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**AUDIT OF USAID/EGYPT'S
IRRIGATION MANAGEMENT SYSTEMS
PROJECT NO. 263-0132**

Audit Report No. 6-263-89-7
September 21, 1989

UNITED STATES OF AMERICA
AGENCY FOR INTERNATIONAL DEVELOPMENT
OFFICE OF THE REGIONAL INSPECTOR GENERAL/AUDIT

September 21, 1989

MEMORANDUM FOR D/USAID/Egypt, Marshall D. Brown

FROM : RIG/A/C, F. A. Kalhammer *Kalhammer*

SUBJECT: Audit of USAID/Egypt's
Irrigation Management Systems
Project No. 263-0132

The Office of the Regional Inspector General for Audit/Cairo has made the subject audit and provided a draft report for your review and comment. Your response is contained in this report as Appendix 1. In addition to copies for you and your Deputy, eight copies of the report have been forwarded to the Mission's Audit Liaison Official for appropriate distribution and action.

The report contains five recommendations with a total of 26 subrecommendations. All recommendations except Nos. 1(c)(3), 1(e), and 3 are closed upon report issuance. Recommendation Nos. 1(c)(3) and 1(e) are open and unresolved because of our differing views as to whether the Mission can or should grant blanket retroactive waivers of ProAg prohibitions, and whether A.I.D. can and should benefit from penalties assessed by the GOE under this project. Recommendation No. 3 is open but resolved. It can be closed when corrective actions are completed.

Please advise me within 30 days of any actions planned or taken to close the open recommendations.

I appreciate the cooperation and courtesy extended to my staff during the audit.

EXECUTIVE SUMMARY

The Irrigation Management Systems Project, initially approved in July 1981 as a five-year effort, has been extended to August 1991. A.I.D.'s costs are estimated at \$340 million; as of January 1989, obligations and expenditures were \$250 and \$78.5 million, respectively.

Our office made a performance audit of three of the project's ten components to determine whether: program objectives were achieved, costs submitted by the Egyptian Government for reimbursement were supported, USAID resources were controlled and effectively utilized, and terms of the project agreement were complied with. Significant expenditures had been incurred in four components, but one of these -- the Main Systems Management component -- had received separate audit coverage in 1988. The three components audited were: the Structure Replacement Program, the Project Preparation Department, and the Regional Irrigation Improvement Project. Our earlier audit on the Main Systems Management component is also briefly discussed in this report.

The audit concluded that:

- The Structure Replacement Program would exceed its objectives but action was needed to reduce contractor delays in the completion of structure replacement work.
- Structure Replacement criteria to determine what should be replaced and better contracting practices to ensure timely replacement were needed. USAID/Egypt can avoid spending perhaps \$1 million of the remaining funds on inappropriate new structures.
- The cost claims submitted by the Government of Egypt were supported but not reduced to reflect contractor penalties. A.I.D. may therefore have reimbursed the Government \$1.4 million more than was required.
- The Government of Egypt had awarded about \$410,000 in construction contracts to public sector companies in violation of the project agreement.

- The Regional Irrigation Improvement Project was in the formative stages and it was too early to conclude whether it will succeed. However, management needs to: monitor the success of organizations used to gather data for the project and to maintain project improvements, accelerate the formation and involvement of water-user groups, and develop a cost recovery policy for the component.

- The Project Preparation Department, and Main Systems Management components were behind schedule or had not fully achieved their objectives. The Project Preparation Department encountered staff turnover and recruitment problems that severely limited efforts to develop the unit's ability to produce studies and proposals for international financing. The Main Systems Management Project had funded an elaborate system of equipment to monitor Nile river waters but the equipment was not of U.S. origin, non-operational, and had failed to meet acceptance tests. A new system needed to be designed.

- Certain equipment was unused or underutilized.

To correct these problems, specific recommendations were made for improving controls, management reporting and project oversight. Management officials initiated action on all but one of the recommendations in this report. They requested the following comments be included in the Executive Summary.

Management Comments

"This audit report has been useful to the Mission, in that it has enabled us to take action or to follow up on previously initiated actions to rectify management and operational problems associated with the implementation of the three Irrigation Management Systems Project Components covered by the audit.

"The Mission, the Ministry of Public Works and Water Resources, and the technical assistance contractors have taken significant action to address the audit recommendations. The Mission requests that 24 of the 25 [sic] audit recommendations be closed. The Mission takes exception to the remaining recommendation, Recommendation No. 1(e), concerning the recovery of funds associated with liquidated damages assessed against construction contractors

for late performance. The audit considers penalties collected by the Ministry as revenue which reduces the cost of a contract, thus affecting the amount USAID should reimburse under the Fixed Amount Reimbursement Agreement.

"Our position, supported by our Legal Advisor, differs in that the so-called penalties are in fact liquidated damages, not viewed as revenue but rather as compensation or indemnification for harm suffered by the GOE and, therefore, have no effect on the contract cost. We request that Recommendation No. 1(e) be deleted from the Audit Report.

"The Mission disagrees with the audit's...[report text amended]...allegations of construction of inappropriate structures, and references to the absence of any prioritization criteria.

"The Structural Replacement Component is extremely successful. The component is ahead of schedule and has exceeded its objective of replacing or constructing 9,500 structures. The Audit Report contains numerous references to inappropriate new structures built under the Structural Replacement Component. These references are based on the audit opinion that only replacement of existing structures was called for under the Component. We disagree. The need for some additional structures to meet current and future structural requirements of the irrigation system was recognized and incorporated into the Fourth Amendment to the Grant Agreement which called for the construction or replacement of an additional 6,500 structures. The objective of the Component is to help in meeting the water distribution system. Also, concerning audit references to the lack of any prioritization for replacement of structures, we have provided documentation in our response demonstrating that prioritization criteria have been in effect since 1982. The criteria, however, have been found to need strengthening and were revised accordingly in February 1989."

OIG Response

RIG/A/C is gratified at the many significant and timely corrective actions taken by USAID/Egypt in response to this audit. However, we are unable to agree with the Mission on certain issues, as explained below and at appropriate points in the text of the report.

After appropriate review and consultation, we are unable to concur in USAID/Egypt's view that penalties assessed by the GOE should be considered "liquidated damages" in which A.I.D. has no claim. The project agreement states clearly that A.I.D. will reimburse the GOE for 80 percent of its expenditures for structure replacement until the agreed upon annual expenditure is reached. We interpret "expenditures" to mean actual costs net of any penalties deducted from payments to contractors prior to contract liquidation.

We do not share management's view that a 1982 document that simply states: "priority will be given to structures giving a better water control, i.e., the first priority will be to replace intake regulators, head regulators, weirs, tail escapes, syphons, aqueducts and spillways, etc...." constitutes prioritization criteria. It simply illustrates structures eligible for funding under the program without providing a firm basis for determining which structures should be replaced first. In fact, the statement fails to mention bridges which obviously received construction priority. Additionally, we disagree with the Mission's contention that various new bridges identified in this report were "replacements." They were to provide additional crossings over canals where existing bridges nearby are not to be removed. We do not argue that additional bridges or other structures are not warranted or should not be considered for inclusion in the program. To the contrary, we recommend only that such construction not be initiated without specific prior A.I.D. approval and that all major structures be identified with U.S. Government assistance to Egypt.

Finally, we are unable to accept the Mission's blanket retroactive waiver for contracts awarded by the GOE to public sector firms for the manufacture of steel gates after such awards were expressly prohibited, unless first approved by USAID/Egypt. If the Mission does not expect compliance with such provisions in its agreements with the GOE, then it should refrain from making them a part of the agreements. Once made, however, we believe such specific prohibitions should be enforced.

Office of the Inspector General

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PART I - INTRODUCTION

A. Background

Improved water utilization and management is one of many initiatives undertaken by the Government of Egypt (GOE) to improve Egypt's agricultural production. The overall purpose of the Irrigation Management Systems (IMS) project is to strengthen the capabilities and capacity of the Ministry of Public Works and Water Resources (PWWR) to plan, design, operate and maintain the nation's irrigation system.

The project was authorized on August 27, 1981 and was to be completed by July 31, 1986, later extended to September 21, 1991. The total estimated cost of the project is \$761 million. A.I.D. and the Government of Egypt will ultimately provide a grant of \$340 million, and \$421 million, respectively.

A.I.D. had expended about \$78.5 million on the project's ten components as of January 31, 1989, as shown in Table 1 on the following page. Four of these -- Structure Replacement, Project Preparation Department, Regional Irrigation Improvement, and Main Systems Management -- accounted for \$72.6 million or 92 percent of the expenditures. By far the most expenditures had occurred in the Structure Replacement Program.

Table 1
 IMS Obligations and Expenditures
 as of January 31, 1989 (in \$ Millions)

<u>Project Component</u>	<u>Obligations</u>	<u>Disbursements</u>
1. Main Systems Management	\$ 25.0	\$ 2.7
2. Structure Replacement	75.0	57.1
3. Regional Irrigation Improvement	46.0	6.0
4. Preventive Maintenance	19.6	1.7
5. Survey and Mapping	21.0	.1
6. Water Research Center	21.0	.1
7. Project Preparation Department	11.1	6.8
8. Professional Development	14.0	2.1
9. Planning Studies and Models	10.0	.4
10. Miscellaneous	<u>7.3</u>	<u>1.5</u>
Totals	\$250.0 =====	\$78.5 =====

The above ten components are independent but related. Their purposes were to: (1) install a data collection system to manage the main irrigation systems (Nile river and major irrigation canals); (2) replace small irrigation structures such as regulators, weirs, aqueducts, etc.; (3) develop an organization that would study, prioritize, design and implement regional improvements; (4) develop an organization that would maintain the irrigation structures; (5) survey and map the irrigation system; (6) improve the capabilities of the Government of Egypt's Water Research Center; (7) develop a Project Preparation Department which could prepare irrigation project proposals for international financing; (8) develop PWR's ability to train its staff; (9) develop models for monitoring and managing the water system; and (10) support unspecified ad hoc needs.

PWR was responsible for implementing the various project elements. Different PWR organizational units and three major contractors were involved with different project components at the time of our audit. The three contractors were the Consortium for International Development, Harza

Engineering, and the RET Corporation 1/. USAID/Egypt was to monitor project implementation to ensure the effective and efficient use of A.I.D. funds, and compliance with the terms and conditions of the agreement.

B. Audit Objectives and Scope

The Office of the Regional Inspector General for Audit/Cairo made a performance audit of the Irrigation Management Systems project. The audit focused on three of the project's ten subcomponents -- Structure Replacement, Regional Irrigation Improvement Project, and the Project Preparation Department -- which had accounted for 89 percent of project expenditures. However two other components -- Main Systems Management and Preventive Maintenance, are also discussed in the report. A separate non-federal audit of contractor performance in installing a data collection system under the Main Systems Management component had been completed in July 1988. The Preventive Maintenance component was being evaluated by the Mission.

Specific audit objectives were to determine whether: the audited components were meeting their objectives, resources were effectively used, costs submitted by PWR for reimbursement were supported, and the terms of the project agreement had been complied with.

1/ The Office of the Inspector General issued Audit Report No. 6-263-88-09-N "Audit of the RET Corporation Under the Nile River Irrigation Data Collection System Project No. 263-0132" on July 12, 1988. The audit found that RET had been awarded a contract of \$3.4 million for the assembly and installation of a data collection system in order to monitor water levels of the Nile River and related canals. The system included 255 data collection platforms, 18 receiving stations and 2 master receiving computer stations. At the end of the contract, only 15 platforms, 1 receiving station, and 1 master receiving computer station had been installed, but the equipment had failed to meet acceptance tests.

Audit work included reviews of project records and interviews with responsible officials of USAID/Egypt, PWR, Harza Engineering, Consortium for International Development, and RET Corporation. PWR contract records and structures were inspected in the following irrigation directorates: East Minya, West Minya, Noubaria, Ismailia, Fayoum, Gharbiya, West Dakahlia and at PWR offices in Cairo. Reviews of internal controls and compliance were limited to the issues raised in this report.

The audit was made during the period August 1988 through March 1989. It covered the period from project inception in September 1981 to March 1989 and selectively tested the \$78 million expended through 1988. The audit was made in accordance with generally accepted government auditing standards.

Egypt



General location of project sites mentioned on preceding page.

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PART II - RESULTS OF AUDIT

This audit found that: (1) with the exception of Structure Replacement, most components of the Irrigation Management Systems Project were encountering delays and difficulties in achieving the timely accomplishment of goals and objectives; (2) resources spent on training and equipment were not always optimized due to staff turnover or poor utilization; (3) costs claimed by the Government of Egypt were supported but overstated because they were not reduced to recognize penalties assessed against contractors, and (4) project agreement requirements were being complied with although certain contracts were awarded to public sector companies without prior USAID approval.

