

Source: International Telecommunications Consultants (May 1992).

SUMMARY OF CHANGES IN FINANCIAL RATIOS

		86/87	87/88	88/89	89/90	90/91
<u>1/</u>	Return on Capital	9%	12%	14%	16%	17%
<u>2/</u>	Debt Ratio	0.54	0.52	0.48	0.43	0.36
<u>3/</u>	Current Ratio	2.11	1.70	1.49	1.68	2.16
<u>4/</u>	Interest Coverage	1.64	2.34	2.79	3.75	3.57
<u>5/</u>	Operating Margin	64%	73%	78%	79%	81%

The key financial ratios shown above reflect changes in ARENTO's financial situation since 1986/87. The return on capital still appears to be lower than it should be considering ARENTO's high debt ratios. However, given the high interest coverage ratios and assuming that ARENTO will continue to maintain its present operating margins, it will be more than capable of carrying its present debt load.

- 1/ Return on capital is the ratio of net income (current revenues less current expenses, excluding interest) to the sum of equity and long term debt.
- 2/ Debt ratio is the ratio of total liabilities to total assets.
- 3/ Current ratio is the ratio of current liabilities to current assets.
- 4/ Interest coverage is the ratio of net income to interest expense.
- 5/ Operating Margin represents the portion of operating revenues that remain after the company pays current operating expenses.

Financial Internal Rate of Return

ASSUMPTIONS

1. Useful life of the proposed project is estimated for 20 years and will add 415,000 new lines to the sector
2. Total investment consists of \$200 million provided by USAID including \$30 million T/A in year one and GOE inputs equivalent to \$35 million. Funding for year one T/A consisting of \$30 million from USAID is for the benefit of the overall Telecommunications Sector and therefore has been excluded from the capital investment bringing total capital investment costs (USAID and GOE) to \$205 million.
3. Construction to be completed over 5 years after eliminating Technical Assistance in year one from the six year project.
4. Capital outflows (USAID & GOE) during construction period represent our best estimates after consultation with PDS and K&M team on 6/10/93

YR	\$(000 000)		
	USAID	GOE	TOTAL
1	30	5	35
2	40	7	47
3	40	7	47
4	40	7	47
5	20	9	29
TOTAL	170	35	205

5. Availability of operational new lines in connection with construction schedule assumes gradual realization of outputs (lines) to begin after 18 - 24 month from the start of construction works.
6. Average number of new lines put in operation annually by a single construction contractor will be around 60,000 lines (K&M consultants on 6/10/93).

7. Incremental lines added by the project

YR	NO OF LINES
1	0
2	40,000
3	60,000
4	100,000
5	120,000
6	95,000
TOTAL	415,000

8. The ratio of residential to commercial lines added each year will be 80/20. This ratio will apply when projecting subscription revenues only since other revenue projections (local - national - international) are based on actual Arento revenues from both residential and commercial lines added together.

PROJECTION OF O & M ANNUAL COSTS

Estimate based on 91/92 O&M costs reported in the 1993 CDIE study as follows:

- L.E. 78.4 million for 263,000 lines.
- O&M costs per line L.E. 298.00 equivalent to \$89.00.

YEAR	NEW LINES ADDED	\$(000 000)	
		ANNUAL O&M ESTIMATES	CUMULATIVE EACH PROJ. YEAR
1	0	0	0
2	40,000	3 5	3.5
3	60,000	5 3	8 8
4	100,000	8.9	17 7
5	120,000	10.6	28 3
6	95,000	8 5	36 8
7-20			36 8
TOTAL 415,000			

REVENUE ASSUMPTIONS

1 INSTALLATION

75% of lines Residential L E 400
 15% of lines Business L E 750
 10% of lines Immediate L E 2,500

Installation Revenues per 1,000 New Lines:

750 lines X L.E. 400 divided by 3 35 = \$90,000
 150 lines X L.E. 750 " " 3 35 = \$34,000
 100 lines X L.E. 2,500 " " 3 35 = \$75,000
 \$199,000

Say \$200,000 per 1,000 lines or
 \$200 00 installation per line

2. SUBSCRIPTION

Annual subscription per residential line L.E. 50,000
Annual subscription per business line L.E. 75,000

Subscription per 1,000 lines (80% resid. 20% Business)
800 lines X L.E. 50.000 divided by 3.35 = \$11,940
200 lines X L.E. 75.000 divided by 3.35 = \$ 4,477
\$16,417

average annual subscription per line \$16.00

INTERNATIONAL CALLS

Revenue estimates under this category are also based on the 1993 CDIE figures as follows:

91/92 Revenue from international calls amounted to L E 84 2 million generated from 263,000 new lines

Average revenue per line L E 320 00/yr equivalent to U S Dollars 96 00 per line Due to the nature of this service we do not believe that addition of new lines will result in a prorated increase in international call usage as users are already having access to this services through public telephone offices Therefore we assume that only 50% of lines installed will generate this revenue.

LOCAL CALLS

These are calls in excess of the 1,500 free call allowance covered by the annual subscription fee. Based on a sample of users interviewed, the extra call charges per line ranged from L.E. 50.00 (Family w/o children) to L.E. 700.000 (4-5 persons family).

