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UNCLASSIFIED

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UNITED STATES INTERNATIONAL DEVELOPMENT COOPERATION AGENCY  
AGENCY FOR INTERNATIONAL DEVELOPMENT  
WASHINGTON, D.C. 20523

PROJECT PAPER

Proposal and Recommendations  
For the Review of the  
Near East Advisory Committee

Project No. 263-0023

July 1980

EGYPT: NATIONAL ENERGY CONTROL CENTER - AMENDMENT 2

UNCLASSIFIED

2. COUNTRY/ENTITY  
Egypt

3. PROJECT NUMBER  
 263-0023

4. BUREAU/OFFICE  
Near East  03

5. PROJECT TITLE (maximum 40 characters)  
 National Energy Control Center

6. PROJECT ASSISTANCE COMPLETION DATE (PACD)  
 MM DD YY  
 1  2  3  1  8  4

7. ESTIMATED DATE OF OBLIGATION  
 (Under "B:" below, enter 1, 2, 3, or 4)  
 A. Initial FY  7  6 B. Quarter  1  2 C. Final FY  8  0

8. COSTS (\$000 OR EQUIVALENT \$1 = L.E. 0.70)

A. FUNDING SOURCE	FIRST FY <u>76</u>			LIFE OF PROJECT		
	B. FX	C. L/C	D. Total	E. FX	F. L/C	G. Total
AID Appropriated Total	24,000		24,000	43,500		43,500
(Grant)	( )	( )	( )	( 2,500 )	( )	( 2,500 )
(Loan)	( 24,000 )	( )	( 24,000 )	( 41,000 )	( )	( 41,000 )
Other U.S.	1.					
	2.					
Host Country		8,532	8,532		8,532	8,532
Other Donor(s)						
<b>TOTALS</b>	<b>24,000</b>	<b>8,532</b>	<b>32,532</b>	<b>43,500</b>	<b>8,532</b>	<b>52,032</b>

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) SA	744				41,000	2,500		2,500	41,000
(2)									
(3)									
(4)									
<b>TOTALS</b>					<b>41,000</b>	<b>2,500</b>		<b>2,500</b>	<b>41,000</b>

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

12. SPECIAL CONCERNS CODES (maximum 7 codes of 4 positions each)  
 A. Code  
 B. Amount

13. PROJECT PURPOSE (maximum 480 characters)  
 Construction and installation of a National Energy Control Center; a computer system which will monitor and control Egypt's interconnected electric power grid.

14. SCHEDULED EVALUATIONS  
 Interim MM YY MM YY Final MM YY  
 1  2  8  0  1  2  8  1  1  2  8  4

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)  
 Provision of a grant of an additional \$2.5 million for the Project.

17. APPROVED BY  
 Signature: Donald S. Brown  
 Title: Director, USAID/Egypt  
 Date Signed: MM DD YY

18. DATE DOCUMENT RECEIVED IN AID/W, OR FOR AID/W DOCUMENTS, DATE OF DISTRIBUTION  
 MM DD YY

TO : Near East Advisory Committee  
FROM : NE/PD, Selig A. Taubenblatt  
SUBJECT : EGYPT: National Energy Control Center  
(Loan Nos. 263-K-037, 263-K-037 and Grant No. 263-0023)

Your concurrence is requested for a proposed two million five hundred thousand dollar (\$2,500,000) amendment increase to the subject loan agreements now totalling forty-one million dollars (\$41,000,000) signed September 30, 1976, and May 17, 1978, respectively, to assist in financing the foreign exchange costs of a National Energy Control Center (NECC). The NECC, when completed, will monitor, supervise and control the Egyptian Unified Power System (UPS) and improve its reliability and economy of operation by on-line computerized control.

Background:

A loan agreement for \$24 million was signed with the Government of Egypt in September 1976 based on estimates of project costs then available from consulting engineers. Bids for the supply of equipment and services needed for the project were received by

the Egyptian Electricity Authority (EEA) on November 1, 1976. Because of the complexity of the project, review of technical proposals took nearly six months and resolution of a dispute of the proposed award by one of the bidders further delayed award of the final contract. Based on bid price results from competitive selection procedures, an amendatory Project Paper in the amount of \$17 million was processed through the Development Loan Committee in April 1978. Estimated foreign exchange cost of the project included the bid cost of the prime equipment and services contract (\$37,299,489) plus the contract for EEA's technical consultants (\$1,732,323) and a provision for contingencies (\$1,968,188).

Although a contract was signed between the EEA and Control Data Middle East Egypt, Inc. (CDMEEI), a wholly owned subsidiary of the Control Data Corporation, on February 20, 1978, for \$37,299,489 and L.E. 1,023,409, it should be noted that certain prices were subject to price escalation of 0.75 percent on the first day of each month for the period January 1978 through May 1978 until the Agreement became effective, i.e., opening of the Letter of Commitment. The contract effective date was established as April 26, 1978, and the contract price became \$38,219,797 and L.E. 1,023,409, thus substantially reducing the contingency provision allowed in

the Project Paper and Loan Agreement Amendment. Certain design modifications and additional price escalation have resulted in subsequent upward adjustments to the contract of 1.26% to a current (mid-May 1980) amount of \$38,703,151. Likewise, the Gilbert Associates (GAI) consulting engineering contract was amended primarily to add design services for the remote terminal unit (RTU) sites, and, therefore, has been increased from \$1,732,323 to \$2,186,244, including banking charges. Thus, the total \$41 million in AID funding available to the project has effectively been fully committed. It is now estimated that an additional \$2.5 million will be required to carry the project through to final completion. Table I summarizes the total funds available and required through this proposed amendment.

