



PD-ABN-875  
U.S. ECONOMIC ASSISTANCE  
PROGRAM IN EGYPT 93483

A.I.D. Project Number 263-0215

FIRST AMENDMENT  
TO  
GRANT AGREEMENT  
BETWEEN  
THE ARAB REPUBLIC OF EGYPT  
AND THE  
UNITED STATES OF AMERICA  
FOR  
POWER SECTOR SUPPORT

**CONFORMED  
COPY**

Dated: AUG 21 1990

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First Amendment, dated AUG 21 1990 to the Grant Agreement, dated September 27, 1989, between the Arab Republic of Egypt ("Grantee") and the United States of America, acting through the Agency for International Development ("A.I.D.") for Power Sector Support.

SECTION 1. The Grant Agreement is hereby amended as follows:

A. Section 2.1 is amended by deleting item (h) in the second sentence and inserting the following therefor: "(h) consultant services and commodities for a thermal power station at El-Kureimat and upgrading of the National Energy Control Center (NECC)."

B. Section 3.1 is amended by deleting "One Hundred Thirty Six Million United States ("U.S.") Dollars (\$136,000,000)" and by substituting "Two Hundred Thirty Six Million United States ("U.S.") Dollars (\$236,000,000)" therefor.

C. Section 3.2(b) is amended by deleting "Sixty Four Million Three Hundred Thousand Egyptian Pounds (L.E. 64,300,000)" and by substituting "Three Hundred Twenty-Seven Million, Five Hundred Thousand Egyptian Pounds (L.E. 327,500,000)" therefor.

D. Section 3.3(a) is amended by deleting "December 31, 1993" and inserting "February 28, 1999" therefor.

E. Section 4.4(d) is deleted in its entirety.

F. Sections 4.6 and 4.7 are deleted in their entirety and the following new sections are inserted therefor:

SECTION 4.6. First Disbursements for El-Kureimat. Prior to any disbursement or to the issuance by A.I.D. of any commitment documents under this Agreement for the El-Kureimat component, the Grantee shall, except as the Parties may otherwise agree in writing, furnish to A.I.D., in form and substance satisfactory to A.I.D.:

(a) a statement of the names and titles with specimen signatures of the persons authorized to represent the Grantee for Project purposes for the El-Kureimat component of the Project;

(b) a contract with a U.S. consulting firm to provide an electricity pricing strategy study;

(c) a contract with a U.S. consulting firm to provide technical assistance to the Grantee for a study to identify the sources and magnitude of individual distribution company system losses, nationwide;

(d) evidence that the proceeds of the First Amendment to the Grant Agreement, except for funds used to finance consultant services and technical assistance, have been loaned to the Egyptian Electricity Authority (EEA) by the Grantee;

(e) evidence that the local currency financing for the El-Kureimat component of the Project has been budgeted by the Grantee and will be available for timely expenditure by the EEA; and

(f) evidence that the EEA will maintain accounting records for local currency and in-kind contributions to the El-Kureimat component of the Project.

SECTION 4.7. Additional Disbursements: El-Kureimat Design. Prior to any disbursement or the issuance by A.I.D. of any commitment documents under this Agreement for the purpose of procuring design services for the El-Kureimat plant, the Grantee shall, except as the Parties may otherwise agree in writing, furnish to A.I.D., in form and substance satisfactory to A.I.D.:

(a) evidence that the El-Kureimat station will be designed, built and operated to comply with U.S. Environmental Protection Agency and Egyptian air and water quality standards; and

(b) signed commitments by bilateral or multilateral financing agencies to provide the balance of the foreign exchange costs for the first unit at El-Kureimat, estimated to be \$385 million (or equivalent in foreign exchange) or such amount as the parties may otherwise agree to in writing.

SECTION 4.8. Additional Disbursements: El-Kureimat Equipment. Prior to any disbursement or the issuance by A.I.D. of any commitment documents under this Agreement for the purpose of procuring equipment or construction services for the El-Kureimat station, the Grantee shall, except as A.I.D. may otherwise agree in writing, furnish to A.I.D., in form and substance satisfactory to A.I.D.:

(a) signed agreements from bilateral or multilateral financing agencies to provide the balance of the foreign exchange costs for the first unit at El-Kureimat, estimated to be \$385 million (or equivalent foreign exchange funds) or such amount as the Parties may otherwise agree to in writing;

(b) evidence that the Egyptian General Petroleum Corporation will provide the necessary transmission facilities to meet one hundred percent of plant requirements and deliver sufficient gas to the El-Kureimat station to permit the EEA to operate the station, under normal conditions, on not less than fifty percent gas, without curtailing gas supplies to other EEA facilities;

(c) evidence that the EEA owns or will otherwise have legal jurisdiction over the plant site and necessary electric and fuel transmission, rights of way; and

(d) a contract with a U.S. firm to provide design and construction management services for El-Kureimat.