For the purpose of this study we are using an average of L.E. 200.00 per line equivalent to \$60.00

NATIONAL CALLS

Estimates of revenues for this category of service is based on data included in the study in early 1993 by the CDIE team for TELECOM I, II and III as follows (see page 3 of study) 91/92 revenues from 263,000 lines was L.E. 23.2 million Revenue from national calls per line/yr is L E. 88 on average, equivalent to \$26 0 We assume that 50% of new lines will generate revenues under this category of service

TELECOMMUNICATION SECTOR SUPPORT PROJECT

REVENUE PROJECTIONS \$(000,000)

Revenue per Line		\$200 0	\$16 0	\$60 0	\$26 0	\$96 0	Cum Rev at end of each Proj Yr
Year	No of Lines	Install Per Line	Subscrip Per Line	Loc Calls Per Line	Nat Calls Per Line(AVG)	Int Calls Per Line(AVG)	
Year 1	0	0 0	0 0	0 0	0 0	0 0	0 0
Cum	0	0 0	0 0	0 0	0 0	0 0	0 0
Year 2	40 000	8 0	0 6	2 4	0 5	1 9	
Cum	40 000	8 0	0 6	2 4	0 5	1 9	13 4
Year 3	60 000	12 0	0 9	3 6	0 8	2 9	
Cum	100 000	12 0	1 5	6 0	1 3	4 8	25 6
Year 4	100 000	20 0	1 6	6 0	1 3	4 8	
Cum	200 000	20 0	3 1	12 0	2 6	9 6	47 3
Year 5	120 000	24 0	1 9	7 2	1 6	5 8	
Cum	320 000	24 0	5 0	19 2	4 2	15 4	67 8
Year 6	95 000	19 0	1 5	5 7	1 2	4 6	
Cum	415 000	19 0	6 5	24 9	5 4	20 0	75 8
Year 7-20	0	0 0	6 5	24 9	5 4	20 0	56 8

Prepared by FM/FA USAID/CAIRO

TELECOMMUNICATION SECTOR SUPPORT PROJECT

Computation of FIRR (Current 1991/92 Prices)

\$(000,000)

YEAR	CAPITAL	O&M	TOTAL	DF@11	P W	REVENUE	DF@11	P W
1	\$35 0	\$0 0	\$35 0	0 901	\$31 5	\$0 0	0 901	\$0 0
2	\$47 0	\$3 5	\$50 5	0 812	\$41 0	\$13 4	0 812	\$10 9
3	\$47 0	\$8 8	\$55 8	0 731	\$40 8	\$25 6	0 731	\$18 7
4	\$47 0	\$17 7	\$64 7	0 659	\$42 6	\$47 3	0 659	\$31 2
5	\$29 0	\$28 3	\$57 3	0 593	\$34 0	\$67 8	0 593	\$40 2
6	\$0 0	\$36 8	\$36 8	0 535	\$19 7	\$75 8	0 535	\$40 6
7	\$0 0	\$36 8	\$36 8	0 482	\$17 7	\$56 8	0 482	\$27 4
8-20	\$0 0	\$36 8	\$36 8	3 251	\$119 6	\$56 8	3 251	\$184 7
	\$205 0				\$347 0			\$353 6

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TELECOMMUNICATION SECTOR SUPPORT PROJECT

Computation of FIRR (assuming 5% increase in Revenues)

(\$000,000)

YEAR	CAPITAL	O&M	TOTAL	DF@15	P W	REVENUE	DF@15	P W
1	\$35 0	\$0 0	\$35 0	0 87	\$30 5	\$0 0	0 87	\$0 0
2	\$47 0	\$3 5	\$50 5	0 756	\$38 2	\$14 0	0 756	\$10 6
3	\$47 0	\$8 8	\$55 8	0 658	\$36 7	\$26 9	0 658	\$17 7
4	\$47 0	\$17 7	\$64 7	0 572	\$37 0	\$49 7	0 572	\$28 4
5	\$29 0	\$28 3	\$57 3	0 497	\$28 5	\$71 2	0 497	\$35 4
6	\$0 0	\$36 8	\$36 8	0 432	\$15 9	\$79 6	0 432	\$34 4
7	\$0 0	\$36 8	\$36 8	0 376	\$13 8	\$59 6	0 376	\$22 4
8-20	\$0 0	\$36 8	\$36 8	2 099	\$77 2	\$59 6	2 099	\$125 1
	\$205 0				\$277 8			\$274 0

Prepared by FM/FA USAID/CAIRO

TELECOMMUNICATIONS SECTOR SUPPORT PROJECT
263-0223**Economic Analysis****I. Overview**

The Project is designed to make resources available to ARENTO in exchange for the adoption of policy reforms focusing on institutional and financial strengthening. Project resources will be used to finance technical assistance in support of the policy reform as well as part of the ARENTO expansion plan. Thus the project should lead to two types of economic benefits--those resulting from system expansion and those resulting from institutional/financial strengthening. This analysis, however, considers only the economic benefits derived from system expansion. This is because there is no methodology available to quantify ex ante the economic benefits resulting from the planned technical assistance.

II. Approach

The approach taken here is a conservative one. The economic benefits resulting from the ARENTO expansion financed with project resources are measured solely in terms of the extra tariff revenues generated as a result of this expansion. This is clearly a minimum measure of the benefits. Additional consumers certainly place a value on the communications benefits they get which is at least as great as the tariff revenues they are willing to pay. Consumers might in fact be willing to pay more than they actually have to for certain services--such as local and national calls, which are highly subsidized. Relying exclusively of tariff revenues to measure economic benefits--thereby ignoring surplus benefits--is what makes the approach taken here a conservative one. If this approach still yields a good economic rate of return for the project, then this is a very clear indication of the strong economic justification of the project.