TABLE I

A.I.D. Funds Available & Estimated Commitments and Claims Upon

<u>Funds Available</u>		<u>At Time PP Amendment #1 (3/20/78)</u>	<u>At Time CDC Contract Effective (5/11/78)</u>	<u>Thru CDC C.O. #3 &amp; A/E Addendum #1 (3/26/80)</u>	<u>To Project Completion</u>
Original Loan (263-K-037)	\$24,000,000	A/E \$ 1,732,323*	\$ 1,732,323*	\$ 2,186,244 <sup>4</sup>	\$ 3,057,576*
		CDC Contract 37,299,489	38,219,797	38,703,151	39,603,151
Amendment #1 (263-K-037B)	<u>\$17,000,000</u>	Contingency & Escalation <u>1,968,188</u>	<u>1,047,880</u>	<u>110,605</u>	839,273 <sup>4</sup>
	(\$41,000,000)	\$41,000,000	\$41,000,000	\$41,000,000	
Proposed Amend #2 (Grant)	<u>\$ 2,500,000</u>				
<b>Total</b>	<b>\$43,500,000</b>				<b>\$43,500,000</b>

\* Includes banking charges

\*\* Includes potential requirement for \$370,000 in additional construction management services

Although, the proposed \$2.5 million addition increases the total project cost from \$41.0 to \$43.5 million, the project remains essentially unchanged from that described in the original September 1976 Project Paper and the project economics remain sound. Although \$17.0 million provided by Amendment I to the Loan Agreement decreased the project internal rate of return from nineteen percent to fourteen and one-half percent, because of significantly increased international fuel prices, the currently estimated economic internal rate of return is now twenty-four percent, even with the proposed \$2.5 million add-on. See Tab E.

Project Description:

The increasing size and complexity of the Egyptian electric power network (Unified Power System-UPS) has rendered the present manual voice controlled dispatch center obsolete. The EEA currently owns and operates 17 generating stations with a total capability of 3,404 MW. Of these, 1,151 MW are in steam electric plants, 647 MW in combustion turbines and 1,606 MW in hydro. Peak demand in 1979 was 2,814 MW with a total net generation of 16,808 GWh. The system is comprised of a 500 kV interconnection between the hydro plants in the south (Aswan) and the load centers and thermal plants in the northern part of the country (Cairo and the Nile Delta). A 220-kV network serves the Northern Egypt loads and 132 kV transmission

lines, generally paralleling the 550-kV link, serve the loads in the Nile Valley and nearby areas.

System demand is growing at an annual rate of about 13 percent. To meet the rapidly increasing demand, EEA is following a least-cost development program which has confirmed the need for early utilization of additional available Nile hydropower at Lower Aswan Dam and three existing barrages. The Lower Aswan Dam power station will be expanded by 160 MW, and 190 MW more will be installed at the three existing barrages (Esna 89 MW, Nag Hammadi 48 MW, and Assiout 53 MW). Although still clouded in uncertainty, nuclear power stations are being optimistically scheduled by EEA for combined operation with pumped storage starting in 1988. Earlier scheduling is precluded by the estimated lead-time needed for planning and executing nuclear projects in Egypt (9-10 years). Similar considerations make it necessary to schedule new hydro generation to come on the line not earlier than 1986.

In the meantime, Egypt will have to fill the growing system needs from oil and gas fired thermal power stations. New steam electric generating capacity of 300 MW will be added to the system by the end of 1984 and 1,200 MW in 1985-1986. Additional combustion turbine capacity committed for 1978-1986 amounts to 411 MW.

Related expansion in transmission and distribution brings the total estimated construction requirements of the Egyptian power sector for 1978-1986 to L.E. 7.4 billion (US \$10.6 billion), including escalation.

Variations in power available from the large hydro stations, the distance of these stations from load centers and the total number of generating stations supplying the power make systems operations sufficiently complex to justify installation of computerized control system on both technical and economic grounds. This fact was recognized by the World Bank in its Review of the Energy Sector - Egypt prepared in 1975.

The NECC Project is an advanced bulk power control center with on-line computers, comprehensive telemetering, visual displays, and connections with approximately forty (40) remote terminals. This control center together with a communications system and remote terminals and all related equipment and interconnections is to supplement the existing system which is presently in use by the EEA. The remote terminals will be located at existing and newly constructed power stations and substations.

The computer subsystem and telecommunications subsystem, furnished by CDMEEI, consists of CYBER 173-6 computers and Quadraplex

CYBER 18 computers, forming the heart of the system. The data acquisition and control system intelligence will be gathered and forwarded to the system through microwave and power line carrier communication systems. The man/machine subsystem consists of duplex, programmable controllers and operator's consoles (4) with color TV displays and loggers.

The buildings which will house the NECC communication, computers, personnel, and support facilities consist of the following:

1. NECC Building - This building is being constructed as an addition to the present Central Dispatch Office located just west of the Cairo West Power Station. The first floor of the east wing of the existing load dispatch center will house the computer and peripheral equipment. Office space for staff and special facilities will occupy the ground floor of the east wing of the existing building. A two-story building addition will be constructed to house the control room, visitors room, and required electrical, mechanical, and air conditioning systems.

2. Remote sites - Remote sites will contain data acquisition, control and communications equipment. Remote sites consist of new sites, which may require new building, as well as existing sites at substations, plants, and repeater stations. In the case where

equipment is to be installed in existing buildings, some alterations are required. The remote terminal units must be interfaced to the substation and plant metering and controls, necessitating an extensive design and modification of existing station wiring.

The project further requires addition of microwave towers at the remote sites and at new locations for repeater stations. Additions and changes to the power line carrier equipment in the substation switchyards is also required.

Current Status:

It is difficult to accurately assess the current status of the project given its size, complexity, nature and the disparate locations where work is being done. As of mid-May 1980, however, it is estimated that 75 to 80 percent of the project has been completed inasmuch as the predominant cost is in the area of manufacture of the computer and communications hardware, the training of the Egyptian operators and technicians to operate and maintain the system, and in the development of the specialized computer software programs.

To date, the principal focus of the project has been in the United States and essentially, 85 to 90 percent of the U.S. based activities have been completed on schedule. Now the focus of the project

will shift to Egypt; materials are being shipped, approximately 100 Egyptian experts have been trained, hardware and software packages are being mated together and final factory acceptance tests are to commence shortly. Although the principal project focus has heretofore been in the U.S., necessary civil works preparatory to equipment installation have been concurrently underway in Egypt. Although somewhat behind schedule, particularly as regards construction of the central computer center building, all parties remain optimistic that a provisional acceptance test date of January 1, 1982, for full system operation can be met (See Tab F "Management Summary - Program Schedule Chart").

