

PD-AAA-037

141-53891

AUDIT OF
UTILIZATION OF
PROJECT MACHINERY AND EQUIPMENT
IN EGYPT
Audit Report No. 6-263-88-2
December 31, 1987

memorandum

DATE: December 31, 1987

REPLY TO
ATTN OF: *Joseph R. Ferri*
Joseph R. Ferri, RIG/A/CairoSUBJECT: Audit Of Utilization Of Project
Machinery And Equipment In Egypt

TO: Mr. Marshall D. Brown, Director USAID/Egypt

The Office of the Regional Inspector General for Audit, Cairo has completed its audit of Utilization of Project Machinery and Equipment in Egypt. Ten copies of the audit report are enclosed for distribution within the Mission.

A draft of this report was submitted to you for comment. The Mission's response is excerpted at the end of each finding section and is included in its entirety as Appendix 1 to the report. The report contains four recommendations. You indicated that corrective action was being taken and alternative approaches explored on each of the report recommendations. On the basis of these actions Recommendation No. 4 is considered resolved, but all recommendations remain open pending final Mission action. Please advise this office within 30 days of any additional actions taken or contemplated to implement these recommendations.

We appreciate the cooperation and courtesy extended to our staff during the audit by the various project office officials.

EXECUTIVE SUMMARY

Between 1975 and 1986, USAID/Egypt obligated about \$5 billion in project funds, of which \$3.3 billion was spent to achieve specific development purposes. The amount used to finance machinery and equipment was estimated at about \$1.5 billion. Project loan and grant agreements state that any resources financed will be devoted to the project until completed, and thereafter be used to further the objectives sought in carrying out the project, unless otherwise agreed to in writing by AID.

The objective of this economy and efficiency/compliance type audit was to identify the root causes of problems when machinery and equipment was not used effectively, and to recommend appropriate corrective actions.

The audit showed that large amounts of USAID/Egypt-financed machinery and equipment were either not being used, or used at levels much below what was anticipated. In only one project, out of the eight projects examined, was implementation proceeding according to schedule and the equipment being used effectively. The root causes of these problems were difficult to isolate. However, the inability of Government of Egypt, USAID/Egypt, and contractor officials to effectively coordinate the procurement of commodities with actual construction progress, and the limited capability of Government of Egypt entities to operate and maintain machinery and equipment were major factors in the incidence of poor utilization.

Two industrial subprojects procured about \$15 million of machinery and equipment that remained in crates for periods ranging from 6 months to 2 years. A project to provide a computer network for controlling electric power distribution in Egypt was completed 5 years after the scheduled completion date.

In a decentralization project that distributed equipment to 21 governorates, numerous cases were found of items not needed, not used, or just underused. A salt production plant was completed and became operational in December 1985, about 3 years behind schedule. Packing and bottling equipment valued at over \$400,000 in this plant never operated for technical reasons.

Finally, two other projects, each having a component that incorporated significant amounts of machinery and equipment, were not operated as planned. These projects involved an \$11.9-million water transmission line that was completed in September 1986, and a \$7.1-million sewage pumping station that was completed in February 1987. Neither of these projects were operating at the conclusion of our fieldwork.

The report contains four recommendations for USAID/Egypt's action in dealing with utilization problems; (1) phased procurements of machinery and equipment linked directly to actual construction progress; (2) establishment of a USAID/Egypt group to provide for GOE reporting on equipment utilization, as appropriate; (3) demonstrated GOE capability to operate and maintain machinery and equipment as a prerequisite to procurements; and (4) development of plans to put certain assets to effective use to achieve project purposes.

USAID/Egypt generally agreed with these recommendations and suggested several ways to implement them. The full text of the Mission's response is included as Appendix 1.

Office of the Inspector General

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UTILIZATION OF PROJECT MACHINERY AND EQUIPMENT
IN EGYPT

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AUDIT OF
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IN EGYPT

PART I - INTRODUCTION

A. Background

From inception of the AID program in 1975 through September 30, 1986, USAID/Egypt obligated about \$5 billion in project assistance funds, of which \$3.3 billion was spent. This assistance financed a wide range of activities, including technical assistance contractors, construction work, participant trainees, and project machinery and equipment. These items were used to achieve specific development purposes in such areas as industry, agriculture, health, infrastructure, and local governorates. Through September 30, 1986, USAID/Egypt had financed project machinery and equipment totaling about \$1.5 billion.

USAID/Egypt-financed machinery and equipment is governed by provisions in project loan and grant agreements. The agreements state that any resources financed will be devoted to the project until completed, and thereafter used to further the objectives sought in carrying out the project, unless otherwise agreed to in writing by AID.

If the grantee (or loan recipient) fails to comply with any of the obligations under the agreement, resulting in ineffective use of goods and services, AID can require a refund of all or part of the amount of the disbursements. To the best of our knowledge, USAID/Egypt has never requested a refund of disbursements for project machinery and equipment because the Mission policy is to work cooperatively with the GOE to overcome implementation problems rather than to take punitive action.

The term "effective use of commodities" is defined in AID Handbook 15 as: "... delivery and use in accordance with project implementation plans."

AID Handbook 1 requires that AID-financed commodities reach the ultimate user on time, in a usable condition, and be used for the purposes intended. In Supplement B the Handbook states that borrower/grantees are to ensure that commodities are effectively used for the purpose for which they were made available and to maintain books and records adequate to

show the receipt and use of goods. (Underscoring added). Within USAID/Egypt, project officers have responsibility to ensure that commodities are effectively used and that project objectives are met.

B. Audit Objectives And Scope

The Office of the Regional Inspector General for Audit/Cairo made an economy, efficiency/compliance audit of the utilization of project machinery and equipment in Egypt. This audit was undertaken to determine whether USAID/Egypt-financed machinery and equipment was being used effectively. The audit objective was to identify the root causes of problems when machinery and equipment was not used effectively, and to recommend appropriate corrective actions.

The audit covered machinery and equipment procured for projects only. Commodity Import Program procurements were excluded from the audit scope. Nine projects were selected for review. One of the nine, Mehalla Textile Project No. 263-0010, was not examined because the company did not provide needed information despite several requests. The remaining eight projects had total expenditures of about \$360 million, as of September 30, 1986, of which the commodities procured totaled \$260 million. The amount audited was \$146 million or about 56 percent of the \$260 million.

The basic audit approach was to identify from the financial records projects that had procured machinery and equipment; make a judgmental sampling of projects to audit; and then to visit locations to see whether the commodities were being used. The audit was made at various USAID/Egypt offices, and at 10 cities throughout Egypt. GOE officials were interviewed at all projects visited. USAID/Egypt project officers accompanied the auditors on visits to six out of the eight projects.

A prior audit on the same subject was made in 1986. Five project case studies were developed as part of a global Office of Inspector General audit of machinery and equipment utilization. These case studies were presented to Mission management with informal recommendations for its consideration in June 1986.

The audit work associated with this report was done mainly between January and July 1987, and was done in accordance with generally accepted government auditing standards. The review of internal controls and compliance was limited to the findings in this report.

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PART II - RESULTS OF AUDIT

The audit showed that large amounts of USAID/Egypt-financed machinery and equipment were either not being used, or used at levels much below what was anticipated. The root causes of these problems were difficult to isolate. However, the inability of GOE, USAID/Egypt, and contractor officials to effectively coordinate the procurement of commodities with actual construction progress, and the limited capability of GOE entities to operate and maintain machinery and equipment were major factors in the incidence of poor utilization.

The audit indicated that inefficient use of machinery and equipment was a pervasive problem in Egypt wasting the valuable financial resources of USAID/Egypt and the GOE, increasing project costs, and delaying or precluding achievement of the economic benefits on which projects were justified.

Of the eight projects examined, in which \$260 million of machinery and equipment had been procured, only one project involving the supply and installation of 12 turbines valued at \$44.5 million at the Aswan High Dam, was proceeding according to schedule and the machinery procured was being utilized effectively.

Machinery and equipment costing \$15 million for two other industrial subprojects remained uncrated for periods ranging from 6 months to 2 years after receipt in Egypt. A \$43-million computer network designed to function automatically to control electric power distribution was completed 5 years after its scheduled completion date. In another project involving machinery and equipment distributed for decentralization purposes to 21 governorates in Egypt, numerous cases were found of items not needed, not used, or underused. A salt production plant was completed and operational in December 1985, but packing and bottling equipment valued at over \$400,000 never operated for technical reasons.

Two other projects, each having a component that incorporated significant amounts of USAID/Egypt-financed machinery and equipment, were not operated as designed.

These projects involved: (a) an \$11.9-million water transmission line completed in September 1986 that was never operated; and (b) a \$7.1-million sewage pumping station completed in February 1987 that was never operated.

The report recommends that USAID/Egypt establish a group to deal with utilization problems; GOE reporting on equipment utilization, as appropriate; phased procurements of machinery and equipment linked directly to actual construction progress; demonstrated GOE capability to operate and maintain machinery and equipment as a prerequisite to procurements; and plans to put certain assets to effective use to achieve project purposes. With respect to machinery and equipment already in Egypt but not being used, the report recommends a case-by-case analysis of needed corrective actions such as spare parts, training, and operating funds to put the equipment to use.

USAID/Egypt, in commenting on the draft report, said that corrective actions already were underway and that other procedures would be implemented to resolve the problems noted.

A. Findings And Recommendations

AID-financed machinery and equipment was either not used at all, or used at levels far below what was anticipated. Machinery and equipment financed under AID projects was required to be used effectively to achieve project purposes. Otherwise, AID could request refund of the monies expended. The reason for the poor utilization was attributed to delays in project implementation stemming from the failure to complete required civil work as scheduled, to the inability of GOE agencies to effectively operate and maintain the equipment, and to the lack of specific plans to achieve project purposes on completed components. As a result, the expected economic benefits from about \$100 million of AID-financed machinery and equipment identified in this audit were either significantly delayed or not achieved at all. The magnitude of the problems indicated inefficient use of AID-financed machinery and equipment was a pervasive problem requiring specific management attention above the project office level, and an organizational focus capable of developing short- and long-range solutions.

1. Delays In Completing Civil Work Resulted In Idle Equipment

Machinery and equipment costing \$15 million for two industrial subprojects were yet to be installed about 2 years after arriving in Egypt. Delays in completing civil work stretched out project implementation schedules, making it impossible to install machinery and equipment as planned. A third project costing \$43.5 million was delayed for 5 years due, in part, to poor performance of the building contractor. AID regulations require project assistance commodities to be timely and appropriately used in accordance with the purpose of the project and the project implementation plans. As a result of the delay, financial resources were wasted and promised economic benefits were not realized.

Recommendation No. 1

We recommend that USAID/Egypt:

- a. require that all projects involving construction or other civil work either be brought to appropriate stages of completion before procuring machinery and equipment; or ensure that procurement contracts have flexible ordering terms closely tied to actual stages of completion of construction; and

- b. implement more imaginative ways of completing construction and preparatory site work such as through the use of financial incentives for early completion, financial penalties for late deliveries, and limitations on participation in cost overruns.