The assumption built into the analysis are standard for an economic analysis. Specifically, on the cost side all project costs (both foreign and local) were measured in constant FY 1993 prices. These include: capital costs for switches, outside plant, and the network operation center; adequate operation and maintenance costs, and the cost of technical assistance supplied under the project. Any transfer payments, i.e. taxes and duties, were omitted. All local costs (and benefits) were converted to U.S. dollars at the market exchange rate of 1993 (U.S. \$1 = LE 3.35)

The economic benefits of the project relate solely to those new telephone customers connected to the network as a result of the ARENTO system expansion funded by the project. These new customers pay additional connection charges, annual subscription

fees, and local, national, and international call charges¹ While existing ARENTO customers will undoubtedly benefit from having access to an expanded telephone network, no attempt was made to quantify such benefits in this analysis. For more details concerning the assumptions used to estimate benefits and costs, see Table 1.

III. Results

The detailed estimates of the economic costs and benefits derived using the methodology described above are summarized in Table 1. Using these estimates, one can determine an estimate of the economic rate of return for the proposed Telecommunications Sector Support Project. This is roughly 16.4 percent, which indicates that the project has a reasonably strong economic justification. This is especially true when one keeps in mind two factors: 1) the conservative assumptions that went into the benefit side of the analysis; and 2) while the project is also designed to leverage policy reforms that should benefit ARENTO and its customers in the long run, no effort has been made to include estimates of these benefits in the economic analysis.

Two sensitivity analyses were carried out. In the first, it is assumed that new ARENTO customers connected as a result of the project generate a proportional increase in call revenues.² Under this assumption, the project's economic internal rate of return increases to over 37 percent. The second sensitivity analysis assumes that new project-funded telephone lines are constructed more slowly than in the base case.³ Thus the entire 415,000 new lines are not completed until year 7 of the project. In this case, the economic internal rate of return declines to 10.3 percent. This latter result highlights the importance of ensuring that project implementation proceeds smoothly and as planned.

¹The conservative assumption is employed that new customers hooked up as a result of the project generate a less than proportional increase in national and international call revenues. Specifically, the national and international call revenues associated with these callers is assumed to be only 50 percent of the average per line for the ARENTO system. This reflects the assumption that many of these new customers were previously making national or international calls through other existing telephones.

²Assumes new lines generate 100% of average call revenues/line observed for the ARENTO System.

³Construction of project-funded lines is assumed to be spread over seven years, as opposed to four years in the base case.

TABLE 1 Economic Analysis (US\$000 000)

ITEM/YEAR	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
I Economic Benefits																				
Additional Tariff Revenues 1_/	0	785	480	507	569	569	569	569	569	569	569	569	569	569	569	569	569	569	569	569
Additional Installation Revenues 2_/	0	416	784	40	90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Benefits	0	701	764	547	659	569	569	569	569	569	569	569	569	569	569	569	569	569	569	569
II Economic Costs 3_/																				
USAID Capital Costs	746	344	85	184	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
USAID TA	50	95	46	43	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GOE Cont	83	79	75	71	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O and M 4_/	0	185	312	329	369	369	369	369	369	369	369	369	369	369	369	369	369	369	369	369
Total Costs	879	703	517	627	369	369	369	369	369	369	369	369	369	369	369	369	369	369	369	369
III Net Economic Benefits	879	02	247	80	289	199	199	199	199	199	199	199	199	199	199	199	199	199	199	199

Notes

1_/ Annual additional tariff revenues are \$ 137/Line. This represents \$16/Line for the annual subscription charge and \$ 121/Line for annual call revenues from local, national, and international calls (\$60/Line, \$13/Line, and \$48/Line respectively). The \$13/Line and \$48/Line estimates are only 50% of current average national and international tariff revenues per line. See footnote #1 for a discussion of this point.

2_/ Assumes \$200 per new line New project-funded lines equal: 0, 208 thousand, 142 thousand, 20 thousand, and 45 thousand, over years 1-5. These numbers reflect the assumption that new lines come into operation one year after construction begins.

3_/ All costs are deflated to remove impact of assumed 5% annual inflation

4_/ Adequate O and M assumed to cost \$89/Line/year

TELECOMMUNICATIONS SECTOR SUPPORT PROJECT
263-0223**Social Soundness Analysis**

The overriding hypothesis of this project is that a commercially viable organization is essential for the provision of reliable telecommunications services, which in turn is essential for growth in a modern industrial society. Business and banking transactions, government services, tourism, emergency police and medical services, all become faster and more efficient with access to reliable telecommunications. After the recent earthquake in October 1992, both domestic and international circuits were jammed with users reporting damage and seeking emergency medical assistance. This experience provided a dramatic example of the assistance a good telecommunications system can provide.

It is estimated that approximately 364,000 new telephone connections will be provided by the project, and allowing for a household size of five, and a business/government office size of ten, direct beneficiaries would amount to nearly 4 million individuals with access to new lines. In addition, replacement of 102,000 lines of antiquated crossbar and temporary switching equipment with digital switching technology would provide an additional 750,000 individuals with more reliable telecommunications services. Other direct beneficiaries are those who, while not living or working in a unit with a telephone line, have reasonable access to either the formal or informal public telephone system (approximately 75 percent of those not directly served). On this basis, an improvement in both the number of these telephones and, more importantly, in the reliability of the service which they provide, could benefit up to an additional 6.7 million individuals in the project area, for a total of approximately 12 million beneficiaries.

Numerous small businesses, hotels and tourist facilities have been established and have significantly contributed to the economic growth of Egypt. Continued operations and the establishment of new investments would be hindered by lack of adequate access and possible deterioration of telecommunications services.

The project will also benefit ARENTO's massive labor force by encouraging ARENTO to operate the sector as a viable commercial operation. This approach will require considerable training in management and refinement in the skills of the technical staff. Monetary rewards will be established and perhaps the salary scale will be liberalized from the general government scale. The

cumulative affect of this reform will have a spread effect on approximately 300,000 individuals (ARENTO's work force of 53,000 and average family size of 6).