From the outset, it was recognized that the prime implementation aspect that could engender delays in overall project scheduling would be that within the responsibilities of the local Egyptian contractor (LEC). Earlier concerns have indeed materialized.

Project organization is essentially as follows: EEA has contracted the civil works construction and equipment installation to the Egyptian firm Kahromica, a wholly owned subsidiary of the Ministry of Power and Electricity. Kahromica, as a prime contractor, in turn, has sub-contracted the majority of the work to others. While CDMEEI will supervise installation of its furnished equipment (actual work to be done by the LEC), overall project management

is retained by EEA. Gilbert Associates (GAI) provides advisory services to EEA but has not been given construction management responsibility or authority.

Construction and preparation of the central and remote facilities to house the U.S. furnished hardware is behind the originally contemplated schedule. While much of the delay can be attributed to ineffective management controls, delayed shipment, on the part of CDMEEI and its sub-contractors of necessary installation materials and tools along with damages to equipment due to improper packing and improper shipping documentation effecting customs clearances, have also impacted the schedule. Certain steps taken to improve the overall situation, such as inauguration of regularly scheduled construction progress meetings, periodic review meetings with the Chairman of EEA, changes in Kahromica project management and limited augmentation to GAI advisory staff, have resulted in some acceleration in construction progress. Delays to date, while serious, are not yet felt to be critical. The contract-required provisional acceptance test date (January 1982) is still believed attainable, although all slack-time built into the original schedule has been exhausted. Since some delaying factors may be attributable to all parties involved in the project, no delay penalty claims are currently anticipated and all concerned are striving to make up

for lost ground. Nevertheless, continued high level attention by EEA, its suppliers and contractors will be needed to expedite project implementation.

As of mid-May 1980, GAI engineers estimate that approximately 43 percent of the national control center building has been completed. The walls, floors and roof, etc., are up; electrical wiring and installation of the air conditioning duct work is nearing completion. However, the time consuming detailed finishing work remains to be done. The original schedule called for building completion by July 1, 1980. The current target, which will meet CDMEEI planned shipping dates, is now September 30. It is USAID's considered opinion, however, that a January 1981 completion to the point whereby the sensitive computer equipment may be installed is a more realistic date. This date could be advanced if Kahromica's sub-contractors will assign additional manpower to the job along with working double shifts and if management coordination continues to improve.

Work at the RTU sites is also slightly behind schedule, but accelerating. With exception of the microwave tower, equipment installation at the Cairo 500 site (C-500 is the terminus of the 500 kV transmission line from the High Dam at Aswan) has been

completed and is underway at three of the four (Samalut, Aswan, High Dam) remaining first priority sites. Considerable RTU equipment has already arrived in country for the various sites as has most of the power-line carrier communications equipment, microwave antennas and towers. Tower construction at the center and C-500 will start June 1, 1980. As experience is gained and additional crews are trained, the pace is anticipated to accelerate rapidly. CDMEEI and GE supervisory personnel are quite optimistic as to the timely completion of the RTU and communications network aspects of the project.

Additional Budget Required to Complete:

Cost commitments to date have virtually exhausted the present AID loan commitments. A full budgetary review was held in December 1979 with USAID, EEA and GAI representatives participating, this review indicated that additional funds would be required in the amount of two and one-half million dollars (\$2,500,000) to successfully complete the NECC project. This estimate was again confirmed by a GAI analysis dated April 1, 1980 (Tab G).

Estimated expenditure requirements to complete the project are as follows:

1. Gilbert Associates, Inc. Supplemental Agreement No. 2

Additional contract negotiations, bid reviews	\$ 133,511
Contract monitoring and administration of CDC & LEC	65,256
Additional facilities engineering, review of LEC designs	66,880
Communication engineering and redesign	62,613
Extension of resident engineer (+14 mos.)	194,204
Additional construction engineer services	44,812
Additional civil works construction supervision	43,571
Additional project administration	69,442
Fee	89,000
Contingency	102,043
	<hr/>
	871,332

2. CDMEEI Change Order No. 4

Hardware additions for Remote Terminal Units (RTU) at sites and Control Room Equipment	500,000
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3. CDMEEI Change Order No. 5

Expanded installation supervision services for concurrent equipment installation	400,000
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4. Gilbert Associates, Inc. Supplemental Agreement No. 3

Additional construction management services related to commissioning and system start-up.	
Communication system engineering services	76,500
System engineering services for the computer systems, RTU data acquisition and software (program) applications	255,500
Fee	38,000
	<hr/>
	370,000

5. Contingency and Escalation

358,668

Total

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\$ 2,500,000

The above figures are conservatively estimated given current world-wide economic uncertainties and the duration of time remaining to final project close-out. In this regard, please note that throughout the guarantee period (two years following provisional acceptance; January 1984) CDMEEI is contractually required to provide in-country maintenance specialists. Items 1 and 2 above may be considered firm requirements and both GAI and CDMEEI are in good faith currently providing services or goods to maintain project momentum, although these have not yet been reflected in formalized contract amendments.

With respect to the proposed Supplemental Agreement No. 2 to the GAI contract, it has essentially been negotiated, subject to availability of funding, and includes expanded communications engineering support, facilities/architectural engineering support as well as the contract and work statement negotiation activities during the early phases of the project, the LEC's work statement preparation, an extensive contract administration support.

CDMEEI Change Order NO. 4 represents procurements in process due to modifications to system or facilities design, requirements for

additional imported installation materials and tools unavailable locally, escalation in prices on contract cost reimbursable items and substantial increases in ocean and air freight charges resulting from fuel surcharges on published rates.

Items 4 and 5 above may be considered contingency planning to provide additional services, if required, throughout the long period until final system acceptance - January 1984.