The audit concluded that management action was needed in each of the five components reviewed in order to:

- extend the Structure Replacement (SR) program or deobligate program funds;
- enhance efficiency by reducing SR contractor delays;
- develop criteria for prioritizing structures to be replaced;
- advise the Ministry of Public Works and Water Resources (PWR) of A.I.D. policy on funding new versus replacement SR construction;
- achieve compliance with prohibitions against contract awards to public sector companies;
- avoid the premature purchase and installation of electrical equipment where no electricity is available;
- improve the delivery and installation of large water regulator gates;
- achieve use of an appropriate study and work prioritization methodology under the Regional Irrigation Improvement Project (RIIP) component;

- develop a cost recovery policy under RIIP;
- establish RIIP farmer/user organizations and obtain their views and inputs;
- develop those organizations needed to assist RIIP in information gathering and project maintenance;
- determine whether support for the project preparation department continued to be warranted given its difficulties in recruiting staff with appropriate skills, retaining them, and being officially assigned tasks;
- address findings identified in the Mission's evaluation of the preventive maintenance pilot project;
- continue to correct Main Systems Management problems identified in RIG/A/C Report No. 6-263-88-09-N, dated July 1988; and
- address equipment utilization problems.

The report recommends actions related to the above needs.

A. Findings and Recommendations

1. The Structure Replacement Program Should Either Be Extended under Clearer Guidelines, or Excess Funds Should Be Reprogrammed or Deobligated

The Structure Replacement Program (SR) had constructed more than its target of 9,500 structures at less than anticipated costs, and extension of the program was therefore warranted. However, operational efficiency could have been greater except for:

- extensive delays and contractor-related problems,
- construction of inappropriate structures,
- contract awards to public sector firms,
- charges to A.I.D. beyond its 80 percent share of costs, and
- unavailability of electric power in certain locations and delayed delivery of steel gates.

These problems came about because contractors repeatedly failed to meet contract completion dates; overall program criteria had not been established; PWR had not disseminated a prohibition against making awards to public sector firms; GOE billings to A.I.D. did not take penalties assessed against contractors into account; and PWR and A.I.D. program oversight in certain areas had been inadequate. Better SR guidelines and construction criteria are needed along with greater attention to compliance issues. The SR component will either have to be extended beyond its PACD, or funds should be reprogrammed or deobligated.

Recommendation No. 1

With regard to the Structure Replacement Program we recommend that USAID/Egypt, in consultation with appropriate GOE officials:

- (a) extend the SR project completion date or, alternatively, reprogram/deobligate approximately \$10 million earmarked for SR;
- (b) assist PWR to develop clear guidelines for prioritizing what needs to be replaced and built;

(c) formally notify PWWR that:

- (1) its annual replacement plan submitted to A.I.D. should contain individual justifications for building SR structures estimated to exceed an A.I.D.-designated dollar amount;
- (2) A.I.D.'s contribution to the SR program is to fund replacement structures only, unless otherwise specifically approved by USAID/Egypt on a case-by-case basis; Arabic language guidance to this effect should be issued to all PWWR directorates;
- (3) it has failed to comply with the prohibitions in PIL #82 against awarding contracts to public sector companies, claims for costs under such contracts will not be paid, and those already paid without appropriate justification will be offset against future billings;
- (4) it should consider establishing increased performance bonds and guidelines for termination of work under A.I.D.-funded contracts when contractors fall seriously in arrears in meeting completion dates;
- (5) larger structures costing in excess of an A.I.D.-designated amount should be identified by an appropriate plaque as A.I.D. financed improvements;
- (6) efforts should be made to improve the timeliness of head regulator gate installation.

(d) obtain from PWWR evidence that it has issued:

- (1) a notice to its Directorates regarding the PIL #82 prohibition on awards to public sector companies;
- (2) certifications that claimed costs involve no payments to public sector companies; and
- (3) a report on the prospects for electrical power being provided to motorized regulators planned to be built, or built but not yet supplied with power, in the Minya Governorate;

- (e) recover from PWR all amounts reimbursed for structure replacement construction in excess of 80 percent of net costs to the GOE, offset the same against future billings, verify whether this situation obtains under other projects in its portfolio, and take appropriate action or show why no corrective action is required; and
- (f) review when power is to be available for mechanical structures being furnished electric motors, and assess whether the procurement of electric motors should be deferred or the motors stockpiled until power is available.

Discussion

The SR program had not only achieved its overall objectives but did so at less than planned costs, primarily because of the devaluation of the Egyptian pound in relation to the U.S. dollar in the past few years. However, management attention to five problems can further increase the efficiency and effectiveness of the program. First, the program encountered numerous delays in contractor performance. Second, some structures appeared questionable because they were not replacements and/or had been erected in low traffic areas. Third, public sector companies were awarded construction contracts although a project implementation letter prohibited such awards. Fourth, A.I.D. paid for more SR costs than it agreed to. Fifth, steel gates and electricity required to operate irrigation regulators had not always been provided in a timely manner.

The project paper, the project agreement, or a project implementation letter established a replacement goal of 9500 structures within a certain time frame; stipulated that structures would be selected for replacement based on mutually agreed upon criteria; prohibited awards to public sector companies; made A.I.D. responsible for paying 80 percent of costs; and implied that structures built to regulate water levels in the canals would be made operational upon completion through the timely provision of power and gates.

The five problems developed because:

- PWWR contracting practices and procedures were inadequate, penalties assessed did not prevent contractor delays, and contractors behind schedule on previous contracts were awarded more work because they were the low bidders regardless of their capability to perform.
- PWWR and USAID had not developed adequate prioritization criteria and certain directorates did not limit construction to replacements.
- PWWR had not advised its directorates of program prohibitions against awards to public sector companies.
- Contract penalties were traditionally treated as revenues rather than cost reductions.
- Delays in the delivery of electrical power and steel gates did not appear to be a management concern.

These problems and the devaluation of the Egyptian pound resulted in the following. First, the program had sufficient funds to build many more structures than planned, but extension of the agreement will be required to use these funds. Second, program managers lost control over construction schedules and certain inappropriate structures, such as large bridges in metropolitan areas, were built. Third, if penalties collected from SR contractors approached three percent of contract costs, as they well might have, then A.I.D. would have reimbursed the PWWR about \$1.4 million more than was required. Fourth, nine contracts valued at about \$410,946 were inappropriately awarded to public sector companies. Fifth, electrical motors were being procured and installed on certain regulators although no power was available at the regulator sites; and still other regulators remained inoperable awaiting the delivery and installation of steel gates. Finally, we estimate that new bridge construction may comprise 5 to 10 percent of reported SR costs. Avoidance of unapproved new bridge construction on the remaining \$18 million in unexpended SR funds could, therefore, save approximately one million dollars. A more detailed discussion of each of these five problems, including photographs, is contained in Exhibits 1 through 4.

Management Comments

USAID/Egypt generally agreed with and has taken significant corrective actions on the recommendations, with certain important exceptions. (See Appendix 1 for the complete text of USAID/Egypt's response.)

- Management argued that criteria for prioritizing structure replacement work existed since 1982, although further elaboration was admittedly required.
- Management agreed that the GOE had made contract awards to public sector firms after such awards were prohibited, and without A.I.D.'s explicit prior approval. However, Management stated that it had subsequently decided that, had the Government requested approval, it would have approved them. The Mission, therefore, gave blanket, retroactive approval for the public sector awards.
- Finally, drawing an analogy between structure replacement construction contracts and "fixed amount reimbursement" (FAR) arrangements occasionally entered into by A.I.D. directly, the Mission took the view that penalties offset against final payments to local contractors constitute "liquidated damages." Furthermore, A.I.D. should not benefit from the assessment of such damages by a reduction of its contribution to 80 percent of the GOE's actual net expenditures.

OIG Response

RIG/A/C is gratified at the many extensive and timely actions taken by the USAID/Egypt in response to our audit findings. Nevertheless, we are unable to accept the Mission's arguments on the foregoing three points.

As regards work prioritization, the criteria cited by the Mission as evidence that such criteria had existed for years merely states: "Priority will be given to structures giving a better water control, e.g., the first priority will be to replace intake regulators, head regulators, weirs, tail escapes, syphons, aqueducts, and spillways" In our view, these are merely illustrative examples of what structures could be replaced under the program. We would note that bridges were not mentioned; yet, as our audit revealed, bridges were given high construction priority in certain Governorates. Moreover, a recent letter by the

Mission to the GOE emphasizing that A.I.D. must grant prior approval for the building of new structures is not only seen as welcome, but reinforces our view that adequate criteria did not exist prior to the audit.

As to the matter of public sector contract awards, we find it difficult to accept a blanket waiver of an absolute contractual prohibition after the fact. Extenuating circumstances in certain cases (legitimate sole source availability, for example) may have existed, but to forgive this breach in GOE administrative controls retroactively and "across the board" strikes us as bad policy and practice for A.I.D. to pursue in its dealings with the GOE, or any host country, for that matter.

With respect to the penalty offset issue, we are also unable to accept the Mission's analogy likening these individually designed and competitively let construction contracts to a FAR arrangement under which A.I.D. reviews and gives prior approval to a specific construction design and cost estimate, which we did not find here. Furthermore, our reading of the pertinent documents indicates that A.I.D. had agreed to pay 80 percent of "expenditures," i.e., actual costs to the GOE. Moreover, while the GOE may have sustained recoverable losses resulting from contractors' tardiness or non-performance, in great measure such losses are viewed as the GOE's own doing because it invariably awards contracts to the lowest bidder regardless of that bidder's past record or current capability to perform, as noted in this report.

Thus, eleven of the foregoing 13 subrecommendations are closed upon report issuance. Recommendation Nos. 1(c)(3) and 1(e) are open and unresolved.

2. The Regional Irrigation Improvement Project (RIIP) Will Require Close Monitoring

RIIP was designed to develop and implement integrated approaches to problems affecting a particular segment ("command") of the irrigation system. It is about to be expanded notwithstanding the fact that pilot efforts on the Serry Canal (Minya): had not developed a systematic methodology for prioritizing regional problems; had not organized effective water user organizations or an irrigation advisory service; and had not finalized a cost recovery policy. The development of a systematic methodology for evaluating problems, organizing effective water user organizations and an irrigation advisory service, and establishing a cost recovery policy are key IMS project objectives. They were not accomplished because: PWWR and an A.I.D.-funded technical assistance contractor disagreed on methodology; PWWR unilaterally changed its decisions as to where and when RIIP would focus its efforts; the project had not been effective in developing water user organizations or an irrigation advisory service, and there was disagreement within PWWR as to whether full cost recovery for improvements made on private lands was practical, or how it was to be accomplished. As a result, the methodology PWWR used to establish priorities for the Serry Canal was not appropriate for nationwide program implementation, in our view.

USAID/Egypt needs to evaluate this expanding program and install certain controls to ensure that: A.I.D. financed RIIP construction is preceded by an appropriate study, water users' inputs are adequately considered in addressing problems, water user or farmer organizations that would maintain on-farm improvements are in place, and a realistic and viable cost recovery policy is developed.

Recommendation No. 2

We recommend that USAID/Egypt, in consultation with appropriate GOE officials:

- (a) have a periodic evaluation made of the methodologies used by RIIP directorates to prioritize which canals or segments thereof and their problems receive priority study and funding;

(b) request PWR to provide an annual report on:

- (1) the status of RIIP data collection activities and the performance of organizations hired to collect data,
- (2) the development and effectiveness of water user groups in maintaining completed project improvements,
- (3) A.I.D. financed SR program construction to be managed by RIIP without a prior feasibility study, and
- (4) vehicle and equipment utilization; and

(c) monitor the Ministry's contract awards related to mesqa* improvements in the Herz-Numaniya Unit Command area in order to avoid a commitment to projects before details on the future maintenance of the projects are agreed upon.

Recommendation No. 3

We recommend that the project officer and PWR focus priority attention on cost recovery aspects under the RIIP component in order to establish a clear policy as to what costs will be recoverable, and whether total cost recovery is practical at this time.

Discussion

The Regional Irrigation Improvement Project's objectives were to establish and field test an organizational structure within PWR capable of providing technical assistance, construction oversight, economic analysis, on-farm improvement assistance, and user involvement in order to

* A system of small ditches on private lands that delivers water from canals to the farmers' fields.

remodel selected irrigation canal commands.* A.I.D. support consisted primarily of a contract with the Consortium for International Development (CID) to provide technical assistance, equipment, and training under RIIP.

Efforts to implement RIIP had been hampered because:

- (1) PWR decided to fund certain RIIP initiatives without adequate analysis;
- (2) disagreement arose between PWR and CID officials as to how problems should be prioritized and canal subcommands selected for review;
- (3) efforts at organizing water user organizations to facilitate RIIP had progressed more slowly than expected; and
- (4) an irrigation advisory service being developed to support RIIP remained untested.