This project, which makes qualitative and quantitative improvements in Egypt's telecommunications system, has an extensive social impact, and few, if any, social costs. Among the very poor, it is arguable that the project will have little direct effect. Quality of life, however does seem to improve for the general population in terms of more efficient distribution and flow of goods and services which affect all dimensions of life. Everyone in some way gains from the overall economic growth which is possible as a result of modernized telecommunications system

The project is gender neutral. All segments of the population will benefit. ARENTO's work force includes a significant number of women. The institutional reforms of ARENTO and the training envisioned under the project will benefit a good proportion of the women professionals employed by ARENTO

TELECOMMUNICATIONS SECTOR SUPPORT PROJECT
263-0223**Administrative Analysis****A Organization**

The Arab Republic of Egypt National Telecommunications (ARENTO) is the Government of Egypt's authority responsible for the planning, engineering, procurement, distribution, operation and maintenance of the Egyptian telecommunications system. ARENTO is a semi-autonomous agency which reports directly to the Minister of Transport, Communications and Marine Transport.

The Chairman of ARENTO presides over a Board of Directors composed largely of representatives from governmental ministries, and is the chief executive officer of ARENTO. While four staff offices of various sizes and responsibilities report directly to the Chairman, his principal line managers are the vice chairmen for Operations, for Planning, for Finance, and a Director for Budget Planning (see attached ARENTO organizational chart).

The Deputy Chairman for Operations is responsible for the day-to-day operations and maintenance of all telephone, telegraph and teleservices. The three sectors within Operations and Maintenance include four regional telephone service sectors in Cairo, Alexandria, and Upper and Lower Egypt, and three other service sectors for International Operations, Transmission Maintenance, and Inspection Maintenance. The four geographical telephone service sectors are further divided into zones which may be further sub-divided into districts. The Operations and Maintenance sector employs 82 percent of the ARENTO work force and is by far the largest single functional grouping within the organization.

The Deputy Chairman for Planning is in charge of what is essentially a centralized engineering function. He and his staff plan, design, supervise, and execute the installation of new facilities for the telecommunications system. His sector accounts for 11 percent of ARENTO employees. In addition, for construction projects outside of Cairo and Alexandria, laborers from the Operations and Maintenance sector may be supervised by the Projects Department.

Finally, the Deputy Chairman for Finance is responsible for establishing policies, implementing procedures, and controlling the financial, commercial and personnel activities of ARENTO. Also reporting to this Deputy Chairman are the Telecommunications Training Sector and the Stores and Purchases sector.

B. ARENTO Project Management

It is anticipated that ARENTO will assign a project manager to head a team of outside plant and switching engineers, financial managers, and a contracts specialist to manage the daily project progress. This team will report directly to the ARENTO Vice Chairman of Planning. ARENTO will also assign a team responsible for the network operations center (NOC) reporting directly to the ARENTO Chairman

C. Operations and Maintenance

To effectively operate and maintain the new switching systems, NOC, and related outside plant, ARENTO will assign six switching systems engineers, three NOC systems engineers, six outside plant engineers, 24 outside plant repair technicians and six administrative employees to the project

The operation and maintenance staffs to be assigned to these new exchanges will be trained to operate and maintain the new equipment. The training for the digital switching systems will be conducted mainly in the United States. The outside plant training will be provided in Egypt. The operating and maintenance staff will be trained using classroom instruction, on-the-job study instruction and hands on experience. The training will be provided sufficiently in advance of the operation of the exchanges so that ARENTO staff will be knowledgeable about the equipment and procedure to allow their participation in the provisional acceptance and cutover of the exchanges. The NOC training will consist of two types, off-shore training and on-shore training on ARENTO's equipment after installation.

In addition, the turnkey NOC, DSS and OSP contractors will be required to maintain the new equipment for a one-year warranty period starting from provisional acceptance and ending at the final acceptance by ARENTO of the systems

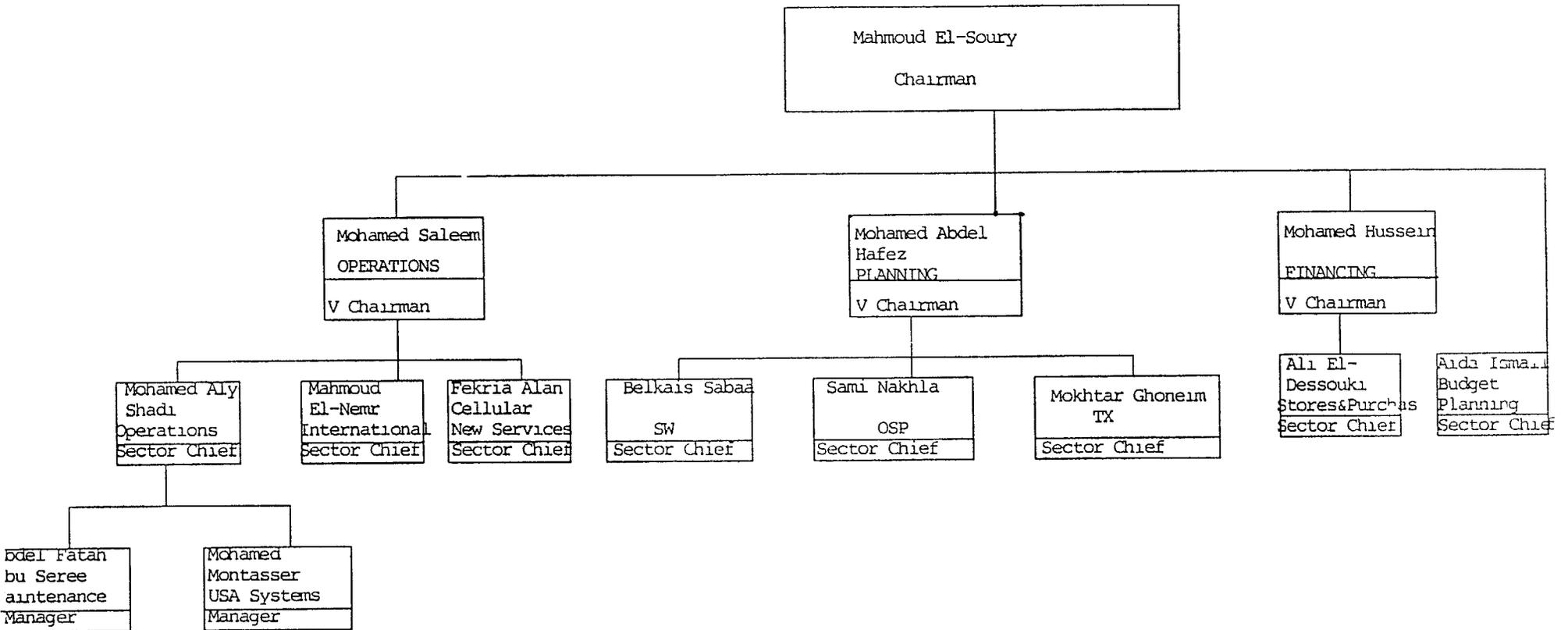
D. The USAID Power and Telecommunications Office