Attachments:

Tab A - GOE March 1980 Letter Requesting Additional Funds  
Tab B - Mission Director Sec. 611(e) Certification  
Tab C - Statutory Checklist  
Tab D - Draft Amendment Authorization  
Tab E - Revised Economic Analysis  
Tab F - Management Summary - Program Schedule Chart  
Tab G - GAI April 1, 1980 Analysis of Costs  
Tab H - Environmental Clearance

Project Committee: USAID/Cairo

Project Manager	T.E. Johnson
Loan Officer	T.E. Johnson
Engineer	P.S. Lewis
Legal Advisor	B. Bryant
Economist	J. Norris

Project Committee: AID/Washington

Chairperson	A. Hotvedt
Development Officer	D. Reese
Engineer	A. Hotvedt
Counsel	T. Carter
Desk Officer-OIC	G.F. Gower
Program Officer	S. Chernenkoff
Program Analyst	G. Self
Environmental Specialist	S. Lintner

MINISTRY OF ECONOMY  
AND ECONOMIC COOPERATION

Economic Cooperation

Action 11/01/78  
cc: Program  
Cylinder  
Legal  
CONT

Tab A

Mr. Donald S. Brown  
AID Director  
U.S. Embassy  
CAIRO

ACTN: 11/01/78	EDPS	PRG/AD
ACTIC: 3/17		
MAN: 3/17		

Cairo

March, 1978

Dear Mr. Brown,

Reference to U.S. AID Loan Number 237 - A - 037 signed on June 1, 1978 between our two Governments with an amount of \$ 41 million for the National Energy Control Center Project.

Mr. Kamel Dessouky, Chairman of the Egyptian Electricity Authority has recently reviewed the cost and commitments made up to this date and found that the loan funds have been exhausted.

Considering the tremendous importance of this project in terms of the future development of the Egyptian Economy Mr. Kamel Dessouky has requested that additional funds in the amount of two and half million dollars (2,500,000) would be provided to facilitate the successful completion of this project.

Therefore, I hereby request a grant of two and a half million dollars from the Agency for International Development to cover the additional expenses necessary for completion of the said project.

I hope you will take the necessary action in this concern.

Sincerely yours,

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ABDEL AZIZ BAWKY  
Under Secretary of State  
for Economic Cooperation



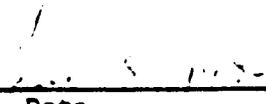
## UNITED STATES AGENCY for INTERNATIONAL DEVELOPMENT

CAIRO, EGYPT

EGYPT - NATIONAL ENERGY CONTROL CENTER - AMENDMENT III  
CERTIFICATION PURSUANT TO SECTION 611 (e) OF THE  
FOREIGN ASSISTANCE ACT OF 1961 AS AMENDED

I, Donald S. Brown, the Principal Officer of the Agency for International Development, 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 human resources capability to effectively maintain and utilize the National Energy Control Center Project which will monitor and control the Egyptian Unified Power System.

  
\_\_\_\_\_  
Donald S. Brown  
Director, USAID/Egypt

  
\_\_\_\_\_  
Date

SC (2) - PROJECT CHECKLIST

Listed below are statutory criteria applicable generally to projects with FAA funds and project criteria applicable to individual funding sources: Development Assistance (with a subcategory for criteria applicable only to loans); and Economic Support Fund.

CROSS REFERENCES: IS COUNTRY CHECKLIST UP TO DATE?  
HAS STANDARD ITEM CHECKLIST BEEN REVIEWED FOR THIS PROJECT?

A. GENERAL CRITERIA FOR PROJECT

1. FY 79 App. Act Unnumbered; FY 80 App. Act Unnumbered; FAA Sec. 634A; Sec. 653(b);

(a) Describe how authorizing and appropriations Committees of Senate and House have been or will be notified concerning the project; (b) is assistance within (Operational Year Budget) country or international organization allocation reported to Congress (or not more than \$1 million over that figure)?

(a) A congressional Notification on this Grant was sent to the congress on obligations may be incurred on  
(b) Yes, per above.

2. FAA Sec. 611(a) (1). Prior to obligation in excess of \$100,000, will there be (a) engineering, financial, and 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

3. FAA Sec. 61(a) (2). If further legislative action is required within recipient country, what is basis for reasonable expectation that such action will be completed in time to permit orderly accomplishment of purpose of the assistance?

No further legislative action is required

4. FAA Sec. 611(b); FY 79 APP. Act Sec. 101; FY 80 App. Act Sec. (501.) If for water or water-related land resource construction, has project met the standards and criteria as per the Principles and Standards for Planning Water and Related Land Resources dated October 25, 1973?

N/A

Yes

No.

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This Project will improve the efficiency of agriculture, industry and commerce by providing more reliable and efficient electrical service which is critical to maintaining required levels of agricultural, commercial and industrial productivity throughout the country.

All commodities and services financed under the grant will be procured from U.S. suppliers.

The grant agreement will so provide. All local currency required will be provided by the GOE.

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

6. FAA Sec. 209. Is project susceptible of execution as part of regional or multilateral project? If so why is project not so executed? Information and conclusion whether assistance will encourage regional development programs.

7. FAA Sec. 601(a). Information and conclusions whether project 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.

8. FAA Sec. 601(b). Information and conclusion 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).

9. FAA Sec. 612(b); Sec. 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 to meet the cost of contractual and other services.

10. 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?

Yes. Release by the GOE is not a problem at present

11. FAA Sec. 601(e). Will the project utilize competitive selection procedures for the awarding of contracts, except where applicable procurement rules allow otherwise?

Yes. Commodities and services will be provided by previously competitively selected contractors.

12. FY 79 App. Act, Sec. 608; FY 80 App. Act Sec. (521.) 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?

N.A.

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FUNDING CRITERIA FOR PROJECT

Development Assistance Project Criteria

a. FAA Sec. 102(b); 111; 113; 291a. Extent to which activity will (a) effectively involve the poor in development, by extending access to economy at local level, increasing labor-intensive production and the use of appropriate technology, spreading investment out from cities to small towns and rural areas, and insuring wide participation of the poor in the benefits of development on a sustained basis, using the appropriate U.S. institutions; (b) help develop cooperatives, especially by technical assistance, to assist rural and urban poor to help themselves toward better life, and otherwise encourage democratic private and local governmental institutions; (c) support the self-help efforts

N.A.

of developing countries; (d) promote the participation of women in the national economies of developing countries and the improvement of women's status; and (e) utilize and encourage regional cooperation by developing countries?

b. FAA Sec. 103, 103A, 104, 105, 106, 107.