SECTION 4.9. Notification. When A.I.D. has determined that the individual Requirements Precedent specified above have been met, it will promptly notify the Grantee.

SECTION 4.10. Terminal Dates for Requirements Precedent. If all of the requirements specified in Section 4.6 have not been met within 90 days from the date of this Amendment, or such later date as A.I.D. may agree to in writing, then A.I.D., at its option, may terminate funding for the El-Kureimat

component by written notice to the Grantee. If all of the requirements specified in Section 4.7 have not been met before July 1, 1991, or such later date as A.I.D. may agree to in writing, then A.I.D., at its option, may terminate funding for the El-Kureimat component by written notice to the Grantee. If all of the requirements specified in Section 4.8 have not been met before January 1, 1992, or such later date as A.I.D. may agree to in writing, then A.I.D., at its option, may terminate funding for the El-Kureimat component by written notice to the Grantee.

G. Sections 5.4 and 5.5 are deleted in their entirety and the following substituted therefor:

SECTION 5.4. Plant Personnel. The Grantee will ensure that the EEA selects administrative, operational and maintenance staff, and will commence comprehensive training programs, sufficiently in advance of the start-up of all gas and steam turbines to be installed or rehabilitated under the Project, so that such personnel will be on-site, trained and fully qualified to operate and maintain the turbines when they are placed in service.

SECTION 5.5. Plant Fuel Supply. The Grantee shall promote the operation by the EEA of all generating units financed in whole or in part under the Grant Agreement, except El-Kureimat, under normal operating conditions, on gas. The Grantee shall promote the operation of the El-Kureimat plant by the EEA, under normal operating conditions, on no less than fifty percent gas.

H. New Sections 5.10, 5.11 and 5.12 are added, as follows:

SECTION 5.10. Environmental Monitoring. The Grantee will ensure that the EEA: (1) implements an Environmental Monitoring Program on and around the El-Kureimat site, to be in operation approximately one year prior to the estimated start of on-site construction, and (2) endeavors to maintain the Monitoring Program throughout the life of the plant.

SECTION 5.11. Environmental Impacts. The Grantee will ensure that prior to commencement of construction at El-Kureimat, the EEA will: (1) prepare a plan to mitigate environmental impacts to the site, river, atmosphere and surrounding desert; and (2) upon USAID approval, implement the plan.

SECTION 5.12. Audit and Evaluation. Upon request, the Grantee will authorize A.I.D. to enter into direct contracts to audit and evaluate the Project out of funds provided in this Grant Agreement for audit and evaluation.

I. Annex I and the Illustrative Financial Plan are deleted in their entirety and replaced by the Annex I and the Illustrative Financial Plan attached hereto.

SECTION 2. Ratification. The Grantee will take all necessary action to complete all legal procedures necessary to ratification of this Amendment and will notify A.I.D. as promptly as possible of the fact of such ratification.

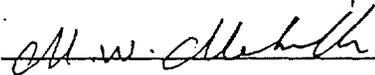
SECTION 3. Language of Amendment. This Amendment is prepared in both English and Arabic. In the event of ambiguity or conflict between the two versions, the English language version will control.

SECTION 4. Except as specifically amended or modified herein, the Grant Agreement shall remain in full force and effect in accordance with all of its terms.

SECTION 5. This Amendment shall enter into force when signed by both parties hereto.

IN WITNESS WHEREOF, the Arab Republic of Egypt and the United States of America, each acting through its respective duly authorized representatives, have caused this Amendment to be signed in their names and delivered as of the day and year first above written.

ARAB REPUBLIC OF EGYPT

BY : 

NAME : Dr. Maurice Makramallah

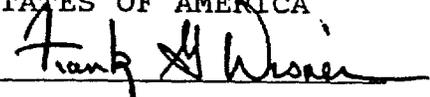
TITLE: Minister of State for International Cooperation

BY : 

NAME : Dr. Hassan Selim

TITLE: Administrator of the Department for Economic Cooperation with U.S.A.

UNITED STATES OF AMERICA

BY : 

NAME : Frank G. Wisner

TITLE: American Ambassador

BY : 

NAME : Charles F. Weden, Jr.

TITLE: Acting Director USAID/Egypt

Implementing Organization

In acknowledgement of the foregoing Amendment, the following representatives of the implementing organizations have subscribed their names:

MINISTRY OF ELECTRICITY AND ENERGY

BY : Maher Abaza

NAME : Eng. Mohamed Maher Abaza

TITLE: Minister

EGYPTIAN ELECTRICITY AUTHORITY

BY : Said Issa

NAME : Eng. M. El Said Issa

TITLE: Chairman

POWER SECTOR SUPPORT PROJECT (NO. 263-0215)PROJECT DESCRIPTION

Elements of this amplified description may be changed by written agreement of the authorized representatives of the Parties, provided that such changes are consistent with the description of the Project in Section 2.1 of the Grant Agreement.