(DR/PT) will have monitoring responsibilities for USAID. The Office has been responsible for implementation of the Telecommunications I, II, III and IV projects and has developed an excellent working relationship with all levels of ARENTO personnel. The assigned personnel are experienced in the design, construction, operation and maintenance of telecommunications

systems, and should provide sufficient USAID monitoring support for this project.

Conclusion

ARENTO has many years of extensive and successful experience in the construction, operation and maintenance of telecommunication, operation and maintenance of telecommunications systems. The proposed project is designed to build on this experience. ARENTO over the years, has demonstrated a capability to effectively manage the implementation of much larger and more complex telecommunications projects. At the same time, the available DR/PT staff should be sufficient to provide the necessary AID monitoring support. Accordingly, the project is administratively feasible.



EST AVAILABLE DOCUMENT

ANNEX M

ENVIRONMENTAL THRESHOLD DECISION



UNITED STATES AGENCY for INTERNATIONAL DEVELOPMENT

CAIRO EGYPT

THRESHOLD DECISION BASED ON INITIAL ENVIRONMENTAL EXAMINATION

Project Location Egypt

Project Title/ID Telecommunications Sector Support No 263-0223

Funding (Fiscal Year and Amount) FY 93 - FY 97, \$250 million

IEE Prepared By

Date

Glenn Rutanen-Whaley

1/5/93

Glenn Rutanen-Whaley Mission Environmental Officer

Environmental Action Recommended

Negative Determination as per 22 CFR 216.3(a)(2)(iii)

Associate Mission Director's Concurrence

Date

Paul Thorn

1/11/93

Paul Thorn, AD/DR

Decision of Environmental Coordinator, Bureau for the Near East

Approved.

Robert J. Hunt

Disapproved

Date

1/2/93

Clearances

- RRhoda, OD/PDS/ENV
VMoore, LEG
JHunt, OD/DR/PT
RGohar, DR/PT

Table with 2 columns: Name/Signature and Date. Includes entries for RR, JH, and RG.

INITIAL ENVIRONMENTAL EXAMINATION

- 1 Project Location Egypt
- 2 Project Title/ID Telecommunications Sector Support
No 263-0223
- 3 Funding (Fiscal Year and Amount) FY 93 - FY 97, \$250 million
- 4 IEE Prepared By Date.
- Glenn Rutanen-Whaley 1/5/93
Glenn Rutanen-Whaley
Mission Environmental Officer
- 5 Action Recommended Negative Determination as per 22 CFR
216 3(a)(2)(111)
- 6 Discussion of Major Environmental Relationships of Project
Relevant to Attached Impact Identification and Evaluation Form

Background

The proposed project would be the fifth major USAID-financed activity in the Egyptian telecommunications sector in the 15 years since the Telecommunications I Project (263-0054) was authorized in 1978. As was the case for its four predecessor projects, the physical inputs of the new project would consist of modernization and expansion of existing telephone exchanges in Cairo and Alexandria by means of installation of state-of-the-art switching systems, and installation of related outside plant networks. In addition, the proposed project would supplement Arab Republic of Egypt National Telecommunication Organization (ARENTO) investments for the construction of a network operations center (NOC) for the ARENTO network, which will centralize and expand ARENTO's capability to monitor the condition of the switching, transmission, and other network equipment, and to route calls between exchanges when necessary. Although the specific exchanges to be upgraded have not been identified at this time, it is estimated that the project will ultimately provide for replacement of a total of 163,000 lines of antiquated crossbar switching equipment and temporary switching equipment with digital switching systems (DSS), and will extend outside plant (OSP) networks to provide telephone service to a total of 510,000 households and businesses currently without access to telephones.

Environmental impacts of the project will be of limited scope and duration associated with the construction phase only. Once installed, the environmental impacts of operating the DSS, OSP, and NOC facilities will be virtually nil. Physical activities with a potential for environmental impact under the project will include expansion of an unspecified number of existing telephone exchange buildings, excavation of streets for laying of cables and

restoration of the job sites for vehicular traffic use, and, possibly, construction of one or more new buildings to house project-financed equipment. All construction work will take place in heavily built-up urban areas which have high baseline levels of ambient air and noise pollution. Any new construction will be on sites which are already significantly disturbed, and/or along existing utility rights-of-way. Therefore, the potential for impacts on cultural antiquities is very low.