Is assistance being made available: (include only applicable paragraph which corresponds to source of funds used. If more than one fund source is used for project, include relevant paragraph for each fund source.)

N.A.

(1) [103] for agriculture, rural development or nutrition; if so (a) extent to which activity is specifically designed to increase productivity and income of rural poor; [103A] if for agricultural research, full account shall be taken of the needs of small farmers, and extensive use of field testing to adapt basic research to local conditions shall be made; (b) extent to which assistance is used in coordination with programs carried out under Sec. 104 to help improve nutrition of the people of developing countries through encouragement of increased production of crops with greater nutritional value, improvement of planning, research, and education with respect to nutrition, particularly with reference to improvement and expanded use of indigenously produced foodstuffs; and the undertaking of pilot or demonstration programs explicitly addressing the problem of malnutrition of poor and vulnerable people; and (c) extent to which activity increases national food security by improving food policies and management and by strengthening national food reserves, with particular concern for the needs of the poor, through measures encouraging domestic production, building national food

N.A.

N.A.

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N.A.

reserves, expanding available storage facilities, reducing post harvest food losses, and improving food distribution.

(2) [104] for population planning under sec. 104(b) or health under sec. 104(c); if so, (a.) extent to which activity emphasizes low-cost, integrated delivery systems for health, nutrition and family planning for the poorest people, with particular attention to the needs of mothers and young children, using paramedical and auxiliary medical personnel, clinics and health posts, commercial distribution systems and other modes of community research.

N.A.

(3) [105] for education, public administration, or human resources development; if so, extent to which activity strengthens nonformal education, makes formal education more relevant, especially for rural families and urban poor, or strengthens management capability of institutions enabling the poor to participate in development; and (b.) extent to which assistance provides advanced education and training of people in developing countries in such disciplines as are required for planning and implementation of public and private development activities.

N.A.

N.A.

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(4) [106] for technical assistance, energy, research, reconstruction, and selected development problems; if so, extent activity is: (i) (a) concerned with data collection and analysis, the training of skilled personnel, research on and development of suitable energy sources, and pilot projects to test new methods of energy production; and (b) facilitative of geological and geophysical survey work to locate potential oil, natural gas, and coal reserves and to encourage exploration for potential oil, natural gas, and coal reserves.

N.A.

(ii) technical cooperation and development, especially with U.S. private and voluntary, or regional and international development, organizations; N.A.

(iii) research, into, and evaluation of, economic development processes and techniques; N.A.

(iv) reconstruction after natural or manmade disaster; N.A.

(v) for special development problems, and to enable proper utilization of earlier U.S. infrastructure, etc., assistance; N.A.

(vi) for programs of urban development, especially small labor-intensive enterprises, marketing systems, and financial or other institutions to help urban poor participate in economic and social development. N.A.

c. [107] is appropriate effort placed on use of appropriate technology? (relatively smaller, cost-saving, labor using technologies that are generally most appropriate for the small farms, small businesses, and small incomes of the poor.) N.A.

d. FAA Sec. 110(a). Will the recipient country provide at least 25% of the costs of the program, project, or activity with respect to which the assistance is to be furnished (or has the latter cost-sharing requirement been waived for a "relatively least developed" country)? Yes.

e. FAA Sec. 110(b). Will grant capital assistance be disbursed for project over more than 3 years? If so, has justification satisfactory to Congress been made, and efforts for other financing, or is the recipient country "relatively least developed"? N.A.

f. FAA Sec. 281(b). Describe extent to which program recognizes the particular needs, desires, and capacities of the people of the country; utilizes the country's N.A.

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intellectual resources to encourage institutional development; and supports civil education and training in skills required for effective participation in governmental processes essential to self-government.

g. FAA Sec. 122(b). Does the activity give reasonable promise of contributing to the development of economic resources, or to the increase of productive capacities and self-sustaining economic growth? N.A.

2. Development Assistance Project Criteria (Loans Only)

a. FAA Sec. 122(b). Information and conclusion on capacity of the country to repay the loan, at a reasonable rate of interest. N.A.

b. FAA Sec. 620(d). If assistance is for any productive enterprise which will compete with U.S. enterprises, is there an agreement by the recipient country to prevent export to the U.S. of more than 20% of the enterprise's annual production during the life of the loan? N.A.

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3. Project Criteria Solely for Economic Support Fund

a. FAA Sec. 531(a). Will this assistance promote economic or political stability? To the extent possible, does it reflect the policy directions of section 102? Yes

b. FAA Sec. 531(c). Will assistance under this chapter be used for military, or paramilitary activities? No.

5C(3) - STANDARD ITEM CHECKLIST

Listed below are statutory items which normally will be covered routinely by those provisions of an assistance agreement dealing with its implementation, or covered in the agreement by imposing limits on certain uses of funds.

These items are arranged under the general headings of (A) Procurement,  
(B) Construction, and (C) Other Restrictions.

A. Procurement

1. FAA Sec. 602. Are there arrangements to permit U.S. small business to participate equitably in the furnishing of commodities and services financed  
Yes.
2. FAA Sec. 604(a). Will all procurement be from the U.S. except as otherwise determined by the President or under delegation from him?  
Yes.
3. FAA Sec. 604(d). If the cooperating country discriminates against U.S. marine insurance companies, will commodities be insured in the United States against marine risk with a company or companies authorized to do marine insurance business in the U.S.  
Yes.
4. FAA Sec. 604(e). If offshore procurement of agricultural commodity or product is to be financed, is there provision against such procurement when the domestic price of such commodity is less than parity?  
N.A.
5. FAA Sec. 603 Compliance with requirement in section 902(b) of the Merchant Marine Act of 1936, as amended, that at least 50 per centum 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 that such vessels are available at fair and reasonable rates.  
Yes
6. FAA Sec. 608(a). Will U.S. Government excess personal property be utilized wherever practicable in lieu of the procurement of new items?  
N.A.
7. FAA Sec. 621. If technical assistance is financed, to the fullest extent practicable will such assistance, goods and professional and other services from private enterprise, be furnished on a  
Yes. It is anticipated that only the U.S. private sector will provide services under this grant.