Recommendation No. 2

We recommend that USAID/Egypt establish a group within the Project Support Office to provide for: (a) appropriate Government of Egypt reporting on the use of AID-financed machinery and equipment (including completed systems components); and (b) development of short- and long-range solutions to utilization problems.

Discussion - The use of USAID/Egypt-financed machinery and equipment is governed by project agreement standard provisions. These provisions require the GOE to ensure that machinery and equipment is used effectively and used to achieve project objectives. Within USAID/Egypt, project officers have the responsibility to ensure that project commodities are effectively used and that project objectives are met. There is no established reporting system within the Mission for tracking machinery and equipment use. Nor is any group above the project office level assigned specific responsibility for dealing with utilization issues.

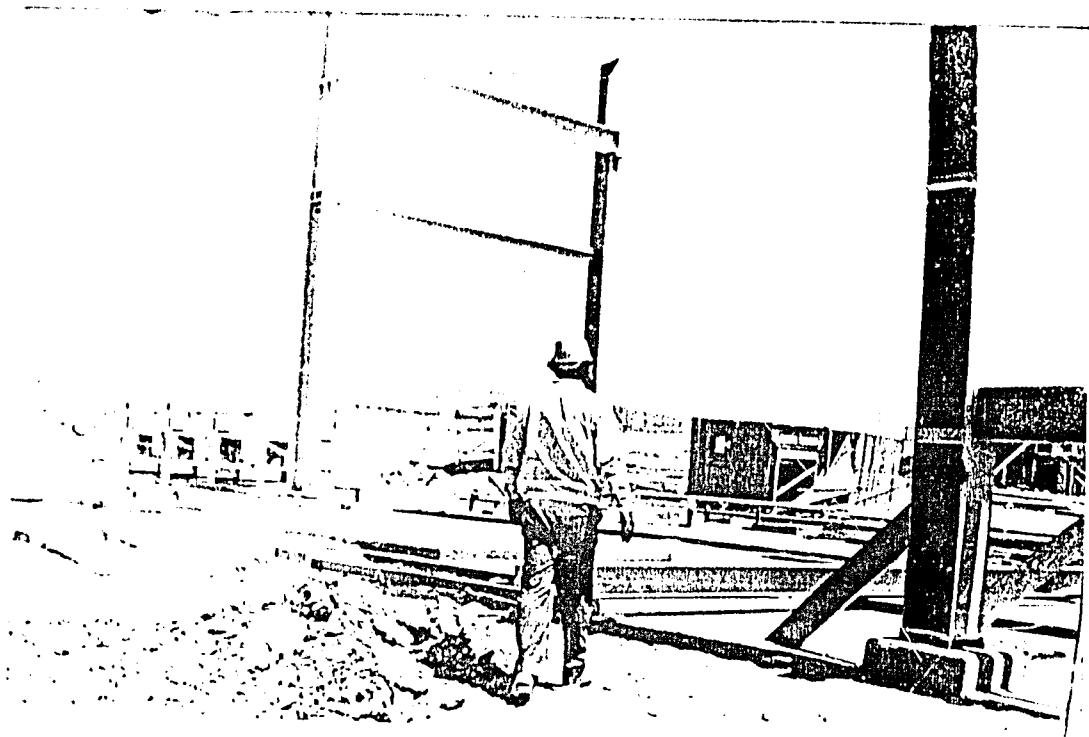
As detailed in the three projects below, machinery and equipment was not used effectively after arriving in Egypt. Civil work (such as site preparation) carried out by local subcontractors, was the common cause for such nonutilization.

Industrial Production Subproject No. 263-0101.06 - USAID/Egypt provided \$12.8 million in loan and grant funds for the development of a plant with a planned capacity of 300,000 metric tons per year of calcined bagged gypsum, and 60,000 metric tons of raw crushed gypsum for the Sinai Manganese Company. Funds were used to procure machinery, equipment, and a power plant. Engineering, project implementation, management services, and ocean freight were also AID-financed under host country contracts.

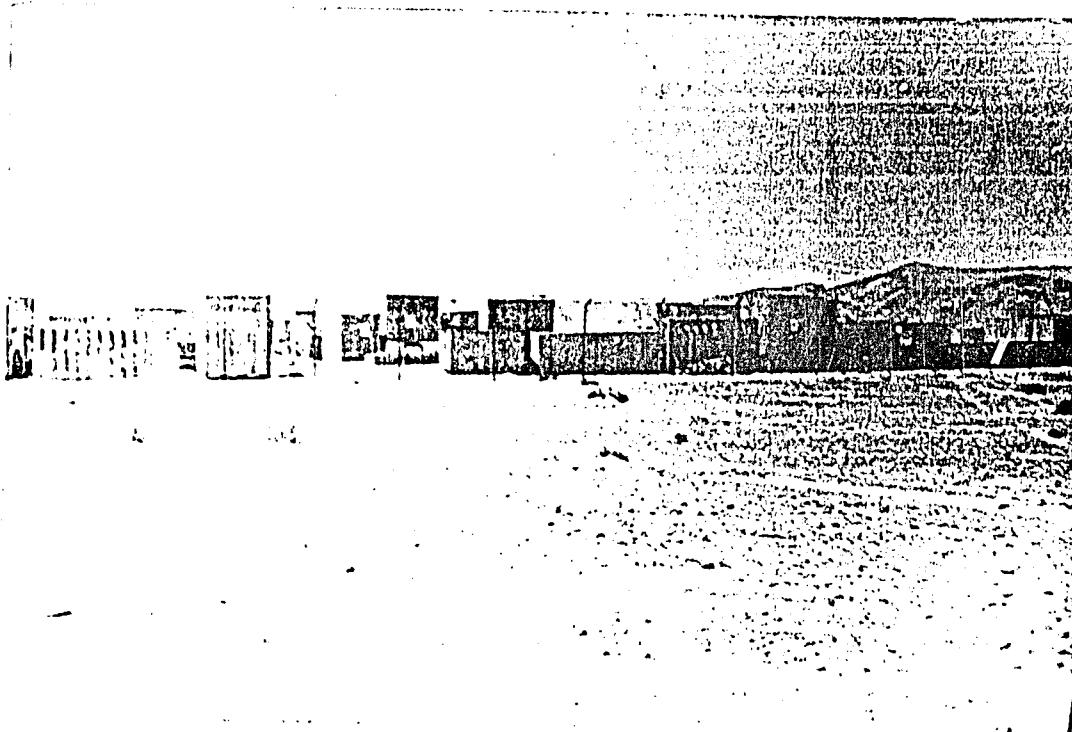
The project implementation chart allowed 25 months from the date of the construction contract coming into force on April 29, 1985, until the takeover of the plant by the company in May 1987. The completion target date was revised recently to November 1987, a 6-month delay. The delay in completing the project was caused mainly by problems related to civil work.

Late receipt of technical data from the U.S. supplier delayed starting the work by 2 months. Local contractors were not paid on time by the GOE Ministry causing other delays. Finally, the construction work was delayed for 4 months because of late deliveries of steel from a plant in Egypt. According to the project officer, construction work has progressed satisfactorily lately, and has succeeded in shrinking the delay to three instead of six months.

As a result of these delays, a large part of the \$6.3 million of machinery and equipment for the manganese plant was still in crates at the time of the audit. These materials were ordered and delivered according to the original construction schedule which called for installation sometime between August 1986 and March 1987. Thus, funds were prematurely spent on the purchase of equipment, and production of the calcined and crushed gypsum was lost for at least 3-6 months, and perhaps longer.



Delayed civil and construction work.



Machinery and equipment still in crates.

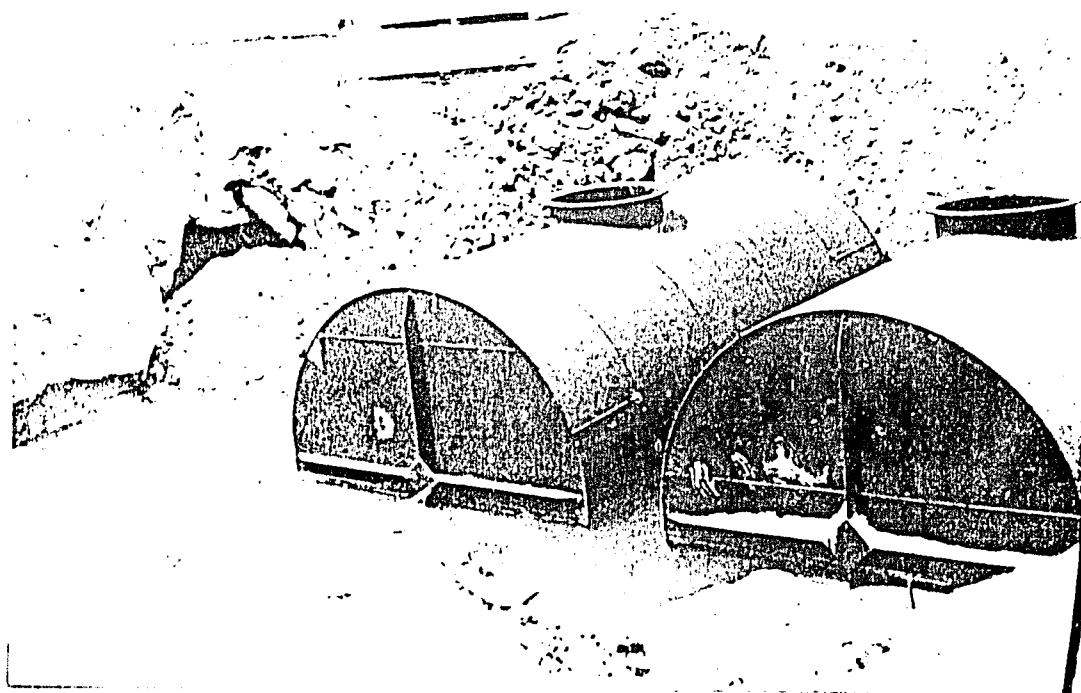
Industrial Production Subproject No. 263-0101.07 - USAID/Egypt provided a \$9.9-million grant to finance the purchase of capital equipment under host country contracts to: (a) expand the melting capacity of an existing GOE steel plant by adding two 35-ton electric arc furnaces; and (b) install a continuous casting facility by providing a three-strand caster. This equipment would assist the company in producing 160,000 tons of steel billets per year, thereby lessening the GOE's cost of imports by about \$32 million per year.

The construction contract with the U.S. supplier came into force in November 1983. It allowed 25 months for completion, that is until December 1985. The time to complete the project was extended twice; first from 25 to 28 months, and then to 32 months, or June 1986. Project management reported in July 1984 that soil tests were completed and the site was ready for construction. Meanwhile, the electric arc furnaces and the caster shipments arrived according to the original construction schedule calling for completion in September 1985. The last shipment was received during the second quarter of 1985, except for a chemical analysis quantometer that arrived early in 1987, but has no effect on construction. The project was not completed, even on the revised schedule, and the new target date for completion was extended to September 1987, about 22 months later than the original schedule.