Civil and electro-mechanical works will be financed by ARENTO and performed by local contractors with oversight from a project-financed U S construction management consultant (CMC) firm, which, as was the case in the predecessor telecommunications projects, will be responsible for ensuring that environmental impacts (dust, noise, construction debris, vehicle and equipment exhaust, etc) and hazards (unmarked open cable trenches, etc) are minimized to the fullest extent possible, and that adequate occupational safety and health practices are followed by the local construction crews. The CMC will also review all designs and drawings for new or remodeled buildings and will ensure that the completed facilities adhere to internationally acceptable codes for water supply, electricity, lighting, ventilation, sanitation, and worker safety and health.

Discussion

On the basis of an analysis similar to the foregoing, in 1978 the NE Bureau Environmental Coordinator approved a negative determination of significant environmental effect for the Telecommunications I Project. Subsequent IEEs for the Telecommunications II (263-0075), III (263-0117), and IV (263-0177) Projects were approved on the same basis in 1979, 1979, and 1988, respectively.

Pursuant to 22 CFR 216 3(a)(2), the originator of the proposed project has reviewed the potential environmental impacts of the action as summarized in the foregoing IEE, and has determined that the proposed project, if implemented as designed, will not have a significant effect on the environment. The environmental status of the project will be reviewed periodically during implementation by means of routine site visits by USAID/Egypt technical staff. Any required corrections in implementation will be made on the basis of these findings.

Pursuant to 22 CFR 216 3(a)(2)(iii), the originator of the proposed project recommends a negative determination of significant environmental effect for the Telecommunications Sector Support Project, and requests NE Bureau approval of a negative threshold decision for this activity.

ENVIRONMENTAL IMPACT IDENTIFICATION AND EVALUATION FORM

ENVIRONMENTAL IMPACT INDICATOR AREAS/ENVIRONMENT CONSIDERATIONS*

A LAND USE

- | | | |
|---|--|--------------------|
| 1 | Changing the character of the land through | |
| | a Land clearing | <u> N</u> |
| | b Construction (roads, buildings, piping) | <u> L</u> |
| | c Extraction of minerals/natural resources | <u> N</u> |
| | d Creation of deposits of unwanted materials
(waste spoils) | <u> L</u> |
| 2 | Alteration of natural barriers (dunes, marshes) | <u> N</u> |
| 3 | Foreclosing important future uses | <u> N</u> |
| 4 | Potential for endangering populated areas | <u> N</u> |
| 5 | Other factors | |

[NONE]

B SURFACE AND GROUND WATER

- | | | |
|---|--|--------------------|
| 1 | Effects on Quality | |
| | a Introduction of industrial pollutants | <u> N</u> |
| | b Introduction of agricultural pollutants | <u> N</u> |
| | c Introduction of urban/sewage wastes | <u> N</u> |
| | d Introduction of biomedical wastes | <u> N</u> |
| | e Potential for transnational impacts | <u> N</u> |
| 2 | Effects on Quantity | |
| | a Changes in water flow rates | <u> N</u> |
| | b Increasing probability of floods | <u> N</u> |
| | c Potential for changing demand/supply
relation | <u> N</u> |
| | d Potential for transnational impacts | <u> N</u> |
| | e Potential for evaporation losses | <u> N</u> |

C AIR

- | | | |
|---|--|--------------------|
| 1 | Potential for increased NO _x , SO _x , HC, CO ₂ /CO
emissions | <u> N</u> |
| 2 | Potential for increased particulate emissions | <u> N</u> |
| 3 | Potential increase of noxious odors, vapors,
pathogens | <u> N</u> |
| 4 | Noise pollution | <u> N</u> |
| 5 | Other factors | |

[NONE]

* **N** - No perceived environmental impact
L - Little environmental impact
M - Moderate environmental impact (substantiate)
H - High environmental impact (substantiate)
U - Unknown environmental impact

D ENERGY

- | | | |
|---|--|----------|
| 1 | Potential for increased energy demand | <u>N</u> |
| 2 | Use of renewable energy sources | <u>N</u> |
| 3 | Plans for energy efficiency/conservation | <u>N</u> |
| 4 | Other factors | |

[NONE]

E COASTAL AND MARINE RESOURCES

- | | | |
|---|---|----------|
| 1 | Introduction of biological/chemical pollution | <u>N</u> |
| 2 | Introduction of agricultural runoff | <u>N</u> |
| 3 | Mineral extractions | <u>N</u> |
| 4 | Impacts on fish/shellfish harvest | <u>N</u> |
| 5 | Potential for algal blooms | <u>N</u> |
| 6 | Potential for erosion (wind, sand, water) | <u>N</u> |
| 7 | Other factors | |

[NONE]

F BIOTA

- | | | |
|---|---|----------|
| 1 | Introduction of exotic/pathogenic organisms | <u>N</u> |
| 2 | Destruction/alteration of critical habitat | <u>N</u> |
| 3 | Potential for impact to endangered species | <u>N</u> |

G ANTIQUITIES PROTECTION

- | | | |
|---|--|----------|
| 1 | Potential for harm to historic sites | <u>L</u> |
| 2 | Increased access/use of historic sites | <u>N</u> |

H PESTICIDE USE (Required by 22 CFR 216)

- | | | |
|----|---|-----------|
| 1. | Will pesticides be used? | <u>N</u> |
| | a Are they USEPA registered ? | <u>NA</u> |
| | b Are they "Restricted-Use," Canceled, or under "Special Review?" | <u>NA</u> |
| | c Are complete plans in place to train and fully protect applicators? | <u>NA</u> |
| 2 | Impacts on wildlife and aquatic organisms | <u>NA</u> |