As a result, A.I.D. and PWR need to evaluate various aspects of this component and adopt certain policies and practices as the project is expanded to other canal commands. Specific actions needed include:

- A. Monitoring and evaluation of the methodologies used to identify, prioritize and analyze irrigation problems.
- B. Reviewing the capabilities of organizations assigned responsibility for gathering and evaluating canal command information.
- C. Finalizing a cost-recovery policy and developing effective water-user associations to maintain on-farm improvements.
- D. Identifying all A.I.D. financed SR construction (on public and private lands) managed by the RIIP organization.

A discussion of each action needed is to be found in report Exhibit 5.

* The Nile River irrigation canal system has been geographically segmented into 50 canal commands.

Management Comments

The Mission was in general agreement with the findings and indicated corrective action on the recommendations had been taken.

OIG Response

The Mission adopted corrective actions that sometimes differed from what RIG/A/C recommended. Upon further discussion, USAID/Egypt's proposed actions were accepted and the above recommendations, except No. 3, are considered closed. While the Mission has indicated priority attention will be focused on cost recovery, we prefer to hold this recommendation open until a cost recovery policy is actually formulated and approved by A.I.D. The recommendation is therefore considered resolved but open upon report issuance.

3. The Project Preparation Department Had Not Evolved As Planned

A.I.D. support to PWWR's Project Preparation Department (PPD) had not achieved its objectives. The project was to develop a self-sufficient unit capable of producing feasibility studies and project proposals for international financing. PPD had developed some products but in the face of personnel turnover and an inability to attract staff with appropriate experience and adequate English language skills, had not operated nearly as planned. As a result, its future role needed to be reevaluated. In consequence, the effectiveness of \$6.8 million in A.I.D. expenditures to date had been severely limited.

Recommendation No. 4

We recommend that USAID/Egypt, in consultation with cognizant GOE officials, assess whether PPD:

- (a) can be expected to become viable given its inability to attract and retain staff with appropriate experience and language skills;
- (b) should be directed primarily at RIIP studies; and
- (c) will be able to encourage staff to perform necessary travel under current GOE per diem schedules.

Discussion

A.I.D. support for the Project Preparation Department Unit had not achieved its objective of developing a self-sufficient unit capable of producing feasibility studies and project proposals for international financing without outside assistance. The project was to assist PWWR to develop an organization capable of performing feasibility studies and preparing project proposals for international financing. The IMS project had funded technical assistance, training, and equipment to train and develop the PPD staff's capability.

PPD had not evolved as intended because it:

- never attained the number of employees originally identified as needed, and had experienced significant staff turnover;
- was unable to attract enough staff with strong English language skills and prior experience in project evaluation and design;
- initially had difficulties in obtaining official assignments;
- had not been assigned an adequate workload, although it may now direct its efforts to supporting RIIP; and
- has staff who do not desire to be assigned to projects that require extended overnight travel mainly because of low GOE per diem rates.

As a result, existing PPD staff include new employees who have had limited exposure to project planning and design, and limited opportunities to receive on-the-job training. This staff is not ready to conduct and prepare feasibility studies for international funding without external assistance. Much of the experience and training provided had not resulted in an improved unit because persons previously trained no longer work there. Finally, the unit's workload and capabilities need to be reassessed.

In 1983, Harza Engineering, the contractor assisting PPD, reported that the unit should have a staff of 10 engineers, 10 agriculturalists, 5 economists, and 3 systems analysts (28). The unit, however, had been assigned an average staffing level of only 17 comprising 10 engineers, 2 economists, and 5 agriculturalists. The actual number of staff working at any one time had been even less, as some staff members had been on extended leaves-of-absence. For example, on December 31, 1988 the staff level was 16, but of that number three were on leaves-of-absence.

The three absent staff had been approved one-year leaves-of-absence, but these can be extended. Two of the staff were on leave for maternity reasons. (It is not uncommon for GOE employees to take up to four consecutive years of maternity leave.) The third staff member had been granted leave to accept an assignment in Saudi Arabia. This approved leave can also be extended after one year.

A.I.D. support for the PPD included technical assistance, training and equipment. PPD had only partially benefited from the training because approximately two-thirds of the staff trained no longer worked there.

Harza Engineering identified 26 PPD staff who had received training courses financed by A.I.D. Ten of these were currently assigned to PPD, but two were on maternity leave and a third was given leave to work in Saudi Arabia. 16 were no longer working in the unit.

In addition to the turnover problem, we were advised that the unit had difficulty obtaining staff with a good command of English. This was particularly true for economists and agriculturalists. As a result, the capability of the staff to develop reports in English that would be adequate to attract international financing had not yet been developed. Furthermore, we were advised that some of the staff hired as economists were in fact accountants.

PPD and Harza representatives also advised us that it was difficult to attract experienced staff to the unit. As a result, new hires were often recent college graduates. For example, in January 1989, three recent graduates in economics were added to the staff.

PPD's workload is assigned by PWR. Unless work is officially assigned by PWR, PPD would have difficulty gaining access to agency records and data. Originally, obtaining such assignments was a problem, but recently the unit has had more work assigned to it. However, PPD's role and future direction appear uncertain.

The unit is currently providing assistance to the RIIP component in Fayoum. The Fayoum study represented the primary work of the unit in 1988. Additional work had not been assigned by PWR and there was a need to clarify whether PPD's role is to be primarily in support of the RIIP component. The PPD Director advised us that he would be seeking an assignment of official work from the Ministry.

In connection with their work on the RIIP project in Fayoum PPD staff were required to make trips to that area, some 65 miles southwest of Cairo. We were advised that certain staff members are reluctant to make extended overnight trips and that the per diem rate of only 90 piasters (about 35 cents at the current exchange rate) did not provide an incentive for overnight trips.

The project officer was planning to have an assessment made of PPD during the course of this audit. We recommended that this evaluation include the major areas of concern noted above.

Management Comments

The Mission has taken appropriate action on all recommendations.

OIG Response

The recommendations are closed upon report issuance.

4. A.I.D. Financed Equipment Had Not Always Been Put to Use

Expensive A.I.D. financed equipment was found unused or underutilized in certain instances. Equipment needs identified with contractor assistance were approved by PWR and USAID/Egypt. The equipment, however, occasionally went unused or underutilized because the assumptions underlying its purchase proved to be incorrect or the trained staff and facilities needed to utilize the equipment were not provided as planned. As a result, purchased equipment was often not producing the benefits intended.

Recommendation No. 5

We recommend that USAID/Egypt, in consultation with cognizant GOE officials:

- (a) advise CID to coordinate with the Water Research Center on actions needed to derive maximum benefits from \$429,000 in project equipment included in this review;
- (b) require CID, in its procurement plans:
 - to identify WRC staffing capabilities or training needs as well as expected target usage dates related to future requests from WRC for technical equipment;
 - to begin to operate or test technical equipment within the warranty period; and
- (c) approve procurement of additional soil test equipment, motorcycles, boats, flow meters, expensive survey equipment or trailers for the RIIP project only after evaluating the utilization of such equipment already provided to the Minya pilot project in order to verify that it is being adequately used and that appropriate storage space for the equipment has been provided.

Discussion

A.I.D. financed equipment was occasionally found to be unused or underutilized. PWR and USAID/Egypt had used contractor technical assistance to identify equipment needs. The equipment, however, remained unused or underused because: the assumptions made with regard to the numbers of trained staff that would be available to operate equipment were incorrect, projects did not progress as rapidly as

expected, approval to start a study for which equipment had been procured had not been given six months after the equipment arrived, facilities and power required to operate equipment were not provided as expected, GOE employees were reluctant to use certain expensive items, and all the components required to operate certain equipment were not delivered.

Detailed descriptions and photos of some of the equipment lying idle are contained in Exhibit 6. Briefly, the problems observed with regard to equipment were the following.

Equipment purchased for a RIIP project in Minya remained unused because laboratory space had not been provided, the project's progress had not yet required extensive use of expensive survey equipment, and engineers preferred to use trucks rather than A.I.D.-furnished motorcycles.

Equipment furnished to the Water Research Center was not used because staff did not know how to set up or operate the equipment, navigational equipment went unused because not all components had been delivered, and Ministry instructions to start studies relying upon use of the equipment had not been received.

The preventive maintenance component developed equipment lists based on a pilot organizational structure for the Gharbiya Directorate that included district workshops. However, evaluation of the pilot structure found that the need for workshops in each district should be reassessed and that the staff to operate selected equipment were not available in the numbers needed. Finally, an electrical power source had not yet been connected to some workshops, although efforts were being made to address this.

The structure replacement program constructed certain head regulators to be operated by electrical motors. The motors were provided but electrical power was not available (See Exhibit 4, Photos 1 and 2). In other cases steel gates required for the operation of the regulators had not been furnished. Improved coordination of construction and gate procurements was needed (See Photos 3 and 4 Exhibit 4).

The main systems management component had procured \$2.4 million in equipment to operate a data collection system that included 255 data collection platforms. However, a July 1988 audit report disclosed the system was not installed. USAID/Egypt is financing a new contract to attempt to redesign and make operational 65 of the 255 data collection platforms.

Management Comments

The Mission agreed with the findings and took the recommended actions.

OIG Response

The above recommendations are closed upon report issuance.

B. Compliance and Internal Controls

Compliance

The audit reviewed PWWR compliance with prohibitions against awarding SR contracts to public sector companies. PWWR had awarded contracts to public sector companies in violation of the prohibition against such awards (See Exhibit 1, page 5). Plaques identifying A.I.D.'s participation in financing project construction works were missing in certain locations. (See following page.) No other instances of non-compliance came to our attention.

Internal Controls

The audit tested the accounting records supporting PWWR claims for costs incurred on the Structure Replacement and Preventive Maintenance components. The tests indicated that the SR accounting treated penalties assessed against contractors for late performance as revenues and not reductions in contract costs. However, USAID/Egypt's Legal Adviser has opined that these penalties represent "liquidated damages" to which the GOE is entitled but from which A.I.D. should not benefit.

We performed limited tests of project equipment to verify its existence and use. The equipment was found to exist but, as discussed in the report, its utilization had been delayed and was uncertain in some cases.

The review found that because GOE program managers are reluctant to make contract awards on any basis but cost, and non-performance penalties were inadequate, PWWR was unable to avoid contractor delays. Additionally, the audit reviewed program controls over what was being built, when, and where. Weaknesses in these controls are discussed in the report findings. No other internal control issues came to our attention.

C. Other Pertinent Matters

A.I.D. plaques not always affixed.

We found that large irrigation structures replaced under the SR program sometimes did not have a plaque affixed that indicated A.I.D. had financed 80 percent of the structure. Some plaques were seen, however, that identified the structures as GOE-financed projects (See Photo 7, Exhibit 2). It would seem beneficial to U.S. Government interests to have a plaque attached to larger SR or RIIP structures constructed in populated or heavy traffic areas informing users and passersby of A.I.D.'s assistance.

Delays in the Main Systems Management (MSM) and Preventive Maintenance (PM) components.

Both the MSM and PM components had encountered problems but ongoing actions by the USAID to address the problems obviated the need for recommendations in this report. A brief description of the status of each component follows.

The primary activity of the Main Systems Management component was a contract with RET Corporation to assemble and install a Nile River Irrigation Data Collection System. The contract, valued at \$3.4 million, was to finance the installation of 255 data collection platforms, 18 receiving stations, and 2 master receiving computer stations. At the end of the contract (in June 1987), the contractor had installed only 15 platforms, 2 receiving stations, and 1 master receiving computer station. Furthermore, the equipment was of non-U.S. origin and, once installed, had not passed required acceptance tests. As a result, during our audit, PWWR was seeking another contractor to provide assistance in redesigning and utilizing, to the extent possible, the investment made in equipment. No recommendation is therefore made. These problems are discussed in some detail in RIG/A/Cairo Audit Report No. 6-263-88-09-N, as a result of which a Bill of Collection for over \$660,000 for use of ineligible equipment and other reasons was issued to the RET Corporation in December 1988.

USAID initiated a Preventive Maintenance Project (PM) in the Gharbiya Irrigation Directorate and furnished the Directorate with technical assistance, commodities, and funding to operate the program. The program was expected to be replicated in five other directorates. A total of \$19.6 million had been budgeted for the program as of January 31, 1989 but only \$1.7 million had been expended.

USAID encountered problems and delays in implementing the program in Gharbiya. However, a USAID assessment of the project was initiated during our audit and the resulting report fairly described those problems. The evaluation will be provided to PWR and to a contractor hired to assist in the expansion of the program. These parties will be advised to review the evaluation and avoid repetition of the problems. Therefore, no recommendation is made.