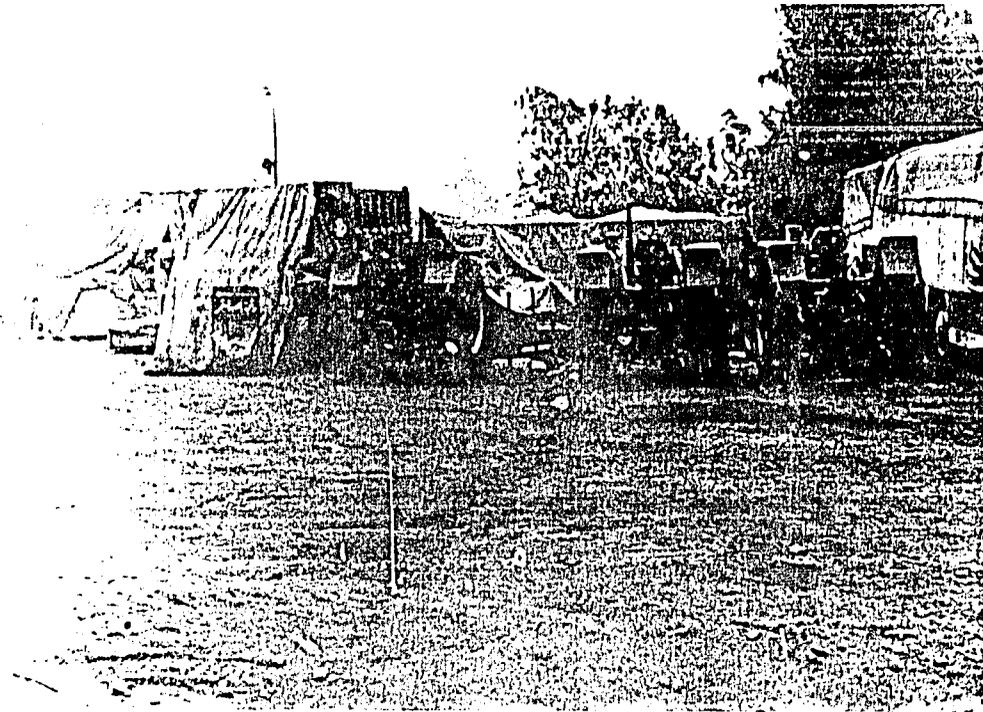
Unexpected underground water, found after excavation started, caused the latest delay. Soil tests carried out for this purpose earlier did not disclose the water problem. Earlier, civil work was delayed in starting for about 2 months for unknown reasons. Then, the contractor did the preparatory work at a slower rate than planned.

The U.S. supplier's performance also negatively effected progress. According to the project officer, the supplier shipped the wrong equipment several times. More than one shipment arrived damaged, shipping documents were mixed up, and insurance was carried by three companies. Also, demurrage and port charges of about L.E.400,000 (equivalent to U.S. \$180,000) were reportedly paid by the GOE implementing agency, and replacement of damaged equipment cost another \$300,000.

Assuming the latest completion date of September 1987 was met, machinery and equipment costing \$8.7 million would have been idled for about 15 months after receipt in Egypt because of the construction delays. The production lost during this period approximates \$40 million (160,000 billets x 1.25 years x \$200 per billet), a savings that the GOE could have realized by not importing billets from abroad. Also, because of the delays in the construction work, the budget for management activities was about to be exhausted by April 1986. USAID/Egypt approved a contract amendment for a reallocation of \$120,000 through February 1988 for this purpose.



Excessive underground water causing delay in civil work.



Equipment still in crates.

National Energy Control Center Project No. 263-0023 - This project involved a grant and a loan of \$43.5 million to monitor, supervise, and provide on-line computer control of generation and transmission of electric power nationwide. The project consists of a sophisticated computer system, 43 Remote Terminal Units, and a communications subsystem to connect the computer to the units.

The project agreement was signed in September 1976, and had an initial completion date of December 1982. This date was revised several times to July 1987. According to a March 1987 project evaluation report by USAID/Egypt, 2 years of this delay were due to poor performance by the public sector building contractor responsible for construction. In addition, project delays attributable to the procurement and funding processes amounted to 19 months. Additional project funding was authorized because of the delays in completing the construction work. All equipment arrived during 1980 and 1981, except for the computer system which arrived in 1982. The 5-year delay in completing the facility resulted in a \$1.4-million increase in project cost. Also, the GOE did not

benefit from an estimated savings of at least \$3.7 million for just the first year of operations as stated in the project paper section titled, "Economic Analysis."

These examples demonstrated the need for better coordination between the procurement of equipment and the pace of civil work in order to avoid having equipment on hand long before actually needed. ^{1/} The implementation schedules of the two industrial subprojects showed that the shipment and arrival of machinery and equipment were not to occur before completion of civil design and site preparation work. Nevertheless, the supply contracts were not tied down to the actual pace of construction. The delays, therefore, had no effect on the contractors who met shipping obligations and were paid as called for under the terms of the supply contracts. The terms of payment in the contract, according to the project officer, provided that the contractors would receive 20 percent of the contract price as a progress payment and 70 percent upon shipping. Contractors, therefore, had an incentive to ship as quickly as possible despite the sites not being ready. Better coordination could be achieved by linking procurements to actual construction progress, rather than to contractual terms of payment found in financing documents, and which can bear little relation to when commodities are needed.

The time allowed to complete a project should also be taken into account. The implementation schedules, as set forth in the two industrial projects were planned according to U.S. conditions, without consideration of local difficulties that might be encountered.

With respect to the delays in civil work, USAID/Egypt should consider more imaginative ways of timing deliveries and construction and of getting construction and site preparation work done in a reasonable timeframe. The construction contracts for the three projects contained liquidated damages clauses, but did not include other incentive type clauses directed to timely completion of the civil work. Using flexible delivery schedules, providing

^{1/} See also discussion of delays on Port Said Salines plant, and the sewerage system in connection with Ras El Soda Pumping Station.

financial incentives for early completion, imposing penalties for late deliveries, and limiting USAID/Egypt's share of additional project costs can be powerful contract administration methods for dealing with such problems, and their use should be explored with GOE implementing agencies. Also, project implementation schedules must be designed to meet local conditions.

Project Officer responsibilities for monitoring project activities would be enhanced by GOE implementing agencies reporting on machinery and equipment utilization. The appropriate place for establishing reporting requirements is the Project Support Office. This office reviews all project agreements and can ensure these agreements contain the necessary conditions for reporting.

Management Comments

USAID/Egypt said the goal always was to assure procurements were timely and closely tied to construction. The Mission said it would continue to examine procurement schedules to ensure this goal was met. With respect to using more creative ways of completing construction and site preparatory work, the Mission said it would explore the use of incentives and penalties. It pointed out that more projects were being funded under the Fixed Amount Reimbursement (FAR) procedures which limit the availability of AID funds for contractor overruns.

Office Of Inspector General Comments

The Mission's response was positive, but lacking in specificity concerning the actual steps it would take to reduce the risk of idled machinery and equipment. Examination of procurement schedules can be a valid control mechanism. Also, the FAR mechanism can effectively limit AID's response to contractor's overruns. In order to implement the sense of the report recommendation, however, the Mission needs to consider other options to more effectively coordinate procurements and construction. These options include, for example, the use of flexible ordering and delivery arrangements more closely aligned with the actual pace of construction, the use of two-stage projects with site work being completed before moving to actual construction, and single responsibility for site and construction work.

To further increase the potential for completing work on time, contracts for such services must contain appropriate incentives and disincentives. Thus, active participation of the Contract Services office will be required in approving types of contracts as well as specific terms and conditions and enforcement procedures.

Management Comments

USAID/Egypt said it rejected the idea of transferring the project officer responsibilities for reporting on the use of machinery and equipment to the Office of Project Support. The Mission said, instead, it intended to enhance reporting requirements by the Government of Egypt through the use of Project Implementation Letters. These requirements would include reporting on: (a) the use of AID-financed machinery and equipment (including completed systems components); and (b) planned short- and long-range solutions to utilization problems that the Mission may identify from time to time.

Office Of Inspector General Comments

The recommendation was not intended to transfer any responsibilities. We intended that the Mission (Office of Project Support) establish an overall framework for reporting under which project officers would function. The Mission's indicated actions to (1) establish GOE reporting requirements on utilization, and (2) require GOE planned actions to resolve utilization problems, therefore, are responsive to our concerns. These actions should be implemented as soon as possible.

2. Inadequate GOE Support Caused Equipment To Be Underutilized

In two of the eight projects examined, numerous items of machinery and equipment totaling about \$17 million were found completely unused or greatly underused. The Government of Egypt's operating entities inability to operate and maintain a large variety of machinery and equipment was the dominant reason for the inefficient use of most of the commodities inspected. These weaknesses included a lack of spare parts, inadequately trained operators, and shortages of operating and maintenance funds. USAID/Egypt project agreements specified that the borrower/grantee should ensure that the commodities were used effectively for the purposes for which the assistance was made available. However, there was no systematic reporting of utilization by either the GOE or USAID/Egypt project officers on these projects. Poor utilization wasted funds, and the projects for which the machinery and equipment was provided did not achieve expected economic benefits.

Recommendation No. 3

We recommend that USAID/Egypt:

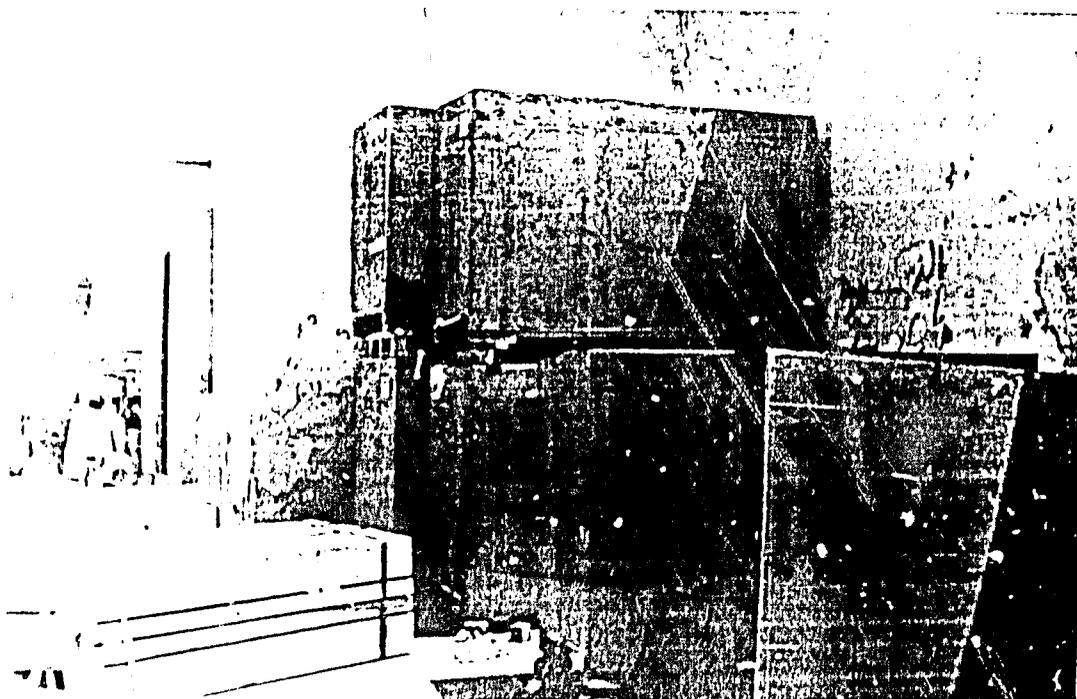
- a. make approval of commodity purchases under projects contingent upon demonstrated capability by the host country using entity to operate and maintain machinery and equipment; and
- b. establish a system for the orderly flow of parts, provide training as needed, and ensure availability of local funds for operation and maintenance.