I OTHER POSSIBLE IMPACTS (not listed previously)

- | | | |
|---|--|----------|
| 1 | Air quality impacts <u>during construction</u> | <u>L</u> |
| 2 | Noise impacts <u>during construction</u> | <u>L</u> |

Prepared by Glenn Rutanen-Whaley
Glenn Rutanen-Whaley
Mission Environmental Officer

Date 1/6/93

Project Location Egypt
Project Title/ID Telecommunications Sector Support, 263-0223

ANNEX N

GOE LAW NO. 153 OF 1980

(UNOFFICIAL TRANSLATION)

LAW NO. 153 FOR THE YEAR 1980
ESTABLISHING THE
A.R.E. NATIONAL TELECOMMUNICATIONS ORGANIZATION

On behalf of the People

H E. The President

The People's Assembly has passed the following law, which we have issued

ITEM 1:

An authority is established named "The A R E National Telecommunications Organization" The Authority has a corporate entity, and is supervised by H E the Minister of Transportation It is managed in a centralized, unified control which is located in Cairo It has branches throughout the Arab Republic of Egypt The regulations in this law apply to this Authority

ITEM 2:

The Authority is exclusively responsible for the establishment and operation of the telecommunications network on the national level and connecting the national network with the international networks within the general political and economic National Plan To achieve this, the Authority executes the following -

- a) Establishing telecommunication networks all over the Arab Republic of Egypt
- b) Offering telephone, wires and wireless services
- c) Managing and maintaining structures and equipment required to offer these services
- d) Executing the required projects to achieve its objectives and update its services to catch up with the international standards in these fields
- e) Cooperating with the nations and international organizations to connect the Arab Republic of Egypt with the outside world

ITEM 3:

The Authority may carry out all transactions which may enable it to achieve its goals The Authority may set plans and programs set forth and management procedures that suite its activity in accordance with the regulations of this Law regardless of the State administration rules and regulations

ITEM 4:

The Authority to achieve its objectives - without contradicting the

regulations of ITEM 2 - may establish stock companies, either solely or with other partners, after the prior approval of H E the Minister of Transportation The shares of these companies may be traded immediately after the companies' establishment, with the Authority's employees' priority in purchasing these shares

ITEM 5:

The Authority's capital is composed of

- 1 Funds of the General Telecommunications Organization established by Presidential Decree No 709 for the year 1957 establishing the General Egyptian Authority for Telecommunications Affairs
- 2 The amounts allocated by the State

ITEM 6:

The Authority's resources are composed of

- 1 The amounts allocated by the State in the National Budget
- 2 The revenues resulting from the Authority's activity and the services rendered to others whether locally or internationally
- 3 The difference in price of performing the services due to the Authority in accordance with the regulations of Third Paragraph of ITEM (12)
- 4 The loans acquired on behalf of the Authority
- 5 Grants and aids
- 6 Revenue of the fines inflicted by Law for breaching the regulations applied by the Authority

ITEM 7:

The Authority's funds are considered public funds

ITEM 8:

The Authority has a special budget prepared in accordance with its internal regulations regardless of the laws and regulations organizing the General National Budget The Authority also has a special account wherein it deposits its resources

The profit in the Authority's budget is carried forward from one year to the next The Authority's financial year starts simultaneously with the state's financial year beginning and ends simultaneously with it

ITEM 9:

The Authority, in order to obtain its rights and dues, may make administrative seizure procedures in accordance with the law concerning administrative seizures

ITEM 10:

Being exempt from the Importation and Foreign Currency Laws and Regulations, the Authority may within its budget import by itself or through others without license any production requirements, materials, machinery, equipment, spare parts and means of transportation which it may need for its operation in accordance with the rules set by the internal regulations of the Authority

ITEM 11:

The tools, equipment, materials and technical sets imported by the Authority for operating its projects are exempt from customs duties, taxes and other fees This is based on inspection and the Authority's certification that the exempted goods are imported and necessary for executing its projects or its operating activities Taxes and duties must be paid for these exempt goods if any transactions were disposed of to others within five years from date of their exemption

ITEM 12:

The Authority's Board of Directors proposes the rates for the services it renders in accordance with the correct standards of cost accounting and the bases approved by the Board of Directors

A Ministerial Decree fixing these rates is issued by H E the Minister of Transportation after its proposal to the Ministerial Council

In case the state fixes these rates at a lower level below the authorized rates, the General National Budget will subsidize the resulting deficit which must be entered in the Authority's Budget for the forthcoming financial year

ITEM 13:

The Authority allocates the investment allocations that are indicated in its Budget for the studies and researches that are related to its activity, which it handles by itself or delegates other authorities in handling them

ITEM 14:

The Administrative authorities specialized in the building affairs are responsible to notify the authority with the licenses for buildings whose height equals or exceeds 30 meters The Authority

may in such cases make the technical installations in such buildings in order to facilitate telecommunications

ITEM 15:

The Authority is managed by

- 1 The Board of Directors, 2 Managers Board, 3 Chairman

ITEM 16:

The Chairman of the Authority is appointed by a Presidential decree that specifies his salary and allowances

ITEM 17:

The Authority has a Board of Directors headed by the Chairman and formed of the following members

- a) Three members of the Authority's managers who are chosen by H E Minister of Transportation
- b) Six members of experts concerned with the Authority's activity, who are appointed by a Ministerial Decree by H E Minister of Transportation, specifying their remunerations for a period not to exceed two, renewable years
- c) A member of the Authority's General Syndicate appointed by its Board of Directors

The Board of Directors may form among its members a committee or more to be temporarily responsible for some of its responsibilities. The Board may also delegate to the Managers' Board, Chairman, or a Board Member temporarily some of its responsibilities, or in performing a specific task