Because of the evaluation, we limited our review to an evaluation of PM costs reimbursed by USAID. As of September 1988, the Directorate had submitted cost claims of LE372,189 (about \$161,821). We reviewed LE249,132 of these costs. We found them to be adequately supported by invoices and check payments, and we were able to physically locate sampled non-expendable items.

**AUDIT OF USAID/EGYPT'S
IRRIGATION MANAGEMENT SYSTEMS
PROJECT NO. 263-0132**

PART III - EXHIBITS AND APPENDICES

Five Structure Replacement (SR) Program Problems
Requiring Management Attention

Five SR problems requiring continued USAID and PWR management attention are described in this exhibit. They include construction delay problems, criteria for replacing structures, contracts awarded public sector companies, excess A.I.D. reimbursements, and the untimely delivery of power and gates.

Problem 1 - Construction Delays

The SR program was budgeted \$75 million to construct 9,500 irrigation structures by July 1989. The SR program successfully completed 9,500 structures but was unlikely to be able to use approximately \$10 million already budgeted unless it was extended beyond July 1989. Devaluation of the Egyptian currency required fewer dollars to fund the local construction. Although successfully achieving its goals, the program could have been even more effective had certain delays been avoided. However, PWR's contracting practices would not permit it to ensure timely contractor performance, to quickly terminate contracts for non-performance, or to avoid awarding contracts to contractors already behind schedule on prior awards.

The SR program resulted in modest increases in the value of construction being awarded annually by PWR's regional directorates, although the program provided the funds to greatly increase construction. SR engineers advised us that they were reluctant to greatly increase construction because they and local contractors had limited capability to manage increased construction workloads. PWR officials believed, and it appears they were correct, that contractors would bid and be awarded contracts but then actual construction would be delayed because the contractors lacked the resources to perform the work in a timely manner. PWR officials also noted that construction was delayed because it had to be restricted to times when a canal was closed or to periods when crops were not being irrigated. Thus, although the program made funding available for substantial increases in construction, the directorates tended to award a conservative amount of construction.

Notwithstanding the conservative value of construction awards, the program encountered delays because contractors often failed to complete their projects on schedule, and the penalties assessed for non-compliance were inadequate disincentives to curtail slippages. We reviewed the status of SR contracts in 5 directorates. As of September 30, 1988 those directorates had awarded 112 contracts for structure replacements. Although work on 95 of the 112 contracts was expected to be completed by or before September 30, 1988, we found that the work had been completed on only 52 of the 95 contracts. The remaining 43 contracts involved 875 structures of which 145 were complete, 389 incomplete, and 341 (39 percent) not yet started.

Article 26 of Government of Egypt Law 91 (1983) states that where a contractor has exceeded the scheduled completion date, the concerned authority can charge the contractor a penalty not to exceed 15 percent. Additionally, contractors are required to post 5 percent performance bonds when awarded a contract. Neither the penalty provisions nor the performance bond requirements were effective in preventing contractor delays.

Delays also occurred because contractors were awarded new contracts on the basis of being the low bidder even though they may have failed to meet completion dates on prior contracts. We noted instances in which PWR directorates made awards to contractors who were behind schedule in completing prior contract work. Directorate staff advised us that they were reluctant to withhold awarding a new contract to a contractor who was low bidder even if he was behind schedule on other work. The directorate staff stated that a decision not to award a contract to the low bidder would raise allegations of collusion or favoritism. Therefore, they preferred to award the work to the low bidder and worry later about construction progress.

We believe that A.I.D. and the Government of Egypt should consider increasing the performance bond requirements under A.I.D.-funded contracts and rebidding contracts when excessive delays are encountered. The Government of Egypt, with A.I.D.'s advice and encouragement, needs to evaluate alternative ways of strengthening its contracting process. Additionally, the Ministry should consider making a general appraisal of contractor delays and advising the directorates to avoid new awards to contractors behind schedule.

Problem 2 - Lack of Criteria and Control Over What was Built and When

SR construction was proceeding in the absence of any prioritization criteria. The project agreement stated that PWR was to determine which structures were in need of priority replacement based on PWR and USAID jointly-agreed-to criteria. Construction, however, did not proceed under any particular prioritization criteria because no such criteria were developed to determine which structures would be selected for replacement. Furthermore, because of the weaknesses discussed earlier in PWR contracting practices, actual construction progress bore little relationship to the chronology of contract awards. As a result, bridges that were additional rather than replacements were built; the rationale underlying the assignment of priority to certain structures appeared questionable; and actual construction was not occurring in any relationship to the timing of contract awards.

PWR was responsible for identifying what structures needed replacement, prioritizing those needs, and designing appropriate replacements. The grant agreement stipulated that PWR was to survey requirements annually in accordance with criteria agreed upon by A.I.D. to ensure that work was being undertaken to meet the highest priority needs for improving water control, consistent with reasonable cost criteria. A.I.D. had provided little oversight to this process.

We found that the PWR directorates proposed irrigation structures for replacement in five-year plans but this provided little background on how or why specific structures were selected for improvement. Additionally, we were unable to identify any overall, mutually-agreed-to criteria for developing the five-year plans. Furthermore, we found that some of the directorate staffs did not consider the project to be limited to replacement structures. They felt that they had the authority to build new bridges that were not replacements and to build new bridges when "the people" or petitioned for such bridges -- in effect, "pork barrel" projects.

EXHIBIT 1

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As a result, our sampling of structures built disclosed bridges that were new, i.e., additional structures. We furnished the Mission with the locations of these observed examples. Photos of new bridges being built in metropolitan areas and other SR structures are shown in Exhibit 2. In other cases, bridges were found to be in such remote areas and to have such limited traffic as to be of questionable priority need.

We believe that the structure replacement program was, as the name implies, a replacement program designed to replace the backlog of deteriorating structures. The program was to replace the backlog by July 1989, so that PWWR could then concentrate on preventive maintenance rather than the replacement of structures. The preventive maintenance project component was to develop PWWR's capabilities to maintain the structures.

The significant number of structures yet to be replaced to meet the project's goals would not appear to permit new bridge construction. If such construction is to be undertaken, then A.I.D. should be specifically notified and approve new structures on a case-by-case basis. There is also a need to develop basic criteria for selecting which structures should be replaced.

Problem 3 - Prohibited Contracting with Public Sector Companies

PWWR Directorates awarded structure replacement contracts to public sector companies, although Project Implementation Letter (PIL) #82 prohibited such awards. PIL #82 advised PWWR that SR funds would not be available to finance any Public Sector Company contracts entered into after August 24, 1987. PWWR, however, did not disseminate the prohibition to its directorates. As a result, during our visits to regional directorates, we identified 4 contracts valued at LE516,591 (about \$234,814) which were awarded to public sector companies after August 24, 1987. As of June 30, 1988, A.I.D. had reimbursed the Government of Egypt eighty percent of the LE308,701 in costs incurred on these contracts. In dollars, A.I.D.'s costs amount to about \$112,254. Additionally, by reviewing contract reports we identified 5 contracts valued at LE387,490 that also appear to have been awarded to public sector companies. We did not, however, visit those directorates

32'

to verify the award dates. Exhibit 3 lists the nine contracts identified as improperly awarded and their value in Egyptian pounds and dollars.

A.I.D. needs to advise PWR of its violation of PIL #82 prohibitions, to recover payment, and to obtain a certification from PWR with each cost claim that it does not include payments to public sector companies.

Problem 4 - A.I.D. is Paying More Than 80 percent of SR Costs

A.I.D. effectively reimburses PWR for more than 80 percent of structure replacement costs notwithstanding its agreement with the GOE to limit its contributions to that percentage. Financial Procedures for Structure Replacement (PIL #7) state that A.I.D. will reimburse the PWR for 80 percent of its SR "expenditures." A.I.D. has reimbursed PWR for more than 80 percent of SR construction costs because PWR did not adjust those costs to reflect penalties assessed on contractors. We were not able to identify the exact amount of excess payments made, but if penalties assessed amounted to about 3 percent of cost claims, as well they might, A.I.D. would have overpaid the GOE about \$1.4 million on the \$57 million in SR program costs reviewed. If future cost claims are reduced by penalties, the remaining \$18 in USAID funding could fund about \$1.2 million in additional construction.

The accounting treatment of the penalties could be handled in one of two ways. First, they can be treated as a reduction in the cost of the construction contract. In such case, the cost reported to A.I.D. should be reduced by the penalties collected. Second, they can be treated as revenues not related to the construction costs. In this case, the reported contract costs are not reduced by the penalties.

PWR did not offset penalties received from contractors against the costs of the contracts. It reports the cost of the structure as the estimated value of the work completed and due the contractor. Penalties are regarded as revenues rather than a reduction in costs. Therefore, when a contractor has completed a percentage of the work and seeks a progress payment, the Ministry will estimate the value of the work completed and report this to A.I.D. as incurred contract costs.

Our reviews of 22 contracts sampled in four directorates showed that LE102,470 (\$44,550) in penalties had been collected but not offset against claimed costs. A.I.D.'s 80 percent share of these costs would be \$35,640. However, we were unable to identify the total penalties collected on SR contracts. We were advised that PWR did not segregate penalties related to A.I.D.-funded SR contracts at the Ministry level. To identify the exact amount of penalties recovered on such contracts would require reports from each directorate.

We believe that the project agreement and PIL #7 specifying 80 percent reimbursement of SR expenditures should be interpreted to mean actual, net cost to PWR since the payments made to contractors are net of penalties assessed. A.I.D. therefore needs to decide how best to ensure that it is paying only its agreed to portion of IMS construction costs. Potential options include: (1) requiring PWR to report penalties collected on A.I.D.-sponsored work and for A.I.D. to offset those amounts against reimbursements currently due, or the final billing; (2) evaluating historical GOE-wide or Ministry-wide construction penalty experience over the recent past and if the results showed that, on average, the Ministry recovers 3 percent of contract costs in penalties, for example, then A.I.D. could reduce its cofinancing percentage from 80 to 77 percent. Option 2 would avoid the work required to produce special reports on actual penalties collected and also would not inhibit PWR from penalizing contractors.

This finding may also be valid for RIIP-sponsored construction, and USAID/Egypt's payments for construction throughout its project portfolio. Wherever A.I.D. is reimbursing the GOE for actual construction cost, there needs to be a confirmation that the costs paid are net of penalties, in our opinion.

Problem 5 - Timely Delivery of Power and Gates

Our inspection of SR structures disclosed three examples where regulators were constructed and furnished with electrical motors although no source of electricity was available. In three other instances steel gates needed to complete regulators had either not been procured or installed, although the concrete regulators had been completed.

EXHIBIT 1

Page 7 of 7

PWWR is responsible for deciding when and if electrical motors are procured and for procuring steel gates required on large regulators. PWWR officials stated that they were interested in having motors financed under the SR program even if they were not used for years because PWWR's share of costs is only 20 percent under the SR program but would be 100 percent after July 1989, unless the SR program were extended. PWWR officials agreed that steel gate procurements could be better coordinated.

There is a need in large regulator construction to reassess whether electrical motors should be procured for such regulators if power is not to be made available for a year or more. PWWR regulator design incorporates manual and electrical operating controls. The design permits the regulators to be built to accommodate electrical motors but for procurement and installation of the motors to be deferred until power actually becomes available. Photos 1 and 2 in Exhibit 4 show a regulator to be powered by electrical motors that was built more than two years ago but no electricity was available at the site.

We found that steel gates on large regulators were sometimes not contracted for or were not installed although the new regulator structure had been completed up to a year earlier. The gates required to operate large regulators require procurement lead time. Photos 3 and 4 in Exhibit 4 show a steel gate and operating equipment delivered but not installed on a regulator approximately one year after construction. The Mission was furnished the locations where these problems were observed.

25'

Photos of SR Construction



Photo 1. New Bridge Construction.

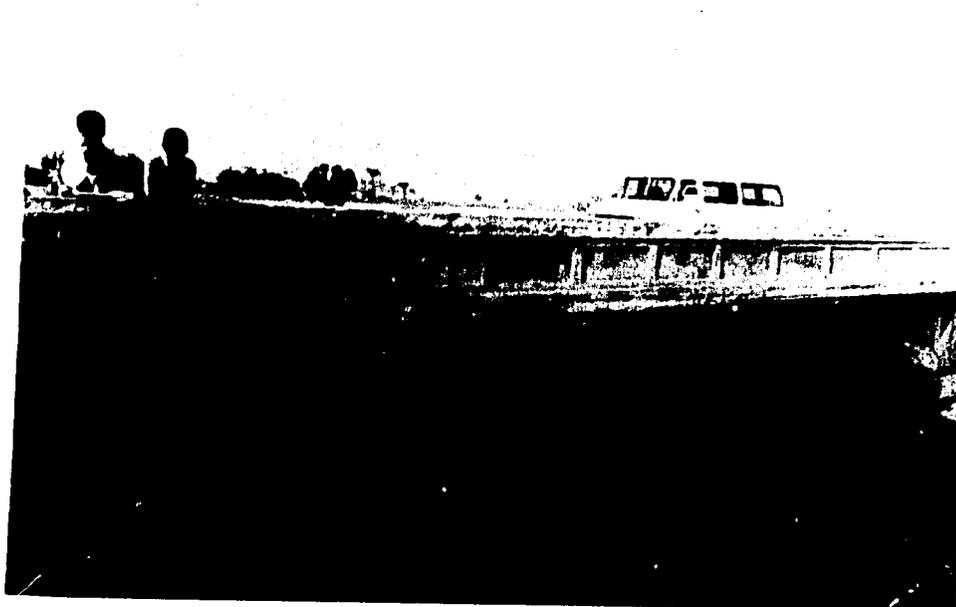


Photo 2. New Bridge Construction.