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contract basis? If the facilities of other Federal agencies will be utilized, are they particularly suitable, not competitive with private enterprise, and made available without undue interference with domestic programs?

8. International Air Transport. Fair Competitive Practices Act, 1974.  
If air transportation of persons or property is financed on grant basis, will provision be made that U.S.-flag carriers will be utilized to the extent such service is available?

Yes

9. FY 79 App. Act, Sec. 105; FY 80 App. Act Sec. [505.] Does the contract for procurement contain a provision authorizing the termination of such contract for the convenience of the United States?

Yes

3. Construction

1. FAA Sec. 601(d). If a capital (e.g., construction) project, are engineering and professional services of U.S. firms and their affiliates to be used to the maximum extent consistent with the national interest?

Yes.

2. 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

3. 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?

Yes

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Other Restriction

1. FAA Sec. 122(b). If development loan, is interest rate at least 2% per annum during grace period and at least 3% per annum thereafter?

N.A.

2. FAA Sec. 301(d). If fund is established solely by U.S. contributions and administered by an international organization, does Comptroller General have audit rights?

N.A.

3. 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.

4. FAA Sec. 636(l). Is financing not permitted to be used, without waiver, for purchase, sale, longterm lease, exchange or guaranty of motor vehicles manufactured outside the U.S.?

Yes.

5. Will arrangements preclude use of financing:

Yes,

a. FAA Sec. 104(f). To pay for performance of abortions as a method of family planning or to, motivate or coerce persons to practice abortions; to pay for performance of involuntary sterilization as a method of family planning, or to coerce or provide financial incentive to any person to undergo sterilization?

Yes.

b. FAA Sec. 620(g). To compensate owners for expropriated nationalized property?

Yes.

c. FAA Sec. 660. To provide training or advice or provide any financial support for police, prisons, or other law enforcement forces, except for narcotics programs?

Yes.

d. FAA Sec. 662. For CIA activities?

Yes.

e. FY 79 App. Act, Sec. 104; FY 80 App. Act Sec. [504.] To pay pensions, etc., for military personnel?

Yes.

f. FY 79 App. Act, Sec. 106; FY 80 App. Act. Sec. [506.] To pay U.N. assessments?

Yes

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g. FY 79 App. Act, Sec. 107; FY 80 App. Act. Sec. [507.] To carry out provisions of FAA section 209(d)? (Transfer of FAA funds to multilateral organizations for lending.)

Yes.

h. FY 79 App. Act, Sec. 112; FY 80 App. Act Sec. [511.] To finance the export of nuclear equipment, fuel, or technology or to train foreign nationals in nuclear fields?

Yes.

i. FY 79 App. Act, Sec. 601; FY 80 App. Act Sec. [515.] To be used for publicity or propaganda purposes within U.S. not authorized by Congress?

Yes.

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UNITED STATES INTERNATIONAL DEVELOPMENT COOPERATION AGENCY  
AGENCY FOR INTERNATIONAL DEVELOPMENT  
WASHINGTON, D C 20523

ASSISTANT  
ADMINISTRATOR

THIRD AMENDMENT TO PROJECT AUTHORIZATION

Name of Country: Arab Republic of Egypt Name of Project: National Energy Control Center  
Project No.: 263-0023  
Loan No.: 263-K-037, -037B

1. Pursuant to Section 531 of the Foreign Assistance Act of 1961, as amended, the National Energy Control Center Project for the Arab Republic of Egypt (the "Cooperating Country") was authorized on September 28, 1976 and amended on June 14, 1977 and May 19, 1978 (the "Project Authorization"). The Project Authorization is hereby further amended as follows:

In addition to the loan funding previously authorized, I hereby authorize a Grant to the Arab Republic of Egypt of not to exceed Two Million Five Hundred Thousand United States Dollars (\$2,500,000), to be obligated during FY 1980, subject to the availability of funds in accordance with the A.I.D./OYB allotment process, to help in financing the foreign exchange costs for the project.

2. The Project Agreement Amendment or new Agreement which may be negotiated and executed by the officer(s) to whom such authority is delegated in accordance with A.I.D. regulations and Delegations of Authority shall be subject to the following essential covenant together with such other terms and conditions as A.I.D. may deem appropriate.

a. In order to assist the Egyptian Electricity Authority ("EEA") in carrying out the project, the Cooperating Country shall regrant to the EEA the proceeds of the Grant under a regrant agreement to be entered into between the Cooperating Country and EEA with terms and conditions satisfactory to A.I.D.

3. The Project Authorization, as amended, remains in force except as hereby amended.



Alfred D. White

31 JUL 1980

Date

## VI. ECONOMIC ANALYSIS

6.01. The primary economic benefit of this project is the reduced cost of system operation by improved efficiency and reliability resulting from economic load generation and dispatching by on-line computerized control. Efficient programming of economic generating units by having the lowest operating cost units on the grid compatible with availability and system reliability will result in reduced annual fuel costs. In addition, the increased degree of central control of and information on the national electrical system should permit the system to operate with a lower level of reserve generating capacity than is currently the case.

6.02. The revised economic analysis contained in this project amendment reflects currently estimated higher project costs and significantly increased international petroleum fuel prices. The new nationwide electricity load projection used is the low projection contained in the 1978 Sanderson-Porter study for the Shoubra El Kheima plant. This more recent projection is higher than the one used in the original project paper. The projections of the portion of power generation provided by hydro, nuclear, turbine, thermal and nuclear are also taken from this study. The Sanderson-Porter study used very optimistic GOE projections for the rate at which new hydro and nuclear facilities would come on line. As a result, the estimates of total future fuel costs used here for power generation must be considered very conservative. Since project benefits result from an estimated saving of 2% in system fuel costs, this means that project benefits are also conservatively estimated.