The goal of the Project is to promote rational investments and consumption decisions throughout the economy. The purpose of the Project is to support past and promote continued Government of Egypt progress in reducing electricity sector subsidies and in making other energy sector policy changes by providing capital infrastructure incentives to the Government.

The Project consists of the installation of: the first of two 600 MW generating units at El-Kureimat; a 150 MW combined-cycle generating unit at Cairo South; modernization of the 350 MW thermal power station at Cairo West; refurbishment of three 24 MW gas turbine generators and their subsequent installation at Hurghada; upgrading of the computer systems at the National Energy Control Center and expansion of the existing microwave communication system serving the Center; and the procurement of replacement parts, spare parts and work equipment essential for the reliable and economic operation of the Egyptian power system.

The first of two 600 MW generating units, each consisting of a nominally rated 600 MW steam turbine-generator with its unit boiler and auxiliary systems, will be installed at the El-Kureimat Thermal Power Station site. The plant will be designed for the ultimate installation of three identical generating units in compliance with USEPA and Egyptian environmental standards. On-site and off-site ambient air monitoring stations will be placed in service at least one year prior to on-site construction to establish background air quality benchmarks. The air monitoring stations will remain in service throughout construction and the operating life of the plant to monitor emissions from the plant to determine whether the plant is meeting environmental standards. The boiler will be fueled under normal conditions with natural gas, up to the maximum quantity available, but never less than 50 percent. Mazout will be the supplemental fuel. Cooling water will be drawn from the Nile River and after condenser service will be returned to the river. The electrical output of the plant will be delivered to the EEA network through 500 kV and 220 kV gas insulated substations which will connect the plant to 500 kV circuits and 220 kV circuits of the Unified Power System.

AID financing will be utilized for the U.S. dollar cost of: consultant services for the final design of the plant, preparation of specifications and tender documents and awarding of contracts for all equipment and construction services for Unit 1 and common

facilities; and one or more equipment packages. The balance of foreign exchange financing will be provided by other bilateral and multilateral financing agencies.

A 150 MW combined-cycle generating unit consisting of a nominally rated 110 MW gas turbine generator and a 50 MW steam turbine generator will be installed at the existing Cairo South Thermal Power Station. The gas turbine will be fueled, under normal operating conditions, by natural gas. The gas turbine high temperature exhaust gases will be utilized to convert water to steam, in a non-fired boiler, which will drive the turbine generator. Cooling water for the steam turbine will be drawn from the Nile River and, after condenser service, will be returned to the river. The electrical output of the combined-cycle unit will be delivered to the EEA network through the 220 kV gas insulated substation existing at Cairo South. A single contractor will be responsible for the design, manufacture, supply, shipment, installation, testing, training and start-up of the unit.

The 350 MW Cairo West Thermal Power Station, consisting of four 87.5 MW steam turbine generators and unit boilers, will be modernized. The three steam turbine generators, installed in the mid 1960's, will be rehabilitated and portions of the turbines will be rebuilt to achieve greater efficiency. Portions of the superheaters, reheaters and attemperators will be replaced so that boilers can operate at rated pressure and steam output. The present heavy oil burners will be replaced with burners designed for dual fuel operation (heavy oil and natural gas) and boiler controls will be replaced with a modern burner management system and control instrumentation. The plant will normally operate on natural gas. The original equipment suppliers will provide the replacement equipment and materials and will supervise and be responsible for the replacement work being performed by EEA personnel.

Gas turbine-generators at El-Fayoum, Abu El Matamir and Cairo North, each rated 24 MW, will be moved to a site near Hurghada, installed, refurbished and made operational. New control systems will replace the existing deteriorated controls. The units will initially operate on Solar fuel. Upon completion of construction of a natural gas pipeline, the gas turbines will normally operate on gas. The original equipment supplier will provide the replacement parts and materials; will supervise the relocation of the three gas turbines to Hurghada and will be responsible for the gas turbine refurbishment being performed by EEA personnel; and after testing, will supervise the start-up and initial operation.

The computer systems at the National Energy Control Center will be upgraded to provide additional data processing capability and the microwave communication system that collects and transmits operating data to the Center will be expanded to collect operating data from six EEA stations between Cairo and the Suez Canal. When completed, this communication system expansion will facilitate collection and transmission of additional data which, when integrated with the

operational data currently being collected and analyzed, will enhance the reliability and efficiency of the power system's operation. A single contractor will be responsible for the design, manufacture, supply, shipment, installation, testing, training and start-up of the upgraded computer system. A second contractor will be responsible for the design, manufacture, supply, shipment, installation, testing, training and start-up of the microwave system extension.