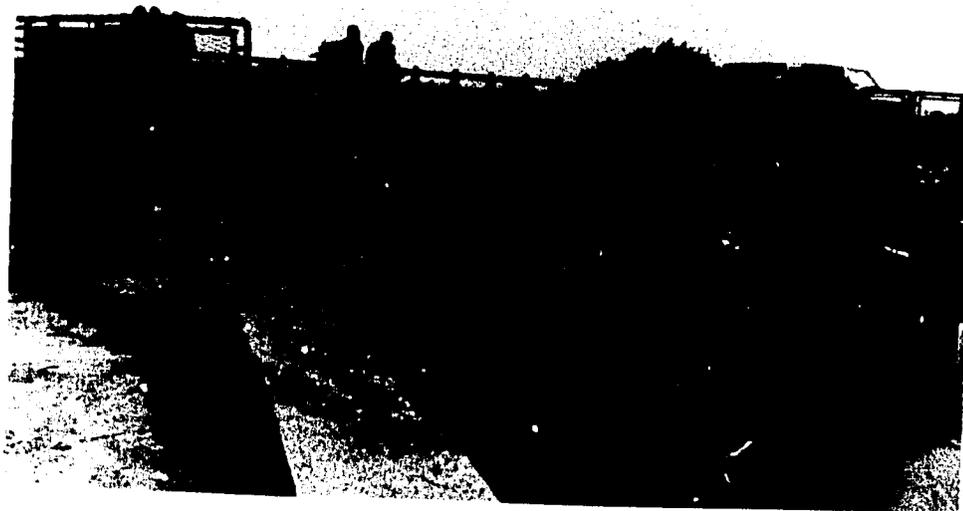


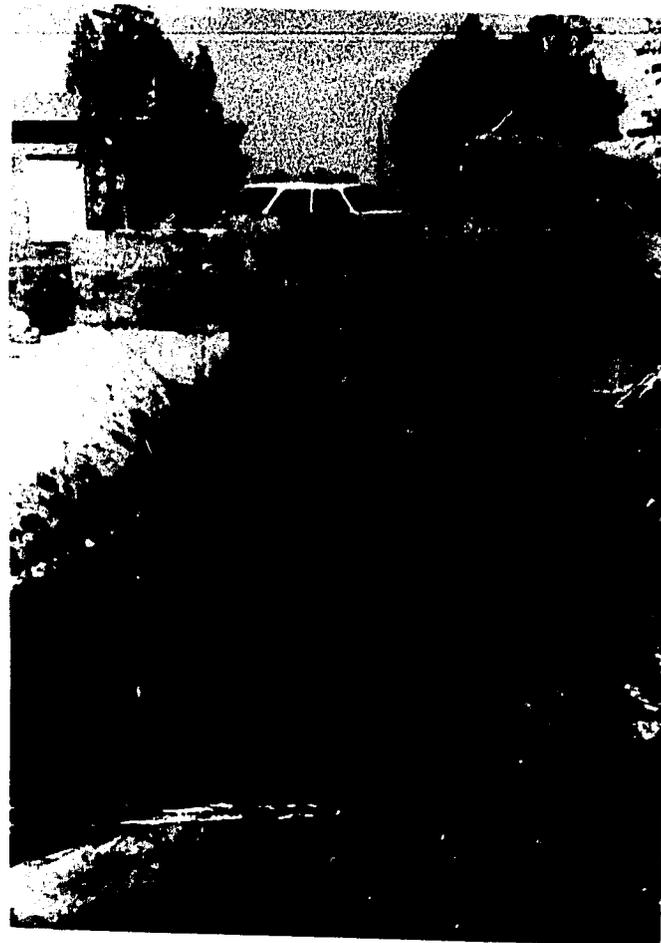
Photo 3. Head Regulator.



Photo 4. Head Regulator.



Photo 5. Regulator



Small Bridge

38'



Photo 6. Example of Regulator To Be Replaced.



Photo 7. Plaque Not Indicating A.I.D. financing.

EXHIBIT 3

Contracts Awarded to Public Sector Companies
after August 24, 1987 in Violation of PIL # 82

<u>Directorate</u>	<u>Contractor</u>	<u>Contract Date</u>	<u>Contract Value (LE)</u>
W. Minya	Irrigation Workshops	12-17-87	10,000
Ismailia	Arab Contracting Co.	5-10-88	91,290
Ismailia	Egyptian Dredging Co.	10-01-88	87,466
Gharbiya	Egyptian Dredging Co.	2-01-88	327,835
Beni Suef <u>1/</u>	High Dam Co.	12-05-87	108,100
Beni Suef <u>1/</u>	Egyptian General Irrigation Co.	12-26-87	92,200
Aswan <u>1/</u>	Upper Egypt Dredging Co.	12-26-87	55,290
Aswan <u>1/</u>	Aswan Mechanical Agriculture Co.	12-26-87	77,000
Aswan <u>1/</u>	Aswan Mechanical Co.	01-05-88	<u>54,900</u>
	Total		LE904,081 <u>1/</u> =====
			(\$410,946) <u>2/</u>

1/ Directorate not visited to verify award date.

2/ Based on rate of LE2.20 per \$1.00.

Photos of Uninstalled or Non-Operating Regulator
Gates and Electrical Equipment

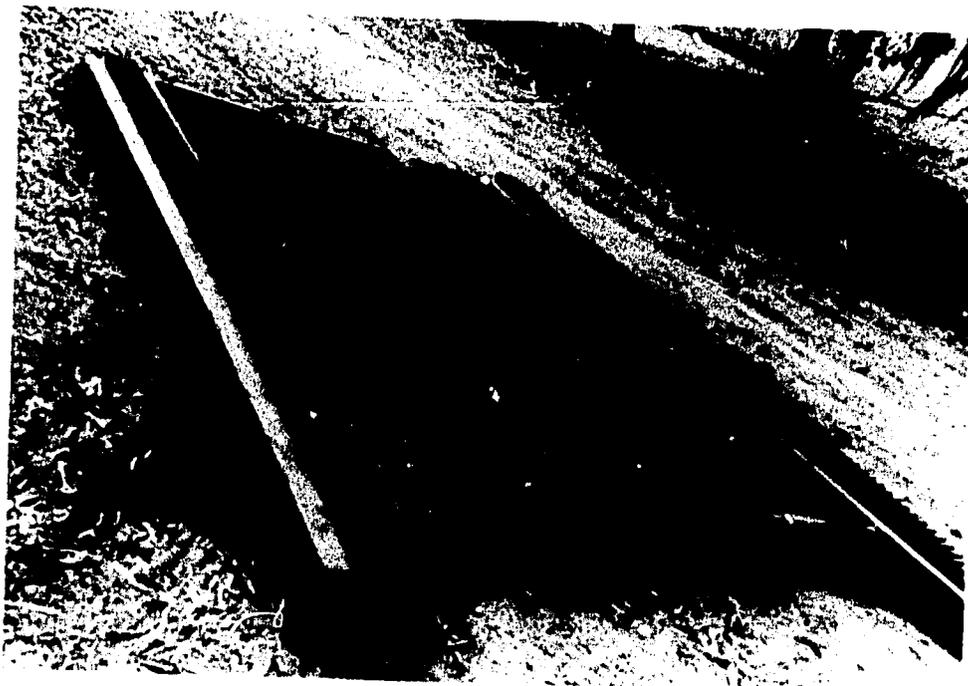


Photo 1. Regulator built more than 2 years ago to accommodate electrical motors but no power available.



Photo 2. Regulator with unmounted electric motors (same regulator as shown in photo 1).

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Photos 3 and 4. Gate and Controls delivered but not installed on a regulator constructed a year earlier.

Four Areas Requiring RIIP Management Attention

This exhibit describes four RIIP areas in need of monitoring, development, and improved reporting. First, the methodology used to decide which canal command problems required RIIP funding needed to be monitored. Second, the timeliness and quality of work received from organizations hired to collect RIIP data would need to be monitored. Third, RIIP needed to establish farmer-user organizations and develop a precise cost-recovery policy. Fourth, USAID needed to obtain an accounting from RIIP as to SR projects it managed. A description of each need follows.

A. Prioritization Methodology Needs to Be Monitored

Representatives of the Consortium for International Development (CID) advised us that decisions regarding RIIP priorities in the Serry Canal command (Minya) were at times based on incomplete or insufficient data and that the systematic approach CID was trying to institutionalize was not implemented. CID representatives worked with RIIP staff in the Serry Canal command in order to prioritize command problems. CID was to assist RIIP to initiate construction through the following approach: problems would be identified; technical and economic feasibility studies would be made of potential solutions; a viable solution would be selected; plans, specifications, and a construction schedule developed; construction initiated; and the improvements monitored.

We were told that to demonstrate progress in terms of construction, PWWR had initiated some activities without adequate data. As examples, we were shown radial gates on the Herz-Numaniya canal that were not working because a miscalculation had resulted in water backing up and closing the gates improperly. The farmers had subsequently placed stones under the gates to prevent them from closing. We were also advised that a PWWR decision to line the Herz-Numaniya canal was not justified. The canal's clay soil is not very permeable and water loss would therefore not justify lining. Furthermore, the lining might cause weed removal and maintenance to be more expensive. A.I.D. did not finance the Herz-Numaniya canal lining but did provide radial gates.

Finally, a CID representative questioned a RIIP decision to target Beni Ibeid versus Beni Mazar as the next priority canal subcommand. CID representatives had identified Beni Mazar as the area in need of priority attention. A problem identification report confirming this selection had been issued in December 1987. On the basis of the December 1987 report, CID staff had been working on gathering survey data and processing a feasibility study for Beni Mazar.

However, we were advised that PWR had decided to proceed with work in Beni Ibeid. Furthermore, the CID representative had encountered difficulties getting the support needed to complete the Beni Mazar feasibility study and, in fact, the CID contract expired before the study was completed.

Because of the above experiences, we believe USAID needs to monitor how RIIP organizations decide which canal subcommands warrant priority attention.

B. Agencies Hired to Collect RIIP Data Need to Be Monitored

The RIIP project will involve substantial staff resources to be directed at information gathering in selected canal commands. This includes problem identification studies, feasibility studies, and design efforts. Currently, a number of different organizations assist the RIIP in data collection efforts. For example, the Minya survey work included assistance from the Rural Development and Agricultural Extension Research Institute and the Agricultural Economics Research Institute. In Fayoum, basic data collection efforts were being made by the Project Development Department of PWR. This unit has historically had difficulties retaining staff and its capabilities to perform extended overnight travel to directorates for information gathering has been limited.

An Irrigation Advisory Service was being developed in Minya to assist RIIP but the effectiveness of this organization was untested. As RIIP is expanded the need for assistance to prepare appropriate data gathering and collection will increase, and the potential for slippage in the timely completion of studies will be great.

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Therefore, RIIP and the A.I.D-funded technical assistance contractor will need to periodically assess the consistency and quality of data collection efforts, and monitor the progress of organizations used to assist in the development of the basic data needed to evaluate canal command problems.

C. Farmer User Organizations and a Cost-Recovery Policy Need to Be Developed

RIIP is at a critical stage as it is about to fund mesqa improvements in the Herz-Numaniya Command area although rules and regulations governing farmer repayment of the improvements have not been established and farmer acceptance of the project is mixed. PWWR responsibilities for maintaining irrigation systems ends at the secondary canals, and does not extend to on-farm mesqas which are on privately held lands and are the responsibility of the landowners or operating farmers. The RIIP had not yet succeeded in developing an effective farmer user organization and repayment policy because the farmers were not in agreement that they want a raised mesqa system and the cost to the farmers had not been decided. The effect is that while the project paper indicated RIIP costs would be recovered, PWWR had not decided what costs would be recovered from farmers, and a farmer organization or other mechanism for recovery of such costs and maintenance of such improvements had not been established.