Discussion - As detailed in the two projects below, most of the machinery and equipment costing about \$17 million was either not being used, were underused, or at least were not functioning as intended. The reason was that the Government of Egypt's operating entities lacked the capabilities to operate and maintain such equipment. These figures included only 4 of the 21 governorates that received support under the \$100-million Decentralization Support Fund project. The conditions in the four governorates covered by the audit were probably indicative of other governorates.

Decentralization Support Fund Project No. 263-0143 - USAID/Egypt provided the Government of Egypt \$100 million under two equal grants, Nos. 263-0143 and 263-0161.04. These

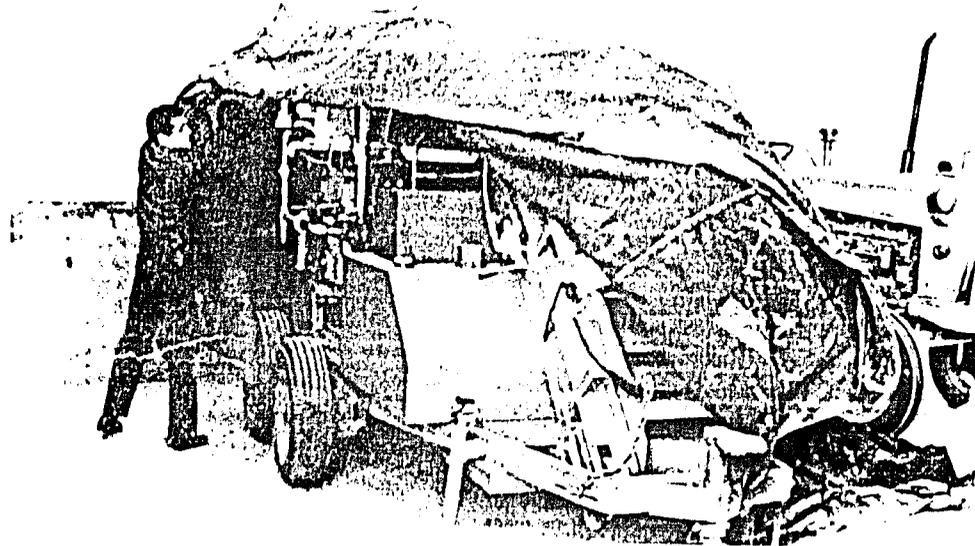
funds went to 21 rural governorates to purchase American equipment for local programs of public utilities, infrastructure, and social services. Equipment delivered to the governorates between 1982 and 1987 included bulldozers, graders, loaders, dump trucks, sewage trucks, fire trucks, refuse collectors, hydraulic cranes, asphalt mixers and finishers, and many other items. These requirements were derived jointly by GOE and USAID/Egypt project officials after careful consideration of the governorates' needs. The utilization problems discussed below, therefore, related not as much to the original needs for the items as to the governorates' capability to maintain and sustain the machinery and equipment after receiving it.

The audit covered four governorates having equipment worth over \$16 million. Most of the inspected equipment was either not needed, was not being used, or was underused. The equipment that was not needed included: seven deep well pumps (\$146,000) in South Sinai; five incinerators (\$347,000), six asphalt mixers (\$197,000), three road rollers (\$134,000), and two asphalt finishers (\$64,000) in Damietta; and two asphalt finishers (\$64,000), one asphalt mixer (\$37,000), a refrigerator truck (\$55,000), and 100 laboratory microscopes (\$6,500) in Beni Suef. According to local officials interviewed, the equipment was not needed by the governorates for different reasons. These reasons included: items were inappropriate to needs; other alternate equipment was available; or governorates changed their minds after ordering the equipment.



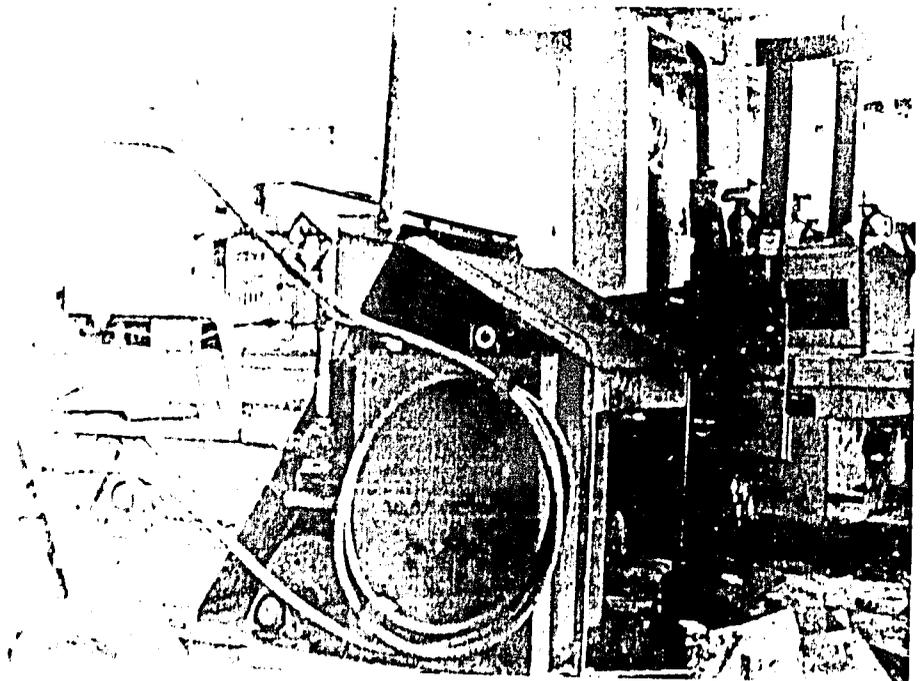
Seven deep well pumps in crates for 2 years.

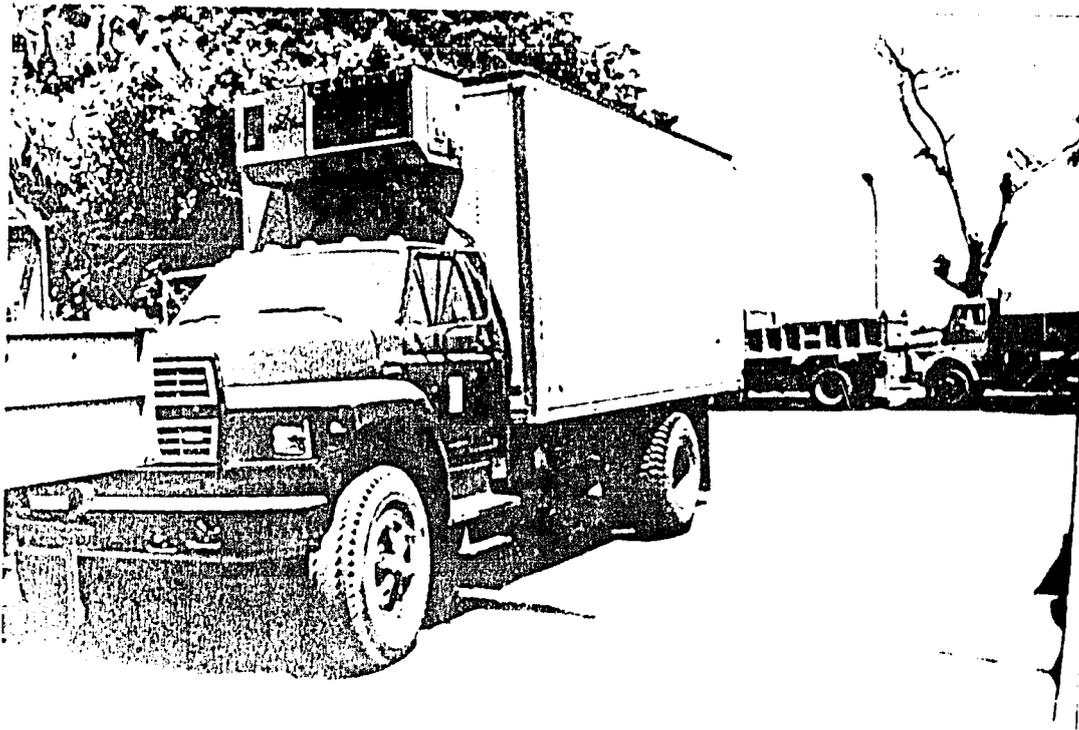
Mission officials explained that some unused equipment, the five incinerators for example, was reassigned to other governorates where they will be needed. Other pieces of equipment were part of a package that makes up a production unit. Such packages are expected to be completed under the follow-on Local Development II project.



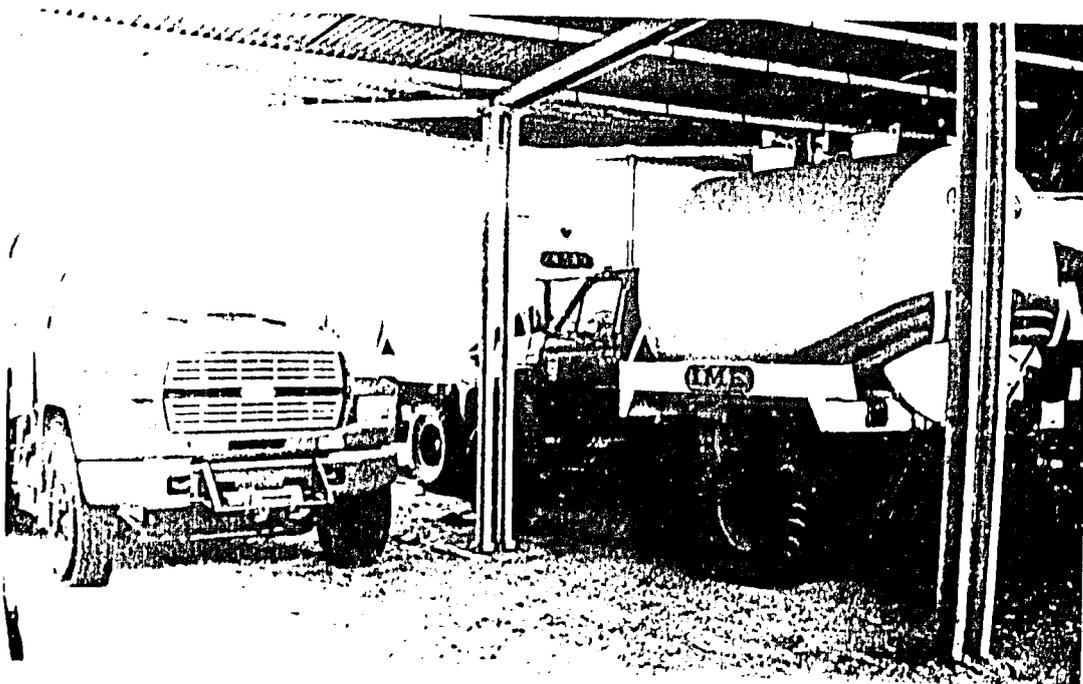
An Asphalt mixer in South Sinai.
Not used since arrival in June 1986.