ITEM 18:

The Authority's Board of Directors is the highest level of management controlling its affairs. The Board may issue decisions which it may deem necessary to achieve the Authority's goals. The Board carries out its responsibilities as indicated in this Law, specifically

- 1 Setting forth plans and programs of the Authority within the National General Plan
2. Laying down the Authority's Organizational Chart
3. Approving rates, tariffs and costs of services offered by the Authority
4. Setting the regulations for the contracts made between the Authority and its customers

- 5 Establishing the Authority's internal regulations regarding the technical, financial, management, purchases and warehousing affairs, as well as other organization regulations
- 6 Proposing the personnel regulations for the employment system, employees' promotions, salary scale, allowances, remunerations and all their positions affairs The regulations are issued by a Ministerial Decree by H E Minister of Transportation
- 7 Establishing personnel systems for the health, social, cultural and sports care for the employees.
- 8 Establishing a control system and performance evaluation criteria according to the economic circumstances
- 9 Approving the Authority's annual budget and planned final account
- 10 Proposing local and international loans acquisition
- 11 Accepting grants and donations offered to the Authority which do not contradict with its objectives
- 12 Signing Agreements that fall within the Authority's responsibilities
- 13 Studying the periodical and follow-up reports presented on the Authority's operation
- 14 Studying any issues presented by H E Minister of Transportation or the Authority's Chairman to the Board concerning any problems that fall within its responsibilities

ITEM 19:

The Chairman of the Board of Directors convenes a meeting at least once a month No official meeting can be held without a quorum The Board issues its decisions by quorum voting If the two voting parties' numbers are equal, the Chairman's party supersedes.

The Board must be convened if half of the members at least request the meeting It is to be held at the Authority premises or at any location of its branches The Board may invite to its meetings whomever it deems necessary to utilize his experience without having the right to vote

ITEM 20:

The Authority's Chairman passes the Board of Directors decisions on to H E. Minister of Transportation within three days from date of issuing them for his approval These decisions are considered valid unless H E the Minister objects to them within fifteen days from date of presenting them to H E the Minister, and in this case

the Board may re-approve them with a 3/4 of the members majority

ITEM 21:

The Managers' Board is formed by a Ministerial Decree by H E Minister of Transportation indicating therein the system and procedures for its operation

The Managers' Board may invite any of the Authority's employees or any expert to its meeting whom it deems necessary to utilize his experience

ITEM 22:

The Managers Board is the main authority in the field of operation, follow up, and supervision of executing the projects carried out by the Authority The Managers' Board handles the following specializations

- 1 Establishing the Draft regulations of the Authority
- 2 Providing the studies and researches required by H E the Minister or Board of Directors
- 3 Studying the problems indicated in the Board of Directors Agenda, making remarks, and providing studies and proposals concerning them prior to their presentation to the Board of Directors
- 4 Studying the Authority's projects, establishing the Time Schedule for executing them and setting their priorities
- 5 Studying periodical and follow-up reports and analyzing them prior to their presentation to the Board of Directors
- 6 Establishing policy for employees training
7. Proposing the required methods to develop the Authority's activity and updating it to cope with the latest international developments
- 8 Preparing an annual report to be presented to H E the Minister and the Authority's Board of Directors on the Operation Development, comparing the Actual Achievements with the Planned Programs, and trouble-shooting of the obstacles affecting performance and the proposed solutions for overcoming them
- 9 Any other responsibilities required by the Authority's internal regulations

ITEM 23:

The Chairman represents the Authority in court and in its transactions with others

ITEM 24:

The Authority's Chairman is responsible for

1. Executing the decisions of the Board of Directors and the Managers' Board
2. Managing the Authority, handling its affairs, developing the operating systems, and supporting its departments
3. Providing revised reports, proposals and decisions issued by the Managers' Board to the Board of Directors to vitalize the role of the Board and enable it to carry out its duties as required by the Law
4. Providing H E Minister of Transportation and the State authorities with the required data, information and documents
5. Any other responsibilities that may be required by the Authority's Internal Regulations

The Chairman may delegate one or more managers in handling some of his responsibilities

ITEM 25:

H E Minister of Transportation may delegate temporarily someone to replace the Chairman in case of his absence or his position being vacant

ITEM 26:

The Regulations indicated in ITEM (18) are issued by a Decree from H E Minister of Transportation after approval of the Board of Directors regardless of the government regulations and systems

The following must be considered when issuing these regulations:

1. Connecting the salary with the type and nature of work and its performance under the various circumstances
2. The value of the travel allowance and transportation allowances for the Authority's employees as categorized according to the levels or original remunerations shall not exceed actual costs they pay
3. Following the Unified Accounting System Regulations

ITEM 27:

The Authority replaces the Telecom Authority which had been established by referenced Presidential Decree No 709 for the year 1957 in any dues and liabilities. The employees of the Previous Telecom Authority are automatically transferred with their existing scales to the new Authority needless of any other procedure.

Until the regulations under reference in No 6 under ITEM (18) of this Law is being issued, No (2) of the previous ITEM will be applicable. Otherwise, the valid rules and regulations in ARENTO continue to be operative without contradicting the new Law Regulations.

ITEM 28:

Referenced Presidential Decree No 709 for the year 1957 is hereby canceled. Any other regulations contradicting this Law is henceforth canceled.

ITEM 29:

This Law is published in the Official Gazette and is operating starting the day following its publishing.

This Law is stamped with the National Stamp and is executed as all other Laws.

Issued at the Presidency on (2 Ramadan 1400 Hij), 14 July 1980

ANWAR EL SADAT