RIIP has awarded a contract to produce linings for raised mesqas in Herz-Numaniya which will be relatively expensive and there is no assurance the farmers will agree to fund the improvements. The RIIP directorate is undecided as to whether farmers will be able to pay for required pumps much less the cost of piping, water holding tanks, mesqa linings and control valves. Furthermore, we were advised by CID representatives that farmer acceptance of the mesqa project in Minya is mixed and that agreement as to repayment and maintenance have not yet been developed. Therefore, appropriate agreements with farmers and water user organizations for repayment and maintenance have not been reached; RIIP has not yet demonstrated an on-farm improvement project that has been fully supported by end-users, that has recovered project costs successfully, or been maintained by a competent water-user organization; and there is a need to monitor RIIP progress in developing effective water user organizations and a cost recovery policy.

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D. RIIP-Managed SR Construction Needs to Be Identified

RIIP Directorates were managing the construction of irrigation structures not identified as needed in RIIP studies and submitting cost claims for this construction under the SR program. RIIP construction was to be preceded by a feasibility study but such studies were not required for SR construction.

Where the construction has involved a structure eligible for replacement under the SR project, there has been no effect as the structure was eligible for SR funding. However, in certain instances the construction involved new bridges rather than replacement bridges and, therefore, was inappropriate for reimbursement. For example, the RIIP directorate in Minya was managing SR contracts for the construction of 3 new bridges, as discussed earlier in this report.

We found that the RIIP organization was managing 24 structure replacement contracts (valued at \$3 million) in three directorates we visited. Eventually, RIIP staffs should implement construction recommended in RIIP studies. In the interim, however, we are concerned that because RIIP has a broad mandate and can construct items such as access roads, new bridges, and on-farm improvements, A.I.D. needs to ensure that all RIIP construction, when initiated, is supported by specific RIIP studies and that any RIIP-managed SR work be clearly identified as such. Currently, PWR reports on SR construction do not clearly notify USAID/Egypt as to what SR construction is being managed by the RIIP organization.

We believe that USAID/Egypt should obtain such reporting in order to be able to identify which RIIP-managed construction is supported by feasibility studies.

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Examples of Equipment Utilization Problems

This exhibit provides details and photos of Water Research Center and RIIP equipment found to be unused or to have had limited use.

A. A.I.D. Financed Equipment Furnished to the Water Research Center

Under contract 263-0132-C-5060-00 with the Consortium for International Development (CID), A.I.D. financed over \$764,000 in equipment to Water Research Center (WRC) Institutes. We reviewed \$494,000 of this equipment to determine if it was being properly controlled and utilized. Our review, which was limited to high-dollar-value technical items, disclosed that some equipment had not yet been used because:

- staff needed to be trained to use the equipment;
- opportunities to utilize the equipment had not materialized; or
- partial delivery or delays in delivery had occurred.

We found that approximately \$429,000 of the equipment was unused or undelivered, and therefore had not yet produced benefits.

Use of A.I.D. Financed Equipment to WRC Institutes

<u>Name of Institute</u>	<u>Equipment Value</u>	<u>Value Audited</u>	<u>Value Unused</u>	<u>Value Undelivered</u>
High Dam Side Effects Research Institute	\$267,200	\$256,351	\$118,211	\$138,140
Hydraulics and Sediment Institute	13,218	-0-	-0-	-0-
Weed Control and Maintenance of Waterways Institute	159,172	121,845	113,955	-0-
Ground Water Research Institute	10,706	-0-	-0-	-0-

(CONTINUED)

<u>Name of Institute</u>	<u>Equipment Value</u>	<u>Value Audited</u>	<u>Value Unused</u>	<u>Value Undelivered</u>
Soil Mechanics & Foundation Research Institute	\$48,756	\$41,512	\$41,512	-0-
Mechanical and Electrical Institute	4,385	-0-	-0-	-0-
Survey Research Institute	21,700	17,544	-0-	\$17,544
Coastal Protection Research Institute	45,634	-0-	-0-	-0-
Water Distribution and Irrigation Systems Research Institute	136,504	18,772	-0-	-0-
Drainage Research Institute	24,200	5,261	-0-	-0-
Water Resources Development Institute	<u>32,762</u>	<u>32,762</u>	<u>-0-</u>	<u>-0-</u>
	\$764,237 =====	\$494,047 =====	\$273,678 =====	\$155,684 =====

As shown above, approximately \$429,000 of \$494,000 in equipment audited was found unused or undelivered. Since the scientific equipment sampled is designed to be used directly for research, the low usage problem is significant in terms of the yet-to-be-realized research capabilities the project had hoped to develop within WRC Institutes.

A description of the specific equipment involved and the reason for non-use through December 1988 follows.

1. High Dam Side Effects Research Institute

Navigational equipment valued at \$118,211 was unused. The equipment would permit a vessel's location to be determined. It was to be used at the Aswan Dam on a vessel that was also being procured. While the navigational equipment had been received, the vessel, a trailer, and a generator that were also required had not yet been delivered.

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2. Weed Control and Maintenance of Waterways Institute

The Institute had received 4 items valued at \$114,000 in July 1988. The equipment listed below remained unused in December 1988 because trained staff was not available to use the items. (See Photos 1 to 4 attached.)

Equipment Unused at Delta Breeding Station
Weed Control Research Institute

<u>Quantity</u>	<u>Description</u>	<u>\$ Value</u>
1	Atomic Absorption Spectrophotometer	17,683
1	Microprocessor and Central Gas Chromatograph	43,822
1	Infrared Spectrophotometer	15,938
1	Cryostat	<u>36,512</u>
		\$113,955
		=====

3. Soil Mechanics and Foundation Research Institute

Soil monitoring equipment valued at \$41,512 was unused. This equipment had been procured to make stress measurements on the Esna Dam in the Qena Governorate. However, the institute had not received instructions to start the research.

4. Survey Research Institute

Computer software and equipment valued at \$17,544 had been procured for this Institute but it had not yet been delivered.

In discussing the above problems with WRC and CID representatives, we concluded that there had been a need for better communications between WRC and CID on the training and assistance needed to bring certain equipment into operation. Additionally, there was a need to better define the timing of studies that equipment was to be used for. This is especially true of technical equipment which needs to be tested before any warranties expire.

B. A.I.D. Financed Equipment Furnished to RIIP

The Consortium for International Development has procured equipment for the Regional Irrigation Improvement Project component of the Irrigation Management Systems Project. Some of this equipment was furnished to PWR offices in Minya and was inspected during our site visits. We found that utilization of some equipment had been limited and that adequate space for utilization of laboratory equipment and other items had not been provided.

Examples of underutilized equipment included the following:

1. Soil test equipment and compressor in unused condition. (Photo 5)
2. Five motorcycles in unused condition. Odometer readings were .5, 1, 2, 8 and 8 miles. (Photo 6)
3. Computer software in original sealed packaging. (Photo 7)
4. Survey equipment, flow meters, and an electronic survey station that had seen only limited use.

In addition, we observed a trailer that had recently arrived and was intended for use on RIIP. This is one of 12 purchased by CID for the RIIP project at a total cost of \$78,000.

We were advised that the trailers were intended to serve as offices for engineers while they were at a construction site. The trailers, however, resemble campers with a bed, stove, sink, etc. and did not appear to be designed as offices. In fact, they appear to have been bought off a dealer's lot in Colorado, judging by the one we inspected in Minya. In any event, PWR engineers return to their homes at the end of the day and guest quarters are usually available nearby if overnight stays are needed. Future procurements of trailers, if approved, should be designed as office space rather than as campers.

The RIIP Director in Minya advised us that he was aware of the unused equipment. He stated that construction problems had been encountered on a facility where the laboratory and computer equipment were to be housed. With regard to the motorcycles, he indicated that they should eventually be used by the Irrigation Advisory Service staff but that the staff was just being organized. These cycles were originally to be used by engineers to visit sites. However, we were advised that the engineers prefer a chauffeured pick-up truck to transport them to sites.

Slow utilization of RIIP equipment warrants closer Mission review of future procurements as RIIP is expanded.

Photos referred to in this exhibit follow.

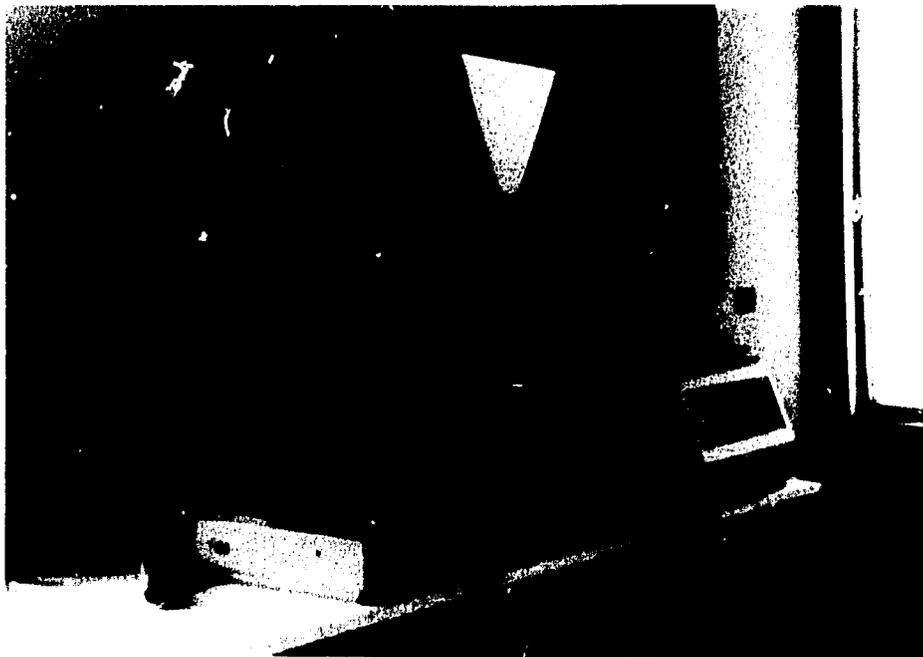


Photo 1. Atomic Absorption Spectrophotometer.

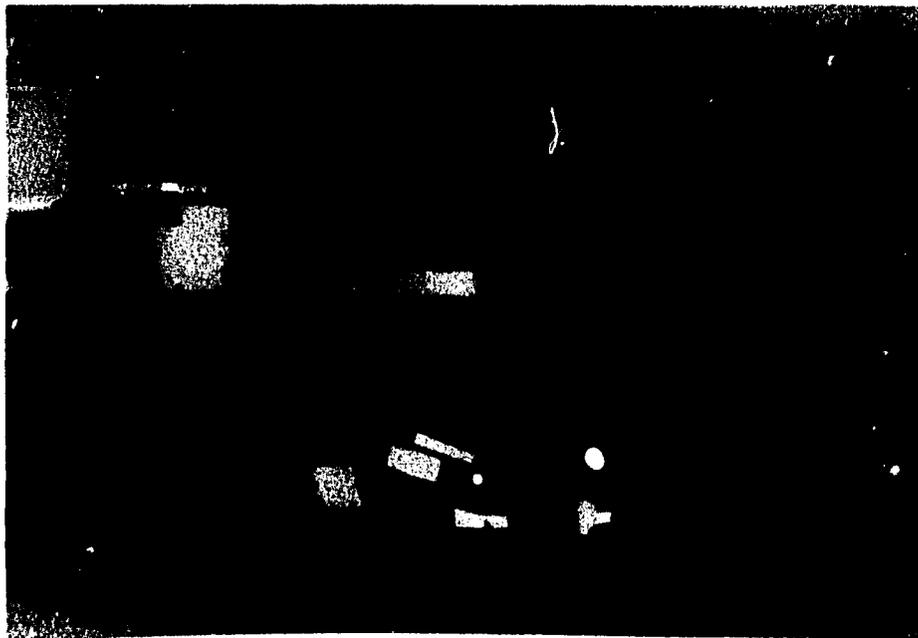


Photo 2. Microprocessor - Gas Chromatograph and Infrared Spectrophotometer.

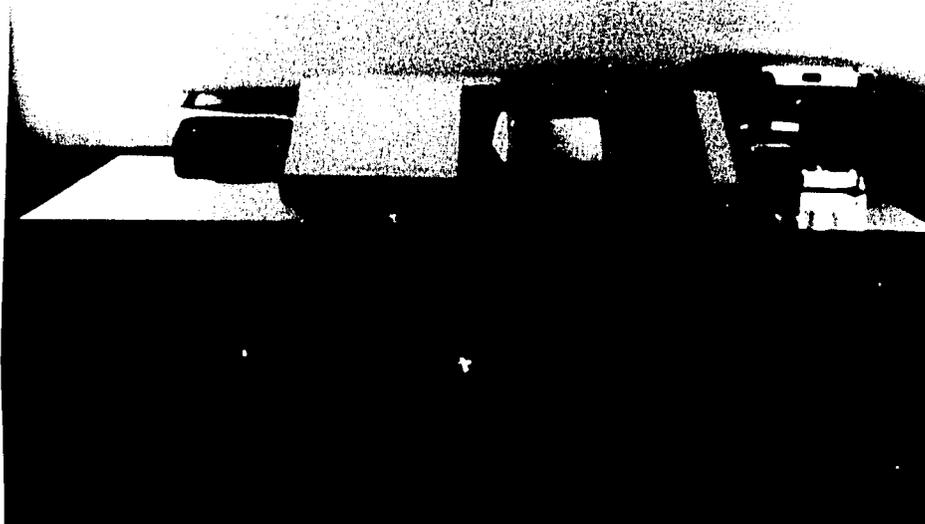


Photo 3. Printer for Microprocessor for Gas Chromatograph Infrared Spectrophotometer.