6.03. In the original project paper, the cost of generating electricity from existing or planned thermal plants was estimated at \$16 to \$21 per thousand kwh. Because of sharply increased international petroleum prices, it is calculated that the current fuel cost is \$48 per thousand kwh for thermal plants. With the NECC projected to come on line in 1981, estimated fuel savings in 1982 are \$11.5 million. Savings are projected to rise to a peak of \$18.9 million in 1986 and then taper off (as the relative importance of nuclear and hydro facilities increases) to a minimum \$7.6 million by 1998. As noted above, conventionally fueled thermal power generation is almost certain to be more significant during this period than projected by the GOE. As result fuel savings will also be higher than we have projected.

6.04. On the cost side, in addition to increasing investment costs by \$2.5 million to a new total of \$43.5 million, annual O & M costs have been doubled to \$1.0 million. With these cost and benefit projections, the economic internal rate of return is 24%.

NATIONAL ENERGY CONTROL CENTER  
INTERNAL RATE OF RETURN

(\$ Millions)

<u>Year</u>	<u>Investment</u>	<u>O &amp; M</u>	<u>Project Benefits</u>	<u>Net Benefit</u>
1	\$(5.5)	-0-	-0-	(5.5)
2	(9.0)	-0-	-0-	(9.0)
3	(20.0)	-0-	-0-	(20.0)
4	(7.8)	-0-	-0-	(7.8)
5	(.8)	(1.0)	11.5	9.7
6	(.4)	(1.0)	13.4	12.0
7		(1.0)	16.9	15.9
8		(1.0)	17.5	16.5
9		(1.0)	18.9	17.9
10		(1.0)	18.4	17.4
11		(1.0)	18.1	17.1
12		(1.0)	18.1	17.1
13		(1.0)	17.9	16.9
14		(1.0)	16.3	15.3
15.		(1.0)	16.0	15.0
16		(1.0)	15.5	14.5
17		(1.0)	14.9	13.9
18		(1.0)	12.9	11.9
19		(1.0)	11.8	10.8
20		(1.0)	10.6	9.6
21		(1.0)	7.6	6.6
22		(1.0)	7.6	6.6
23		(1.0)	7.6	6.6
24		(1.0)	7.6	6.6
25		(1.0)	7.6	6.6
26		(1.0)	7.6	6.6
27		(1.0)	7.6	6.6
28		(1.0)	7.6	6.6
29		(1.0)	7.6	6.6

Present value of net benefits with a 24% discount rate equal + 0.74

LARGE BLUEPRINT  
NON-REPRODUCIBLE

(it may be borrowed from chairperson)



**Gilbert/Commonwealth** engineers and consultants

GILBERT ASSOCIATES, INC., P. O. Box 1498, Reading, PA 19603/Tel. 215 775-2600/Cable Gilasoc/Telex 836-431

April 1, 1980

Mr. Donald S. Brown, Director  
U.S. AID  
Five Latin America Street  
Garden City, Cairo, A.R.E.

Re: Egyptian Electricity Authority  
National Energy Control Center  
U.S. AID Loan Number 263-K-037

Dear Mr. Brown:

The present budget authorization and loan commitment for development and construction of the National Energy Control Center financed under U.S. AID Loan Number 263-K-037 is set at forty-one million dollars (41,000,000.).

Gilbert Associates' Project Management has recently reviewed the cost commitments to date and found applicable figures as follows:

<u>ITEM</u>	<u>AMOUNT</u>	<u>CUMULATIVE TOTAL</u>
CDC Original Contract (Design & Installation)	\$38,219,797.	\$38,219,797.
CDC Change Order No. 1	(\$284,931.) Credit	\$37,934,866.
CDC Change Order No. 2	(\$160,088.) Credit	\$37,774,778.
CDC Change Order No. 3	\$928,373.	\$38,703,151.
Gilbert Associates, Inc. Consulting Services Contract	\$1,723,323.	\$40,426,474.
Gilbert Associates, Inc. Supp. Agreement No. 1 (Substation Engr. & CPM Sch.)	\$453,421.	\$40,879,895.

The above figures indicate that the cost commitments to date virtually exhausted the present loan commitments from U.S. AID.

- Continued -

In addition to the above, certain expenditures deemed necessary for the successful completion of the project are anticipated in the future. These expenditures are as follows:

Gilbert Associates, Inc. Suppl. Agreement No. 2 (Additional Consulting Services)	\$871,332.	\$41,751,227.
CDC Change Order No. 4 (Certain Anticipated Hardware Additions)	\$500,000.	\$42,251,227.
CDC Change Order No. 5 (Expanded Installation Supervision Services)	\$400,000.	\$42,651,227.
Gilbert Associates, Inc. Suppl. Agreement No. 3 (Additional Construction Management Services)	\$370,000.	\$43,021,227.
Contingency and Escalation	\$478,773.	\$43,500,000.

In view of the above analysis, GAI feels that additional funding is required to successfully complete the NECC Project. It is requested that these additional funds in the amount of two and one-half million dollars (\$2,500,000.) be funded by U.S. AID and a new funding level be established at forty-three million, five hundred thousand dollars (\$43,500,000.) for loan 263-K-037.

Very truly yours,

*C. L. Longenecker / b15*

C. L. Longenecker  
Project Manager

CLL/nma

cc: D. R. Smith

UNITED STATES GOVERNMENT

# Memorandum

TO : NE/PD/ENGR, Alfred Hotvedt  
Project Chairperson

DATE: July 10, 1980

FROM : NE/PD/PDS, Stephen F. Lintner *DFL*  
Bureau Environmental Coordinator

SUBJECT: EGYPT - National Energy Control Center, Amendment No. 2  
(263-0023) - Environmental Clearance

I have reviewed the proposed amendment for the subject project and recommend that the project retain its "Negative Determination" status. It should be noted that the project will improve the utilization of power resources and hence contribute to the conservation of natural resources.

cc: GC/NE, T. Carter  
USAID/Cairo, Mission Environmental Officer  
USAID/Cairo, L. Michael Hager, Senior Legal Advisor  
USAID/Cairo, T. E. Johnson, Project Manager



UNITED STATES INTERNATIONAL DEVELOPMENT COOPERATION AGENCY  
AGENCY FOR INTERNATIONAL DEVELOPMENT  
WASHINGTON, D.C. 20523

NEAR EAST ADVISORY COMMITTEE MEETING

DATE: July 3, 1980

TIME: See Agenda

PLACE: 6439 NS

SUBJECT: Issues Paper A.I.D. Project Number 263-0023;  
National Energy Control Center, Egypt

The Near East Advisory Committee will meet as scheduled above to discuss Amendment No. 2 to the Project Paper and the attached Issues Paper.