Six Asphalt mixers
in Damietta.
Arrived January 1985
and never used.



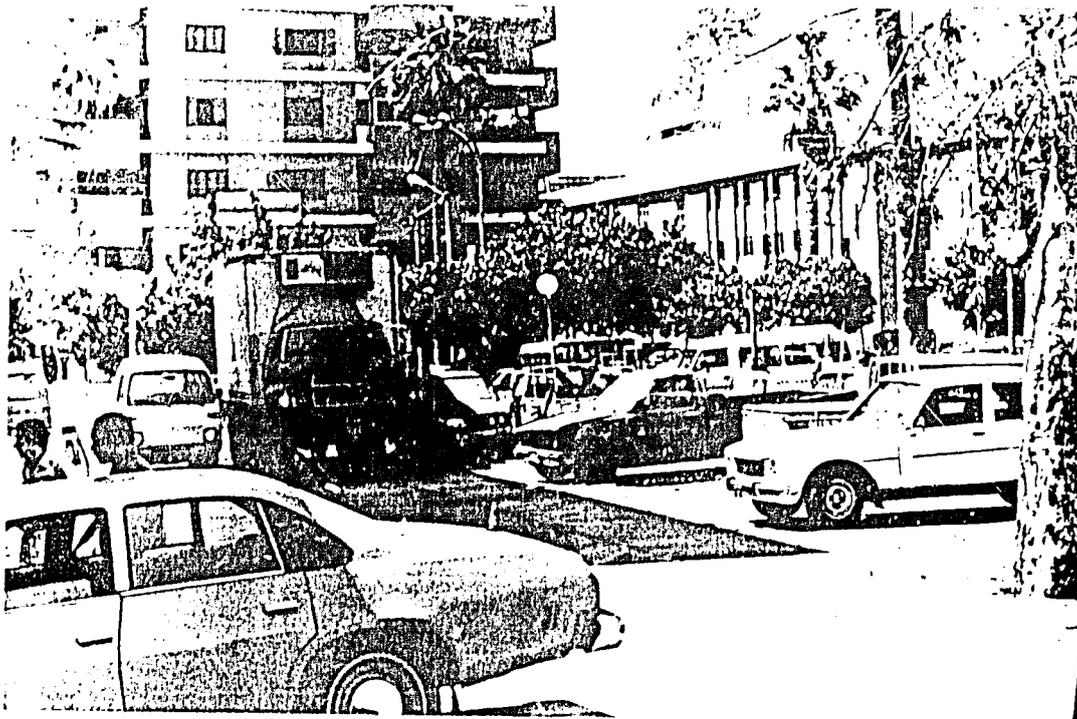


A \$55,000 refrigerator truck in Beni-Suef.
Never used since arrival in March 1986.



Two sewage trucks in South Sinai. Not used
since arrival in November 1986.

Examples of unused equipment included two backhoe loaders (\$120,000) and three sewage trucks (\$120,000) in South Sinai; an asphalt mixer (\$33,000) and a water demineralization unit (\$160,000) in Minya; and two sewage trucks (\$77,000), a backhoe loader (\$52,000), and a refrigerator truck (\$55,000) in Damietta. Numerous cases of underused equipment were found in each governorate, and even in each city visited. The reasons offered by local officials were mainly a lack of spare parts, shortages of drivers and other skilled technicians, inadequate maintenance, and a lack of operating funds.



A \$55,000 refrigerator truck impounded in Damietta. Has not operated for about one year.

Use of machinery and equipment is a GOE responsibility. Equipment should be used effectively by the recipients within 1 year of arrival according to the project agreements. A critical element of ensuring that project agreements are carried out is reporting by Mission project officers. Reporting is needed to provide timely Mission involvement in identifying and resolving utilization problems. The audit showed that there was no systematic reporting of utilization problems by either GOE or Mission

project officers. From the examples mentioned above, it is clear that there was a large waste of financial resources in purchasing items not of great importance to the governorates. At the same time, the governorates did not realize the economic and other benefits that could have been derived from the use of this idled equipment.

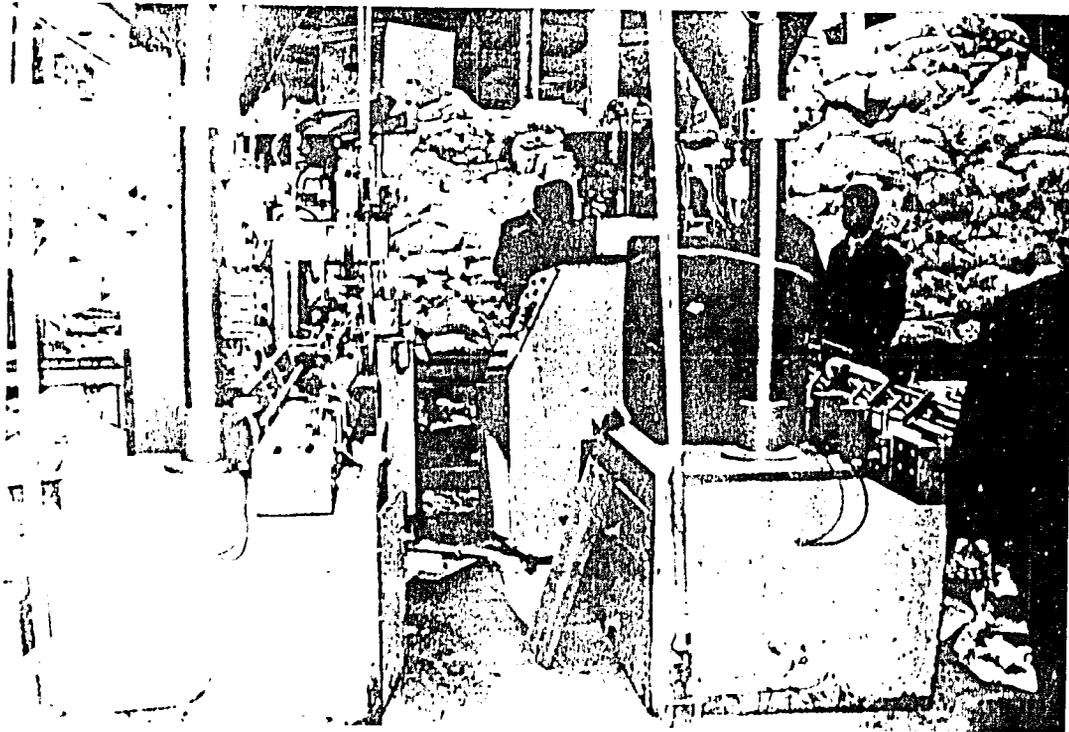
In response to the draft report, USAID/Egypt officials said that the examples of underutilization of equipment were indicative of a problem of major concern. The Mission said steps were being taken to ameliorate the situation in several of the cases reported. Such steps include providing Operation and Maintenance contracts; providing a design for installation of a nationwide spare parts system; and exploring potential spare parts problems stemming from recent GOE foreign exchange regulations.

Port Said Salines Project No. 263-0072 - USAID/Egypt provided \$10.3 million in equipment and commodities for the reconstruction and expansion of the Port Said Salines plant. Upon completion, the improved plant was to have an output of about 194,000 metric tons of saline salts per year.

The plant was planned to start production in 1982. It then was rescheduled to be completed by December 31, 1983, but was delayed for about another 2 years. The factory finally started production in September 1985, and was officially opened in December 1985. The primary reason for this delay was civil work. The civil contractor did not complete the work as scheduled due to poor planning and inadequate numbers and quality of workers and equipment. Thus, the equipment and commodities, costing about \$10.3 million, that arrived in Egypt in 1983 were not used for 2 years, and then only to a limited extent.

During a visit to the plant in March 1987, and to the company's headquarters in May 1987, the auditors found that annual production of the plant's refining and grinding units did not exceed 60 percent of the target. Company officials stated that the low production was due to marketing factors, as the demand for its products was at a low level. A USAID/Egypt official said that the low production rate was more significant than the delays in construction and utilization problems, but these facts were beyond the Mission's control.

Two plastic bottling machines and four out of nine salt packing machines, valued at about \$400,000, were not used after their arrival. Plant employees stated that these machines had serious mechanical problems. The machines only worked for one day and then stopped. The U.S. supplier was attempting to repair and put them in operation at the time of the audit. GOE project officials believed that the U.S. supplier would not be able to fix the two bottling and four packing machines. Therefore, the GOE would probably confiscate the U.S. supplier's letter of guarantee for \$188,000 if a resolution was not reached. The U.S. supplier agreed later to replace the four packing machines with brand new units from the United States. Company officials expected this task to be completed before the end of 1987. USAID/Egypt officials also expected a final settlement by this time.



Salt packing and bottling equipment in Port Said plant.
Not operated after December 1985.

The effect of the delays in completing the civil construction, and then of producing at a very conservative 60 percent per year, would be net economic benefits not realized for the first 2 years totaling about LE27 million (about \$12.3 million), and for each successive year LE5.4 million (about \$2.5 million) at the current level of production.

Management Comments

USAID/Egypt said it agreed with Recommendation No. 3 and that it was being implemented on all ongoing projects. The Mission also said that the issues of funding, training, spare parts, and operations and maintenance had long been recognized and were addressed in the Local Development II (LDII) project and other Mission projects.

Office Of Inspector General Comments

The audit did not find that the Mission was implementing the concept of "demonstrated capability" on all ongoing projects. Although Government of Egypt problems with training, spare parts, and operating and maintenance funding and practices are well understood within the Mission, we are unaware of regular Mission efforts to systematically address these problems before procurements are approved. Under the LD II project certain remedial actions were taken, but the types of problems discussed in this, and other audit reports, transcend the LD II project. Thus, we believe the Mission needs to establish formalized review procedures and rigorously examine procurement requests in order to increase the prospects that machinery and equipment will be properly operated and maintained.