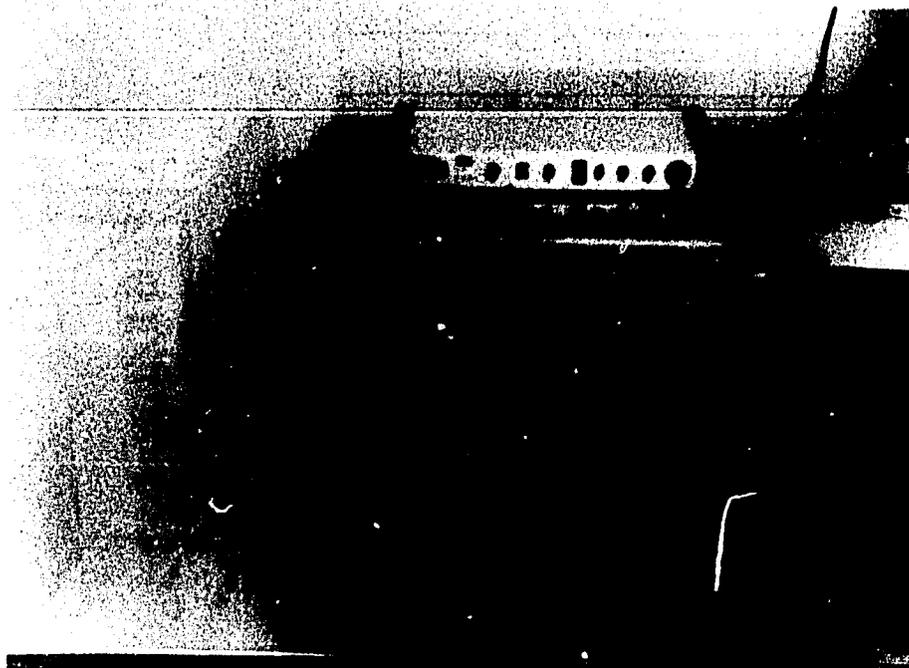


Photo 4. Cryostat.

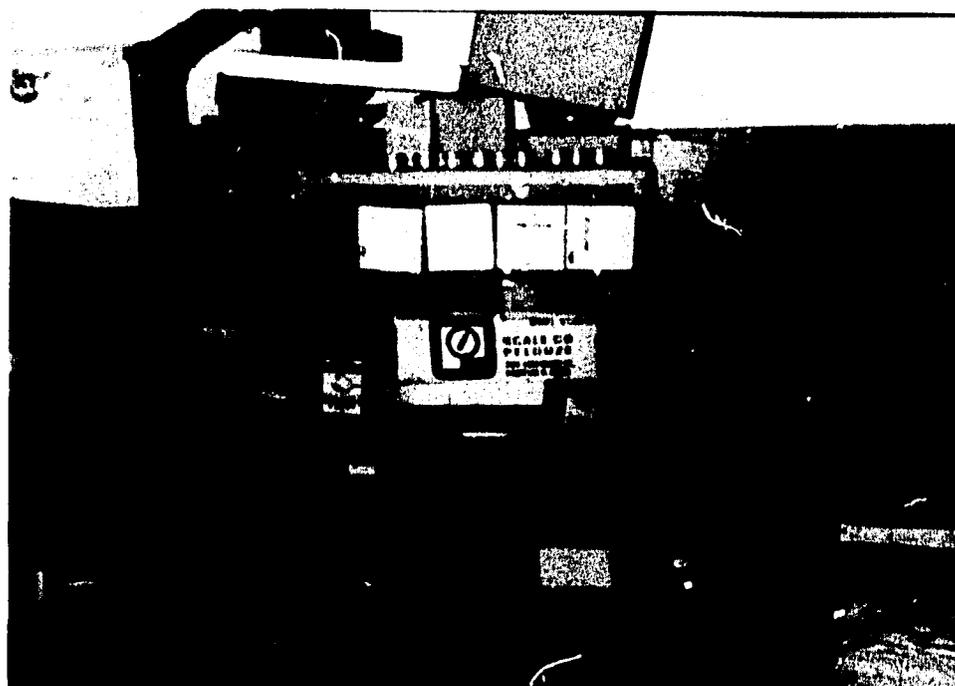


Photo 5. Compressor and soil test equipment.

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Photo 6. Unused motorcycles.



Photo 7. Word Perfect and Lotus Freelance
Software in Original Sealed Packages.

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UNITED STATES AGENCY for INTERNATIONAL DEVELOPMENT

CAIRO, EGYPT

APPENDIX 1
Page 1 of 19

August 21, 1989

MEMORANDUM

To: Reuben Hubbard, (A)RIG/A/C
From: Charles F. Weden, Jr., Acting Mission Director
Subject: Draft Audit Report - Audit of the Irrigation Management Systems Project in Egypt; Project No. 263-0132

Attachment I is the Mission's Executive Summary to be included in the final Audit Report.

The Mission wishes to thank the Office of the Regional Inspector General for Audit/Cairo for the interest and effort that went into conducting the performance audit of the Structural Replacement (SR), Regional Irrigation Improvement Project (RIIP) and the Project Preparation Department (PPD) Components of the Irrigation Management Systems (IMS) Project.

The audit has enabled us to take action or to follow up on previously initiated actions to rectify management and operational problems associated with the implementation of these three project Components. The Mission, the Ministry and the TA contractors have taken action to close 24 of the 25 recommendations. The Mission takes exception to the remaining recommendation, Recommendation No. 1(e) concerning the recovery of liquidated damages assessed against contractors for late performance and requests that this recommendation be deleted from the Audit Report. The Mission's rationale is explained in detail under USAID's response to the specific audit recommendation.

Before responding to the individual audit recommendations, the Mission would like to comment on certain audit topics, namely: (1) references to the Structural Replacement Program as being behind schedule and likely not to meet its objectives; (2) audit findings concerning construction of inappropriate structures; and (3) references to the absence of any prioritization criteria. The Mission's assessment and recent evaluation of Structural Replacement find that the Program is extremely successful having exceeded its objective of replacing or constructing 9,500 structures, the Program is not constructing inappropriate structures, and prioritization criteria have been in effect since inception of the project.

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These three issues are discussed below in more detail.

Structural Replacement Accomplishments

The draft Audit Report Executive Summary, page ii, concludes that the Structural Replacement Component was behind schedule, had not fully achieved its objective and was likely to achieve only 7,000 of 9,500 planned replacements. In addition, the Findings and Recommendations, page 8, the Discussion Section, pages 11 and 13, and Exhibit 1, page 1, make reference to Structural Replacement being behind schedule.

Based on reports received from PWR subsequent to the audit, the Structural Replacement Program is ahead of schedule. The March 30, 1989, PWR Quarterly Report indicates that as of the end of the quarter, 9,656 structures have been completed exceeding the 9,500 structures called for in the 1987 Project Paper Amendment. A summary of accomplishments under Phases I and II based on the Ministry's Quarterly Reports and showing location, numbers of structures and cost is presented in Exhibit A. Based on the success of the Structural Replacement Program and the identification of a significant number of additional structures requiring replacement, the SR Program has been extended through September 21, 1991.

We request that the draft Audit Report be revised to reflect the Structural Replacement Component's achievements and progress in meeting its objectives. Report was amended as the Mission asked.

Appropriateness of Structures

The draft Audit Report Executive Summary, page ii, alludes to the construction of inappropriate structures under the Structural Replacement Program. The Findings and Recommendations Section, page 8, refers to inappropriate structures; page 11 refers to structures built in questionable locations; and page 13 refers to improper new bridge construction. In addition, Exhibit 1, pages 3 and 4 discuss absence of any prioritization criteria and the resulting construction of bridges that were additional rather than replacements.

The Mission does not agree with the audit statements that inappropriate structures are being built or that prioritization criteria were absent.

The Fourth Amendment to the Grant Agreement, dated July 30, 1987 states that, "During Phase I, over 3,000 structures were constructed or replaced. During Phase II, which is currently underway, an additional 6,500 structures will be constructed or replaced." The term "constructed" is key and is an important distinction from the term "replaced." This distinction is not evident in the Audit Report.

In an irrigation system the size of Egypt's (about 6 million acres), with infrastructure that includes 23,000 primary structures along with 31,000 km of canals and a parallel road system, it is not inconceivable that some of the original structures built in the early 1900s do not meet the irrigation and traffic demands of the 1980s. The area continuously served by the irrigation system has also increased since construction of the High Aswan Dam. Many existing structures were found to be not only non-functional but also requiring the addition of a new structure to meet the current and future design needs of the irrigation area.

It is sound engineering and construction practice not only to replace what is obsolete but also to add what is necessary to meet changing conditions. Issuing one contract in a specific geographic area to meet these needs takes advantage of a contractor being in the area, thus minimizing degradation to the environment, reducing the cost of multiple contracts, as well as reducing economic hardship to the farmers for lack of water if contracts were awarded in a piece meal fashion. To allow these negative impacts to occur would be in direct violation of the goals and objectives stipulated in the agreement and would be contrary to sound engineering practice.

Although some of the structures identified in the audit were judged to be questionable because of their location or because they were "new," it is the Mission's view that these structures were in full accordance with the goals and objectives of the Grant Agreement and were planned in accordance with sound engineering practice.

While the Audit Report terms new bridge construction as inappropriate, page 11 of the April 1989 evaluation of Structural Replacement states the following: "The importance of bridges under SR stems primarily from population trends: the number of rural people living along irrigation canals has more than doubled in the past twenty years, and today's people expect to commute much farther than their parents did. The pressure of traffic crossing canals has increased sharply during a period when there has been essentially no change in the peak flow of water in the canals. Furthermore, the team understood that repair and maintenance of highway bridges over canals is the responsibility of MPWWR, not the highway authorities. It is thus not surprising that bridges have been prominent in the project."

The PWWR's responsibility for transportation was recognized as key element of the SR Program from the outset. Considering there are 31,000 km of canals and equal amount of roads parallel to the system, it was estimated that about 50 percent of the structures that PWWR had responsibility for were bridges. Thus far, of the 9,656 structures completed, less than 20 percent have been bridges. New construction has been the exception rather than the rule and it will continue on a limited basis as allowed in the agreement.

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The Audit Report further states (Exhibit 1, page 4 of 7) that: "Sampling of bridges built disclosed bridges that were new (not replacement) bridges. We furnished the Mission with the locations of these observed examples. Photos of new bridges being built in metropolitan areas and other SR structures are shown in Exhibit 2."

Further investigation has indicated that the above statements are not correct. The bridges constructed in the metropolitan area mentioned are in fact "replacement" structures. One of them is a combination Regulator/Bridge structure that was constructed in 1903 in the city of El Minya (Exhibit B). The existing combination Regulator/Bridge structure is deteriorating at an excessive rate due to increased traffic loading caused by the traffic to and from the new bridge constructed across the Nile River (not an A.I.D.-funded project). This new Nile River crossing (See Exhibit B for location) dramatically changed the traffic pattern that had been relatively unchanged for the last eight decades with the exception of increased loading of modern equipment and vehicles. The completion of the new bridge across the Nile provided a more convenient access to Cairo than travelling down river to the old Nile River crossing. This impacted the old structures in Minya and therefore new structures were required to alleviate the excessive traffic and loading which was causing damage to the old structures in question. If these replacement structures were not built, the excessive traffic loading on the old structures and especially the 1903 structure would cause excessive deterioration that would render them ineffective, unsafe and cause exorbitantly high maintenance cost for continual repair of the structures. These are then in our view legitimate structure replacement activities.

In our opinion the structures replaced or constructed have been appropriate. The evaluation of the Structural Replacement Component supports this opinion and states on page 11 of the report that: "Although the SR project is largely a means of replacing old and non-functioning structures, both Project Papers addressed the need, under some circumstances, to build new structures where none formerly existed. The team saw such an example in the Delta: a new headgate was built where originally a canal simply bifurcated without any structure. The original intent to permit these and other new structures was appropriate and this provision has not been abused."