Please refer all questions to the Chairperson.

Attachment: Issues Paper

DISTRIBUTION:

A-AA/NE, Mr. A. White, 6724 NS  
AA/NE, Mr. E. Vinson, 6732 NS  
NE/DP, Mr. B. Langmaid, 6723 NS (4)  
NE/PD, Mr. S. Taubenblatt, 4720 NS  
NE/PD, Mr. R. Bell, 4720 NS  
NE/TECH, Mr. L. Reade, 4443 NS  
NE/TECH, Ms. K. MacManus, 4443 NS  
NE/TECH, Dr. P. Benedict, 6664 NS  
NE/TZCH, Mr. G. Self, 6664 NS  
NE/PD, Mr. L. Rosenberg, 4712 NS  
NE/PD, Mr. S. Lintner, 4709 NS  
NE/PD, Mr. M. Kingery, 4712 NS  
NE/EI, Mr. J. Sperling, 5318 NS  
PPC/WID, Ms. A. Fraser, 3245 NS  
GC/NE, Mr. J. Mullen, 2638 NS  
GC/NE, Mr. T. Carter, 2638 NS  
CM/ROD/NE, Mr. F. Moulton, 729 SA-14  
SER/COM/NE, Mr. R. Looper, 811-D SA-18  
✓DS/DIU/DI, Ms. N. Thompson, 813 SA-18 (4)  
NE/PD, Ms. G. Shivers, 4709-A NS  
PPC/PDPR, Mr. B. Sidman, 3938 NS  
PPC/PB, Mr. J. Segal, 3731 NS  
NE/EI, Mr. G. Kamens, 5318 NS  
NE/EI, Mr. G. Gower, 5318 NS

## memorandum

DATE: June 27, 1980

REPLY TO: Project Review Committee, A. Hotvedt, Chairperson

ATTN OF:

THRU: NE/PD, Selig A. Taubenblatt

SUBJECT: EGYPT: National Energy Control Center, Project 263-0023

TO: Near East Advisory Committee (for meeting 7/3/80)

ISSUES PAPER

Issue No. 1: Why is additional funding needed and why doesn't the GOE provide the requisite funds in accordance with Section 4.02 of the 263-K-037 loan agreement?

Discussion: As of mid-May 1980 virtually all of the A.I.D. loan funds of \$41.0 million have been committed. The Egyptian Electricity Authority and the A & E consultant have reviewed the project and determined that an additional \$2.5 million is required to successfully complete the project. The GOE, through the Office of the Ministry of Economy and Economic Cooperation, has requested a grant of \$2.5 million from the USAID/Cairo. The Mission has concurred with this request. The FX funds would finance additional consulting and management services by the A & E consultant and additional hardware and expanded installation services by the construction contractor. It is considered that these additional services are necessary for effective completion of the project and that additional funding is an appropriate expenditure for A.I.D. The original scope of work has not been substantively changed. The COE is committed to contribute large amounts of local currency (\$8,532,000 equivalent) to the project and any additional civil works costs incurred.

Recommendation: The Committee recommends Mission request for grant funds be accepted with the understanding that this increment represents A.I.D.'s last contribution to the project.

Issue No. 2: One of the deficiencies in the implementation of the N.E.C.C. has been the performance of the Egyptian local contractor for civil works, Kahromica. Construction at some of the remote sites and at the N.E.C.C. building are behind schedule.

Discussion: There are three wholly owned EEA civil works firms. One of these, Kahromica won the award. The Chairman of Kahromica has equal status with the Chairman of the EEA. Until recently, the EEA has not been effective in motivating Kahromica. However, the importance of meeting the provisional acceptance test date of January 1, 1982 for full system operations has been recognized and a series of weekly scheduled construction progress meetings as well as periodic review meetings with the Chairman of EEA have been instituted. A recently assigned Mission telecommunications engineer is now attending these meetings. Consideration



Buy U.S. Savings Bonds Regularly on the Payroll Savings Plan

is being given by Kahromica to assigning additional manpower to the job along with working double shifts and improved management coordination.

Recommendation: Mission, through telecommunications engineer monitoring progress meetings, quickly respond to any potential implementation delays since all slacktime built into the original schedule has been exhausted.

Issue No. 3: With computer equipment scheduled to be shipped prior to completion of the N.E.C.C. building, is the EEA handling this situation satisfactorily?

Discussion: The EEA has requested Control Data to delay shipment until the building is ready and at that time ship the computer components via chartered air freight. The heavy items, steel, etc., have already been received in country and are stored in a secure warehouse. Control Data has agreed there will be no increased charges incurred because of the deferred shipment.

Recommendation: Concern of PRC was shipment of delicate equipment prior to building occupancy and the problem of adequate secure storage facilities. PRC recommends acceptance of EEA's procedure.

Other Item: Congressional notification is required and CN is being drafted for transmittal.

The Committee feels all of the major issues have been addressed and recommends approval of Amendment No. 2 to the Project Paper.

Project Review Committee:

NE/PD/ENGR, Alfred Hotvedt, Chairperson  
NE/PD/E, Thomas A. Sterner  
NE/DP/PR, Sidney A. Chernenkoff  
NE/EI/E, Gerald F. Gower  
NE/EI/E, Jonathan L. Sperling  
NE/PD/PDS, Stephen F. Lintner  
NE/TECH/SA, George Self  
GC/NE, Theodore B. Carter