Commodities in the form of replacement parts and parts for gas turbine and diesel-driven generating units will be procured. The Project will also finance the procurement of laboratory test instruments, transducers and specialized work equipment and tools essential for the maintenance of the 500 kV and 220 kV transmission lines and substations.

Technical Assistance in the form of project monitoring services (AID personal services contractor), an electricity pricing strategy and a distribution system loss reduction study will be financed. The results of these studies will provide guidance to the Ministry of Electricity and Energy on future electricity pricing decisions and procedures to reduce energy losses on the distribution networks most effectively.

Throughout the Project, the EEA will utilize the service of a number of consulting engineers acceptable to A.I.D. to assist in the preparation of equipment specifications, procurements, contract negotiations, construction management services (El-Kureimat), contract administration, factory inspections and supervision of installation, rehabilitation and refurbishment of equipment.

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## FIRST AMENDMENT TO GRANT AGREEMENT - 263-0215

## ATTACHMENT 1 TO ANNEX I

## ILLUSTRATIVE FINANCIAL PLAN (X1,000,000)

	FOBRIGN EXCHANGE - U.S. DOLLARS EQUIV. -----				GOB <sup>T</sup> CONTRIBUTION			
	A. PREVIOUS BUDGET	I. THIS REVISION	D. LIFE OF PROJECT	OTHER FINANCIER CONTRIBUTION	TOTAL FINANCING	Egyptian IN CASH	Pound IN-KIND	LIFE OF PROJECT
Cairo South:263-0215.01								
Consultant Services	5.00		5.00		5.00	4.00	-	4.00
Equipment/Installation	68.00		68.00		68.00	30.70	12.00	42.70
Audit	0.10		0.10		0.10	-	-	0.00
Contingency	4.00		4.00		4.00	-	-	0.00
Subtotal	77.10	0.00	77.10		77.10	34.70	12.00	46.70
Cairo West Modernization:263-0215.02								
Consultant Services	1.00		1.00		1.00	-	-	0.00
Equipment /Installation	27.00		27.00		27.00	4.00	1.30	5.30
Audit	0.04		0.04		0.04	-	-	0.00
Subtotal	28.04	0.00	28.04		28.04	4.00	1.30	5.30
Burghada Installation:263-0215.03								
Consultant Services	0.60		0.60		0.60	-	-	0.00
Equipment/Installation	8.40		8.40		8.40	1.30	8.10	9.40
Audit	0.03		0.03		0.03	-	-	0.00
Subtotal	9.03	0.00	9.03		9.03	1.30	8.10	9.40
Microwave Expansion:263-0215.04								
Consultant Services	0.60		0.60		0.60	-	-	0.00
Equipment/Installation	1.00		1.00		1.00	0.30	0.20	0.50
Audit	0.03		0.03		0.03	-	-	0.00
Subtotal	1.63	0.00	1.63		1.63	0.30	0.20	0.50
Commodities Studies:263-0215.05								
Commodities	13.30		13.30		13.30	2.40	-	2.40
Electricity Pricing Study	0.50		0.50		0.50	-	-	0.00
Loss Reduction Study	1.00		1.00		1.00	-	-	0.00
Sector Studies	1.00		1.00		1.00	-	-	0.00
Project Monitoring Services	0.50		0.50		0.50	-	-	0.00
Audit	0.10		0.10		0.10	-	-	0.00
Contingency	3.80		3.80		3.80	-	-	0.00
Subtotal	20.20	0.00	20.20		20.20	2.40	0.00	2.40
El-Kureimat:263-0215.06								
Consultant Services		15.00	15.00		15.00	5.00		5.00
Equipment/Installation		76.00	76.00	385.00	461.00	245.00	13.20	258.20
Audit		0.10	0.10		0.10			0.00
Contingency		8.90	8.90		8.90	0.00		0.00
Subtotal	0.00	100.00	100.00	385.00	485.00	250.00	13.20	263.20
National Energy Control Center 263-0215.07								
Consultant Services			3.00		3.00	0.00		0.00
Equipment/Installation			10.00		10.00	0.00		0.10
Audit			0.05		0.05			0.00
Contingency			1.95		1.95	0.00		0.00
Subtotal	0.00	0.00	15.00	0.00	15.00	0.00	0.00	0.10
<b>T O T A L</b>	<b>136.00</b>	<b>100.00</b>	<b>251.00</b>	<b>385.00</b>	<b>636.00</b>	<b>292.70</b>	<b>34.80</b>	<b>327.60</b>