3. Completed Projects Face Delays In Effective Utilization

Completed components in two projects costing about \$19 million were not being used as contemplated to achieve project purposes. One project, a sewerage pumping station, was not being used at all because completion of the remainder of the system was delayed. Another project, a water transmission system, was not being used because the Government of Egypt could not get anyone to accept management responsibility for its operations. Agreements covering these projects stated that effective use of these systems was required to achieve project purposes. Mission management was aware of some of the utilization problems but had not prepared specific plans for expediting the use of these facilities. As a result, these projects were not realizing the purposes for which they were implemented with a consequent inefficient use of project resources.

Recommendation No. 4

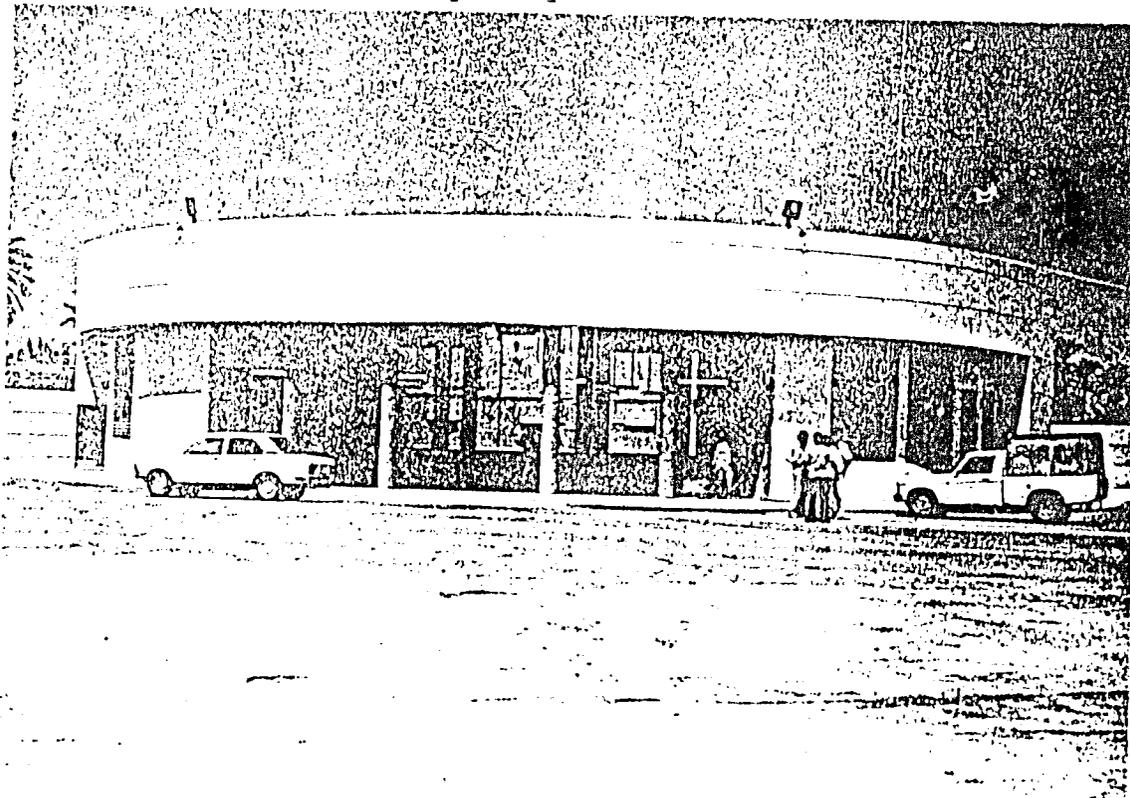
We recommend that USAID/Egypt develop specific plans for expediting the use of the Ras El Soda Pumping Station and the Southwest Transmission Main in order to achieve project purposes.

Discussion - As detailed in the two projects below, each has a component that was completed sometime ago, but operations were not yet started. The Alexandria wastewater pumping station (Ras El Soda) is in need of a network for discharging the waste, while the Canal Cities Southwest Transmission Main is ready for operation, but no entity has accepted responsibility for operating it.

Alexandria Wastewater Project No. 263-0100 - USAID/Egypt financed, among several other things, the supply and construction of Ras El Soda Pump station for \$7.1 million. Construction began in January 1984 and was substantially completed by February 1987. As of May 1987, the station had not been operated except for testing purposes or to keep it in running condition.

The Ras El Soda pump station was designed and constructed to collect the wastewater that flows to it by gravity from different residential areas in Alexandria. The station elevates this wastewater and pumps it from the East Zone station to Lake Maryout outside the city. The network carrying the wastewater to the station was completed, but the network to discharge the wastewater had not been

constructed. According to the U.S. contractor's representative, final completion is not expected before 1990. Construction of this network, which was supposed to be completed in February 1987 along with the station, was carried out by a local contractor supervised by GOE authorities in Alexandria. As a result of the delay in completing the connecting network, the \$7.1-million pumping station will not be fully used until sometime in 1990. The USAID/Egypt project officer said that the station will be used in 1988 with a temporary outlet.



Main pumping station in Alexandria. Completed in February 1987. Cannot be operated as planned until sewer network is constructed over an estimated 3-year period.

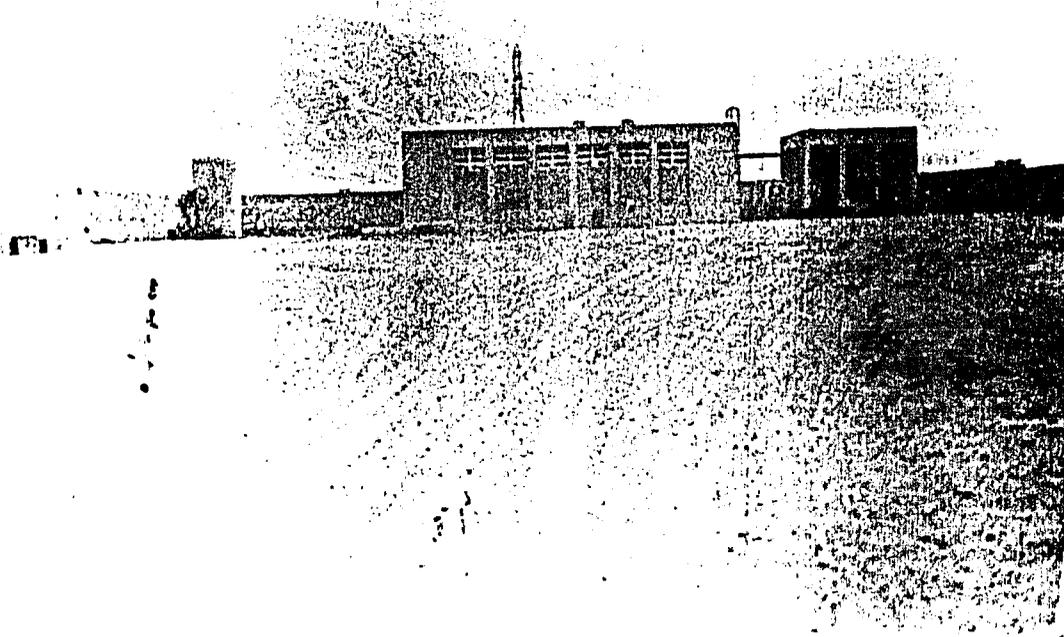
The Ras El Soda area, which is populated by over 100,000 people (the highest population density in the unsewered areas of Alexandria), according to the Project Paper, is in dire need of sewerage disposal but may have to wait for at least 3 more years to relieve extensive wastewater flooding. Of significance is the fact that the 1-year warranty period for the pumping machinery and equipment station started in February 1987, and will probably expire before the station is fully operating. Thus, repairs after expiration of the warranty period will not be covered by the supplier.

Project officials, at the exit conference, did not believe that there was a problem with the pumping station, and that the situation described was not out of the ordinary in such a complex project. The project officer described the wastewater program as encompassing approximately 30 to 40 separate construction projects. He said that with this many independent pieces, perfect timing is impossible.

Canal Cities Water and Sewerage Project No. 263-0048 - USAID/Egypt provided loan and grant funds to provide urgently needed improvements in the existing water and sewerage systems of the three Suez Canal cities. A major component of this project was an \$11.9-million Southwest Transmission Main. This transmission system is a pipeline to transfer clean water from the city of Suez to the Suez Cement Company, a distance of about 60 kilometers (37.3 miles), and two boosting stations to help pump the water for such a long distance. Currently, the Suez Cement Company is using water from wells for its operations which adversely affects the quality of its cement.

The work on the Southwest Transmission was completed and the system was ready for use by September 1986, but it has never operated. All GOE entities related to this particular project component refused to accept responsibility for operating it. During the project design, the question of who would operate the system apparently was never addressed. The project owner, the National Organization for Potable Water And Sanitary Drainage, is not responsible for the operation and maintenance of water projects, but just for the design and construction phases.

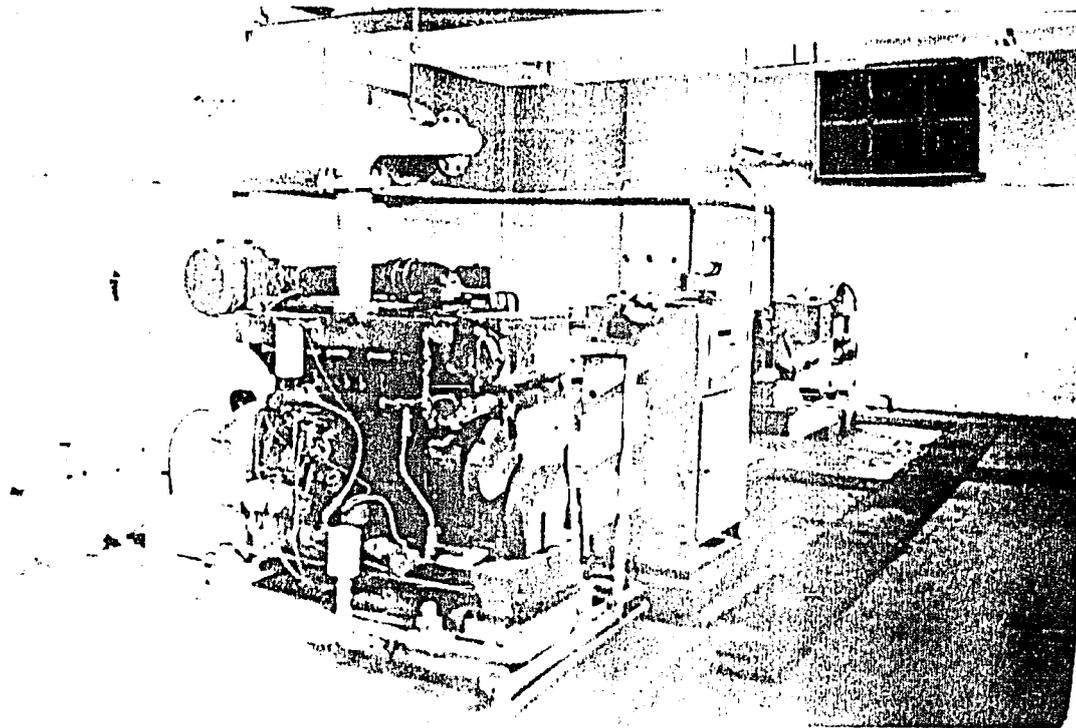
The Suez Governorate was willing to operate the portion of the project within its city's boundaries, but claimed it did not have the technical capability for such a task. The Suez Canal Authority, although responsible for many canal cities activities, did not consider that there was any benefit in operating this pipeline. The Suez Cement Company, the prime beneficiary of the system, refused to operate it because the company is not in the business of water projects. The Company was willing, however, to share in the expenses of running it, if someone else would assume the management responsibility.



One of two boosting stations outside Suez.
Completed in September 1986, but not yet in operation.

As a result of the lack of assigned management operating responsibility, an \$11.9-million pipeline, including boosting stations, is laying idle in the desert. At the same time, the Suez Cement Company is not benefiting from the clean water, which is at an arm's reach, to improve the quality of its cement.

The Mission was aware of the situation, and brought it to the attention of high level GOE officials, but had no specific plans for resolving the apparent impasse.



Pumps inside the boosting station near Suez. Since September 1986 waiting for someone to turn them 'ON'.

During the draft stage of this report, attempts were being made by Suez Governorate and Suez Cement Company, to get the latter entity to operate the system. Suez Cement Company agreed to take over the responsibility, but no timeframe had been established.

Management Comments

USAID/Egypt said it expected the Ras El Soda pumping station to start operations with temporary outlet facilities within the next few months. The permanent outlet system would not be completed before 1990. As for the Southwest Transmission Main, the Mission said April 15, 1988, has been set for turning the line over to the Suez Cement Company for operation and maintenance.

Office Of Inspector General Comments

The Mission's actions were considered satisfactory at this stage. The recommendation was considered resolved. The recommendation can be closed when the pumping station and the transmission main are operational.

B. Compliance And Internal Control

Compliance

In the areas audited, compliance exceptions were as follows: Under the Decentralization Support Fund project, the GOE governorates were required to use USAID/Egypt-financed machinery and equipment within 1 year after arrival in country. This regulation, however, was not adhered to in several cases discussed in this report.

Internal Control

The audit disclosed that except in minor cases, USAID/Egypt did not have a reporting system with the borrower/grantee to identify utilization problems in order to seek timely resolution.

The review of compliance and internal control was limited to the finding areas discussed in this report.

AUDIT OF
UTILIZATION OF PROJECT MACHINERY AND EQUIPMENT
IN EGYPT

PART III - APPENDICES



CAIRO EGYPT

APPENDIX 1

Page 1 of 13

UNITED STATES AGENCY for INTERNATIONAL DEVELOPMENT

December 7, 1987

MEMORANDUM

TO: Joseph Ferri, RIG/A
FROM: William Miller, AD/FM
SUBJECT: Draft Audit Report - Audit of Utilization of
Machinery and Equipment in Egypt

DEC 09 REC'D

Attached is the Mission's response to subject draft report.

memorandum

APPENDIX I

Page 2 of 13

DATE: December 3, 1987

REPLY TO
ATTN OF: William A. Libby, DR/PS

SUBJECT: Draft Audit Report-Audit of Utilization of Machinery and Equipment
in Egypt.

TO: Thomas Johnstone, FM/FA Audit Liason
Frank Miller, OD/PS

The object of subject audit, ".... to identify the root causes of problems, and to recommend appropriate corrective actions", is timely and certainly appreciated. However, the narrative and accompanying recommendations do little more than reiterate well documented implementation issues and on-going USAID/Egypt efforts to successfully conclude the individual projects in question.

Five projects implemented by the Directorate of Development Resources have been cited in the Audit Report. One of those, the Aswan High Dam Runner Replacement Project (0160) is deemed to be properly utilizing all AID-financed equipment. The remaining four DR projects have been subjected to severe criticism and deserve comment.

1. National Energy Control Center Project (0023)

This project was originally funded by a \$24 million loan and later supplemented by an additional \$17 million loan (amendment) and a \$2.5 million grant. The auditors have concluded that the latter two tranches amounting to \$19.5 million constitute an increase in project cost attributable to implementation delays. This is not correct.

The \$24 million loan, negotiated with the GOE in 1976, was based on cost estimates that later proved to be unrealistically low. Engineering services began in 1977 at a negotiated cost of \$1.7 million and a construction contract totaling \$38.2 million was signed in 1978. Substation engineering, initially planned to be carried out by the EEA, was added to the original engineering services contract in early 1980, thus increasing the cost of this negotiated contract to \$2.2 million. Normal change orders, primarily for additional equipment, tools and spare parts,

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increased the original construction contract to \$39.8 million, an increase of 4.2 percent. None of the above can be considered due to implementation delays. These construction and engineering services total \$42.0 million. Additional engineering services, which cover training as well as the extended construction period, amount to \$1.4 million, bringing the project total to \$43.4 million. Thus, AID expenditures due to delays and other factors are in the range of \$1-1.4 million or approximately 3 percent of the costs that would have occurred had there been no delays whatsoever. This is a far cry from the auditor's \$19.5 million.

If one were to consider experienced inflation over the almost nine year project implementation period, it could be argued that AID and the GOE realized a net benefit of \$7.7 million, because this project was delayed 4 years (assuming a base of \$42.0 million and inflation at 5 percent/year for 4 years less the additional \$1.4 million for extended engineering services.) Additionally, the Auditor's estimated savings of "at least \$3.7 million for just the first year of operation" is highly suspect. This type of figure is dependent on a detailed cost/benefit analysis of the project over the original planned construction period compared to a similar analysis over the actual construction period. There is no evidence in the report that this was done.

It must be emphasized that the construction contract for this project was awarded on essentially a "turnkey" basis, i.e., the contractor was solely responsible for scheduling and off-shore procurement. Therefore, once the contract was signed, the Project Officer had little or no control over the contractor's procurement schedule. Notwithstanding the Auditor's recommendation, that procurement be more realistically keyed to actual construction, it must be pointed out that the total elapsed time between signing of the construction contract and installation of the computer was less than 36 months. This is not an overly long, period, i.e., the computer system did not simply sit in storage. Ancillary works, including the development of project specific software took another 27 months and testing of the completed system, including O&M, another 30 months. Thus, no one delay can be singled out as solely responsible for the four year difference between the original PACD and the actual completion date. A more logical line of reasoning might fault an overly optimistic Project Paper time frame for a project of this magnitude.

2. Decentralization Support Fund (0143)

The examples of underutilization of equipment contained in the draft Audit Report are indicative of a problem of major concern to USAID. Additionally, some of the steps currently being taken by USAID's Office of Local Administration and Development (LAD) to ameliorate these problems are briefly described. These steps, keyed to the report narrative, are outlined below:

1. Reporting on equipment use; (integral to the O&M program to be fully underway in January 1968)
2. Phased procurement linked to construction progress; (a moratorium has been placed on equipment procurement until GOE O&M and planning demonstrate a capability for appropriate use and maintenance)
3. Demonstrated GOE capability to operate and maintain the machinery as a prerequisite to procurement; (LD II training provided under TA contract)
4. Plans to put certain assets to effective use to achieve project purposes; (principal LD II T.A. elements - "Urban and "Rural ", and blended with O&M to assure use of USAID procured equipment in pursuit of USAID/Cairo goals)

It should be noted that these and other strategies have been discussed and developed by LAD to solve the problems noted --some packages will be completed--some orders have been cancelled or truncated--after sales O&M contracts are being designed and let, a thorough and proper design for installation of a nationwide spare parts system is underway and potential spare parts problems stemming from recent GOE foreign exchange regulations are being explored. Several aspects of the current local development program deal with the issues presented by the auditors, these problems have been well documented in earlier evaluations and audits. The LD II Project (0182) will focus on putting O&M systems in place and mobilizing local resources to support those systems. All equipment purchases in LD II must be part of an integrated, local development plan for each governorate. The plan must justify each purchase and demonstrate how the equipment will contribute to local development. The plan will also contain O&M plans for the equipment and long-term equipment O&M budgets.

3. Alexandria Wastewater Project (0100)

Two erroneous statements appear in the draft Audit Report. Construction costs for the Ras El Soda Pump station amount to some \$ 7.1 million not \$9.8 million, and the Ras El Soda area does not contain the highest population density in Alexandria. The balance of the narrative tends to paint a far more drastic picture than actually exists.

The pump station and a portion of the upstream sewerage system were completed in 1987. The downstream (outlet) portion is currently under construction and is now scheduled to be completed by 1990. However, temporary outlet facilities will be operational within the next few months and the pump station will be fully operational, although its full capacity will not be required at that time. The pump station is a key element to the success of this project. Wastewater flows to the station by gravity and is then pumped to an outfall. Therefore, the pump station must be operational before any wastewater can be removed from the area. This was recognized by the designers and the pump station was the first item planned for construction. The inlet system immediately upstream of the pump station and the outlet section of the sewerage system were planned to be completed at approximately the same time as the pump station. The remainder of the inlet system was to be completed in stages and as each stage, or part of the system, was completed, it would be connected and become functionable. Construction of the inlet system, although somewhat slower than planned is progressing satisfactorily. The permanent outlet system will not be completed before 1990 and has experienced serious delay. However, a temporary outlet that will allow the pump station to operate at a rate sufficient to handle generated inflow as it develops will be completed early next year. Thus, the actual delay, as it affects the project goal of eliminating sewage flooding of streets and beaches, will be approximately one year, not the three years stated in the Audit Report.

4. Canal Cities Water and Sewerage Project (0048)

The brief Project description and associated problems are correctly stated in the draft Audit Report. However, negotiations between the GOE (NOPWASD) and the Suez Cement Company that will lead to operation of the Southwest Transmission Main have been concluded. The line and its appurtenances, primarily pumps and valves, are currently being checked by technical experts. A technical deficiency report is to be

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submitted to USAID by December 15th. Representatives of the GOE, the Suez Cement Company and USAID have agreed to meet on December 9th to finalize arrangements that will enable the Suez Cement Company to formally operate the line. USAID expects the line to be fully operational (all remedial work and testing completed) by March 31, 1988 and turned over to the Suez Cement Company for O&M by April 15, 1988.

In general the recommendations contained in the draft Audit Report are timely and well taken. However, it should be pointed out that almost all of them are currently being implemented by the concerned Project Officer. Each recommendation and specific comments are listed below:

Recommendation No. 1

We recommend that USAID/Egypt:

- a. require that all projects involving construction or other civil work either be brought to appropriate stages of completion before procuring machinery and equipment; or ensure that procurement contracts have flexible ordering terms closely tied to actual stages of completion of construction; and
- b. implement more imaginative ways of completing construction and preparatory site work such as through the use of financial incentives for early completion, financial penalties for late deliveries, and limitations on participation in cost overruns.

Comment

Recommendation 1a - This is always the goal when procurement is intended for incorporation into construction projects. Modern scheduling techniques tie procurement to a "critical path" that anticipates supply, shipping, clearance and other identifiable time requirements. However, even the best schedule is dependent on estimates and when these are thrown askew by unanticipated occurrences such as ground water problems or newly promulgated GOE customs regulations, delays do occur. These delays may result in equipment arriving too early, as in the case of a construction delay or too late, as in the case of a customs hold up. However, USAID will continue to require and examine procurement schedules to assure that they are timely and closely tied to actual stages of construction.

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Recommendation 1b - "Imaginative" is a subjective term and difficult to quantify. However, lessons learned from past projects are constantly being applied during the project planning stage of all new projects. This is a primary objective of USAID/Egypt's Office of Project Support, which reviews all new projects for, among other things, realistic scheduling. Also, the recommended use of incentives and penalties will be further explored; most construction contracts already do contain liquidated damages provisions for late performance. It is worth mentioning that incentives of the type mentioned in the draft Audit Report are often included to encourage small business and 8A firms to participate in AID-financed procurement. These firms usually do not have sufficient resources to wholly fund "up front" costs over an extended length of time. However, recommendation 1b has been and will be implemented wherever possible. AID participation in cost overruns is always considered on a case-by-case basis; it should be appreciated, however, that - given the GOE's severe foreign exchange shortage - AID refusal to fund Fx cost overruns would typically mean an abandonment of our prior investment. More and more AID projects are being funded under FAR procedures which limit the availability of AID funds for any purpose, including funding of cost overruns.

Recommendation No. 2

We recommend that USAID/Egypt establish a group within the Project Support Office to provide for: (a) appropriate Government of Egypt reporting on the use of AID-financed machinery and equipment (including completed systems components); and (b) development of short and long-range solutions to utilization problems.

Comment

This recommendation is understandable. However, transfer to the Office of Project Support of what the Mission intends to be the Project Officer's responsibility is not acceptable. Instead, we intend to keep responsibility with the Project Officer but to enhance reporting requirements from the Government of Egypt by including under relevant projects reporting on: (a) the use of AID-financed machinery and equipment (including completed systems components); and (b) planned short and long-range solutions to utilization problems as may from time to time be identified by USAID.

Language of this nature - to be set forth in Project Implementation letters drawing on section 5.B of the Standard Grant Annex - would allow the Project Officer to monitor utilization in a more orderly manner and would meet the fair spirit of this recommendation.

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Recommendation No. 3

We recommend that USAID/Egypt:

- a. make approval of commodity purchases under projects contingent upon demonstrated capability by the host country using entity to operate and maintain machinery and equipment; and
- b. establish a system for the orderly flow of parts, provide training as needed, and ensure availability of local funds for operation and maintenance.

Comment

Operation and maintenance generally is not a problem where GOE O&M budgets are adequate. Additionally "demonstrated" capability can be applied either as an objective principle, which would be a "catch 22" situation, or as a subjective principle based on GOE assurances and observations. USAID agrees with this recommendation and it is being implemented on all on-going projects. The issues of funding, training, spare parts and O&M have long been recognized and are addressed in the LD-II and other USAID/Egypt projects.

Recommendation No. 4

We recommend that USAID/Egypt develop specific plans for expediting the use of the Ras El Soda Pumping Station and the Southwest Transmission Main in order to achieve project purposes.

Comment

This has already been done. Full operation of the Southwest Transmission main is expected by April 15, 1988.

Additional Comment

The draft Audit Report mentions apparent GOE reluctance to honor the provisions contained in Loan and Grant Standard Provisions Annexes, which are integral parts of all AID Project Agreements. The Office of Project Support has identified a long standing problem relating to PROAGs in general. Specifically, GOE staff at the actual project implementation level have usually never seen and are unaware of the contents of individual PROAGs. Therefore, when problems related to a PROAG occur, they look to other sources (GOE laws and regulations) for solutions. Although upper echelon staff may be knowledgeable, implementation problems usually do not reach them until these

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problems have reached unmanageable proportions, often resulting in costly delays. The Office of Project Support is working closely with USAID/Egypt Project Officers, contractors and GOE counterpart staff, particularly GOE Ministry of International Cooperation and Customs Department personnel to make available applicable PROAGs, Standard Annexes and other USG/GOE Agreements that contain provisions pertaining to individual projects. This simple exercise in communication has resulted in greatly improved understanding on the part of GOE staff and in prompt action to alleviate problems related to customs clearance, taxation and project implementation. It will continue.

Clearance:

LEG:KO'Donnell (Draft) ^{AK}

memorandum

DATE: November 30, 1987

APPENDIX 1

REPLY TO
ATTN OF: Edward Baker OD/IS/IR 

Page 10 of 13

SUBJECT: Audit Recommendations: Draft Audit Report, Audit of Utilization
of Machinery and Equipment In Egypt (0101.06/0101.07)TO: William Libby DR/PS
Thomas Johnstone, EM/EA Audit LiaisonGeneral Comments:

All industrial projects reviewed in the audit used professional engineering consultants in preparation of plant design, project scheduling and supervision. Schedules were thrown off by unanticipated events which slowed civil works and resulted in equipment arrival before civil works were completed. The GOE, AID and contractors were aware of these problems and worked hard to resolve them. The delays would have been longer without this effort.

While we recognize the problems, that may arise when procurement and civil works are not coordinated, too much concern with tying civil works to procurement could result in the inverse problem - civil works completed awaiting equipment. As noted by the project officer for the steel billet and gypsum projects, the delays resulted not only from civil works but from problems with poor supplier performance and deliveries.

Attempting to tie equipment procurement too closely with completion of civil works could lead to delay because of problems in shipping of equipment, i.e. equipment lost or damaged. This is particularly so for long lead time equipment which must be specially fabricated.

It is possible that attempts to tie actual equipment deliveries with civil construction progress would raise the cost of equipment purchased. Long delays such as those mentioned in the audit would require that manufacturers store project specific equipment until notified. In some cases this would be for considerable periods. Such an arrangement would certainly raise the cost of the equipment, possible more than the cost of procuring and storing the equipment in Egypt, even including possible loss and damage of some of the items as a result of the storage. Some manufacturers would be unable to participate because they would not be able to carry the cost of carrying the client for an unspecified period.

It should also be noted that final design for civil work for industries where large equipment is involved can only be completed when it is known what specific equipment will be installed as different manufacturers have different detailed equipment installation specifications. Civil construction can only proceed after designs have been completed.

Where items are "shelf type equipment", normally always available, delaying procurement to meet actual civil progress could result in price increases which are greater than possible damage or losses from equipment shipped early and stored in country until civil works are complete.

Possible Response to Audit Recommendation Relating to Planning

If it is assumed that the problems discussed in the audit were the result of lack of awareness on the part of project planners as to the development environment in Egypt, the following might be a solution:

To assure that project officers take the types of problems illustrated in the audit report into account in the planning and implementation of projects, a summary of audit recommendations related to project planning problems could be prepared. These could be required reading for all new project officers and others involved in project design. These persons could be required to certify that they have read the summary. This information would also be supplied, for reading and certification, to current employees as well as contractors. The summary could be updated and distributed whenever new audits are completed and new problems are identified.

For IR comments concerning the El Nasr Salines see attached 11/22/87 Rathbun to Baker memo.

0261A/n1

memorandum

DATE: November 22, 1987

REPLY TO
ATTN OF:  Dan Rathbun, IS/IRAPPENDIX 1

Page 12 of 13

SUBJECT:

Draft Audit Report Comments: El Nasr Salines (0072)

TO:

Ed Baker, OD/IR

The draft audit report on utilization of machinery and equipment in Egypt identifies two major problems that arose in connection with Project 263-0072. These were: (1) delays in finishing the civil works and, (2) mechanical problems with salt packaging machinery.

This project ended shortly after I arrived, so I am not familiar with all of the details. In addition, the official files have been closed and put in storage. To the best of my knowledge the facts, as stated by the auditors, are essentially correct. I think it is important to note, however, that the Mission was well aware of these problems and worked hard to resolve them. The original timetable was based on the best available estimates. The project was begun shortly after the USAID/Egypt program was re-established so the planners probably did not have the benefit of extensive past experience in Egypt to draw upon. As a result, some estimates may have been overly optimistic, but that is merely speculation on my part.

I know the previous project officer, although busy with much larger projects (Suez and Quattamia Cement -- \$195 million Mehalla Textile -- \$93 million) did devote a great deal of time to resolving the problem of delays in civil works on the relatively small El Nasr Salines Project. His efforts were complicated by the civil contractors' close links to the former President of Egypt, but in the end he was successful.

The matter of the packaging machinery is still not resolved, but a final settlement is expected by the end of 1987. From what I have observed there appears to be fault on both sides. The Company attempted to use plastic that did not meet the requirements established by the supplier. When a new source of plastic was found, the machines experienced far fewer problems. The two plastic bottling machines have not worked

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properly since their initial installation. However, the GOE mandated price for this product is so low that the Company has little incentive to maintain the machines in good working order. The supplier has sent technicians from Europe on several occasions and has provided a substantial stock of spare parts in an attempt to resolve the problems associated with the packaging machines.

Probably the most significant problem identified is the fact that the plant is only operating at 60% of capacity. The losses due to delays in construction and equipment problems are minor by comparison. The reduced production is due to low worldwide demand for the product and is not something the Company, the supplier or USAID has any control over. World demand for salt is a function of many factors including weather, interest rates and shipping costs.

It is possible that, with better planning, some losses could have been avoided, but it is important to remember that the Mission recognized the problems and addressed them at an early stage. No amount of planning will completely eliminate risk.

0256A/n1

LIST OF RECOMMENDATIONS

	<u>Page</u>
<u>Recommendation No. 1</u>	5

We recommend that USAID/Egypt:

- a. require that all projects involving construction or other civil work either be brought to appropriate stages of completion before procuring machinery and equipment; or ensure that procurement contracts have flexible ordering terms closely tied to actual stages of completion of construction; and
- b. implement more imaginative ways of completing construction and preparatory site work such as through the use of financial incentives for early completion, financial penalties for late deliveries, and limitations on participation in cost overruns.

<u>Recommendation No. 2</u>	6
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We recommend that USAID/Egypt establish a group within the Project Support Office to provide for: (a) appropriate Government of Egypt reporting on the use of AID-financed machinery and equipment (including completed systems components); and (b) development of short- and long-range solutions to utilization problems.

<u>Recommendation No. 3</u>	14
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We recommend that USAID/Egypt:

- a. make approval of commodity purchases under projects contingent upon demonstrated capability by the host country using entity to operate and maintain machinery and equipment; and

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- b. establish a system for the orderly flow of parts, provide training as needed, and ensure availability of local funds for operation and maintenance.

Recommendation No. 4

22

We recommend that USAID/Egypt develop specific plans for expediting the use of the Ras El Soda Pumping Station and the Southwest Transmission Main in order to achieve project purposes.

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Regional Inspector General For Investigations (RIG/I/C)	1
RIG/A/Dakar	1
RIG/A/Manila	1
RIG/A/Nairobi	1
RIG/A/Singapore	1
RIG/A/Tegucigalpa	1
RIG/A/Washington	1