Prioritization Criteria

The Audit Report incorrectly states in Exhibit 1, page 3 that: "SR construction was proceeding in the absence of any prioritization criteria. The project agreement stated that PWWR was to determine which structures were in need of priority replacement based on PWWR

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and USAID jointly-agreed-to-criteria. Construction, however, did not proceed in accordance with any prioritized criteria because no such criteria were developed to determine which structure would be selected for replacement."

Information documented in the Project files and found subsequent to the audit (Exhibit C) indicates that prioritization criteria including criteria for bridges were jointly approved by USAID and PWR as early as January 18, 1982. The selection criteria, however, were found to need strengthening and were revised accordingly in February 1989 (Exhibit D).

USAID RESPONSE TO AUDIT RECOMMENDATIONS

RECOMMENDATION No. 1(a)

With regard to the Structure Replacement Program we recommend that USAID/Egypt, in consultation with appropriate GOE officials:

- (a) extend the SR project completion date or, alternatively, reprogram/deobligate approximately \$10 million earmarked for SR;

USAID RESPONSE No. 1(a)

The SR Project completion date has been extended to September 21, 1991. The Action Memorandum extending the completion date is attached (Exhibit E). We request that this recommendation be closed.

RECOMMENDATION No. 1(b)

With regard to the Structure Replacement Program we recommend that USAID/Egypt, in consultation with appropriate GOE officials:

- (b) assist PWR to develop clear guidelines for prioritizing what needs to be replaced and built;

USAID RESPONSE No. 1(b)

Guidelines for prioritizing what needs to be replaced and built have been jointly developed by PWR and USAID (Exhibits D and F). We request that this recommendation be closed.

RECOMMENDATION No. 1(c)(1)

With regard to the Structure Replacement Program we recommend that USAID/Egypt, in consultation with appropriate GOE officials:

- (c) formally notify PWR that:
 - (1) its annual replacement plan submitted to A.I.D. should contain individual justifications for building SR structures estimated to exceed an A.I.D. designated dollar amount;

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USAID RESPONSE No.1(c)(1):

This has been addressed in our instructions to the Project Director by memo dated February 16, 1989 (Exhibit F) and by the selection criteria discussed under USAID Response No. 1(b) above. We request that this recommendation be closed.

RECOMMENDATION No. 1(C)(2)

With regard to the Structure Replacement Program we recommend that USAID/Egypt, in consultation with appropriate GOE officials:

(c) formally notify PWWR that:

- (2) A.I.D.'s contribution to the SR Program is to fund replacement structures only unless otherwise specifically approved by USAID/Egypt on a case-by-case basis and Arabic language guidance to this effect should be issued to all PWWR directorates;

USAID RESPONSE No. 1(c)(2):

Arabic language guidance to this effect has been issued to all PWWR directorates (Exhibits G and H). We request that this recommendation be closed.

RECOMMENDATION No. 1(c)(3)

With regard to the Structure Replacement Program we recommend that USAID/Egypt, in consultation with appropriate GOE officials:

(c) formally notify PWWR that:

- (3) it has failed to comply with the prohibitions in PIL #82 against awarding contracts to public sector companies, claims for costs under such contracts will not be paid, and those already paid will be offset against future billings;

USAID RESPONSE No. 1(c)(3):

The Mission disagrees with the recommendation. PIL No. 82, dated August 24, 1987, states as follows:

"Public Sector Companies

It is also brought to attention of the Ministry of Public Works and Water Resources that with regard to public sector companies that Project Grant funds will not be made available to finance any public sector company contracts entered into after the date of this implementation letter. Exceptions may be permitted on a special basis based upon appropriate justification to support a waiver of USAID regulations."

Accordingly exceptions may be made. Our investigation has found that there were situations where only one contractor was available and/or contracts were offered to lowest bidder in accordance with the instructions at that time. The SR Project Director has since

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documented this by letter (Exhibit I). Also, the use of Public Companies is allowable in accordance with USAID HB 11, Chapter 2 for Host Country Contracting.

The finding is correct in its interpretation of PIL 82 but there were special situations that permitted contracting with public sector companies in accordance with the exceptions allowed for in the PIL. PWR's mistake was that they did not request approval before the fact in accordance with PIL No. 82. The Ministry has been notified of its failure to comply with PIL No. 82's requirement for prior USAID approval (Exhibit I) and has since requested permission to award contracts where public sector companies are involved (See Exhibit J for sample waiver).

With respect to the ten contracts identified in the audit as having been improperly awarded to public sector companies, the Mission has since provided retroactive approval of the awards to the public sector companies. The Action Memorandum granting this waiver along with the PWR letters providing justification for the use of public sector firms are presented in Exhibit K.

Furthermore, it is noted that the quantity and dollar volume of contracts awarded to public sector contractors since issuance of PIL 82, is relatively minor with more than 90 percent of the contracts awarded to private sector firms. This demonstrates that PWR is attempting to comply with the restrictions on use of public sector firms. Since the issuance of PIL 82, the award of contracts to public sector firms has been based on the unavailability or lack of capability of private sector firms to carry out certain work. The problem has been poor communication rather than overt non-compliance. Disallowance of these costs would create serious problems between PWR, MIC and the Ministry of Finance creating disruption and delays in completion of the SR Component.

Based on the above, we request that this recommendation be closed.

RECOMMENDATION No. 1(c)(4)

With regard to the Structure Replacement Program we recommend that USAID/Egypt, in consultation with appropriate GOE officials:

- (c) formally notify PWR that:
 - (4) due to observed delays in the SR Program, PWR should consider establishing increased performance bonds and guidelines for termination of work under A.I.D. funded contracts when contractors fall seriously in arrears in meeting completion dates;

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USAID RESPONSE No. 1(c)(4)

The performance bonds have been increased from 5 to 10 percent. Guidelines have been issued in Arabic in which all contracts (with delays more than 6 months) will be reported to the Project Director. All contracts having delays more than 9 months will be cancelled and respective contractors will not be allowed to participate in future SR works (Exhibit L). We request that this recommendation be closed.

RECOMMENDATION No. 1(c)(5)

With regard to the Structure Replacement Program we recommend that USAID/Egypt, in consultation with appropriate GOE officials:

- (c) formally notify PWR that:
 - (5) larger structures costing in excess of an A.I.D. designated amount should be identified by an appropriate plaque as an A.I.D.-financed project;

USAID RESPONSE No. 1(c)(5)

The inventory of structures being carried by PWR (Exhibit D) includes a category of whether or not it was constructed as part of the SR Program and whether or not it is marked with a USAID plaque. Marking emblems will be affixed to unmarked A.I.D.-funded structures. The project has also developed a model of a USAID hand-clasp plaque to be made in quantity from cast iron and be used to mark larger structures.

The PWR has been notified of the requirement to mark USAID financed structures with the A.I.D. hand-clasp emblem (Exhibit M). The Project Director agrees that deficiencies need to be corrected and he has passed instructions to the directorates. We request that this recommendation be closed.

RECOMMENDATION No. 1(c)(6)

With regard to the Structure Replacement Program we recommend that USAID/Egypt, in consultation with appropriate GOE officials:

- (c) formally notify PWR that:
 - (6) efforts should be made to improve the timeliness of installation of head regulator gates.

USAID RESPONSE No. 1(c)(6)

As discussed in USAID Response No. 1(c)(4) performance bonds have been increased and guidelines on reporting delayed contracts to the Project Director and termination of delayed contracts have been issued. These conditions also apply to contracts for the supply and installation of head regulator gates. We request that this recommendation be closed.

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RECOMMENDATION No. 1(d)(1)

With regard to the Structural Replacement Program we recommend that USAID/Egypt, in consultation with appropriate GOE officials:

- (d) obtain from PWR evidence that it has issued:
 - (1) a notice to its Directorates regarding the PIL #82 prohibition on awards to public sector companies;

USAID RESPONSE No.1(d)(1)

A letter in Arabic has been sent to all Directorates regarding the PIL #82 prohibition on awards to public sector companies (Exhibit N). We request that this recommendation be closed.

RECOMMENDATION No. 1(d)(2)

With regard to the Structural Replacement Program we recommend that USAID/Egypt, in consultation with appropriate GOE officials:

- (d) obtain from PWR evidence that it has issued:
 - (2) certifications that claimed costs involve no payments to public sector companies;

USAID RESPONSE No. 1(d)(2):

We request that this recommendation be closed for the same reasons as stated in USAID Response No. 1(c)(3).

RECOMMENDATION No. 1(d)(3)

With regard to the Structural Replacement Program we recommend that USAID/Egypt, in consultation with appropriate GOE officials:

- (d) obtain from PWR evidence that it has issued:
 - (3) a report on the prospective for electrical power being provided in the Minya Governorate to motorized regulators planned to be built or built but not yet supplied with power;

USAID RESPONSE No. 1(d)(3)

The Project Director has submitted the report (Exhibit O). We request that this recommendation be closed.

RECOMMENDATION No. 1(e)

With regard to the Structural Replacement Program we recommend that USAID/Egypt, in consultation with appropriate GOE officials:

- (e) recover from PWR all amounts reimbursed for structure replacement construction in excess of 80 percent of net costs to the GOE, offset the same against future billings, verify whether this situation pertains to other projects in its portfolio and take appropriate action or show why no corrective action is required;

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USAID RESPONSE No. 1(e)

The Audit Report concludes that the cost claims submitted by the Government of Egypt were supported but not reduced to reflect contractor penalties and A.I.D. may have therefore reimbursed the Government \$1.4 million more than was required. The contractor penalties referred to are, as discussed in Exhibit 1 of the Audit Report, liquidated damages assessed against the contractor for late performance.

Under the Structural Replacement Component, PWR is reimbursed 80 percent of the cost of construction under a modified Fixed Amount Reimbursement (FAR) agreement. USAID reimbursement has been based on 80 percent of the actual contract amount; liquidated damages, if assessed against a contractor for late performance, have not been taken into account in determining the cost of the work.

The Audit Report views "penalties" collected by the Ministry as revenue to the GOE contracting agency and thus, under the Fixed Amount Reimbursement arrangements, the GOE's costs should be viewed as reduced by the amount of penalties received. The Mission does not agree with this audit viewpoint.

The Mission views penalties assessed against contractors for late performance as "liquidated damages"; that is, pre-determined amounts specified in the contract which represent a fair estimate of likely damages to the GOE if the contractor fails to perform on time. The intention of the liquidated damages provision in the contract is to offset the owner's financial harm. Liquidated damages are therefore not viewed as "revenue" to the GOE but rather as compensation or indemnification for harm suffered.

This legal viewpoint is explained in more detail in the Mission Legal Advisor's memo dated July 24, 1989 and included as Exhibit P. The legal opinion concludes that "...in the FAR situation being addressed by the auditors, the contracting agency's costs are properly computed by USAID and percentile payment made accordingly so long as all work was completed within the Project Assistance Completion Date, without regard to any liquidated damages received. The latter are properly kept by the owner to offset financial harm experienced."

We believe that no corrective action is required and request that this recommendation be deleted. In addition, in light of this legal analysis, we do not believe remedial action is necessary elsewhere in the Mission's portfolio with regard to such similar situations as may exist.

RECOMMENDATION No. 1(f)

With regard to the Structural Replacement Program we recommend that USAID/Egypt, in consultation with appropriate GOE officials.

- (f) review when power is to be available for mechanical structures being furnished electric motors and assess whether the procurement of electric motors should be deferred or the motors stockpiled until power is available.

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USAID RESPONSE No. 1(f)

The availability of power for electric motors will be reviewed through the selection criteria and annual work plans (Exhibits D and F). As discussed in our response to No. 1(d)(3), the Project Director has prepared a report on availability of electric power. In the interim, electric motors will be stored in a secure location until power is available (see Exhibit O). We request that this recommendation be closed.

RECOMMENDATION NO. 2(a)

We recommend that USAID/Egypt, in consultation with appropriate GOE officials:

- (a) have a periodic evaluation made of the methodologies used by RIIP directorates to prioritize which canals or segments thereof and their problems receive priority study and funding;

USAID RESPONSE No. 2(a)

This concern is addressed by Project Grant Agreement CP 4.9 which requires PWR to submit a feasibility study for RIIP command area improvements to USAID for review and approval prior to USAID's providing funds for construction.

The new technical assistance contractor, Morrison-Knudsen/Louis Berger Int., is responsible for assisting PWR in the development of feasibility study methodologies which on a command area basis will be used to test alternative improvement schemes for overall feasibility (technical soundness, economic viability and social and political feasibility) and to prioritize unit command areas for improvement.

In terms of periodic evaluations, USAID will review and evaluate each feasibility study to determine whether or not the study meets agreed-upon criteria and funding should be approved. To date, USAID has used its leverage in RIIP and has yet to approve any activity for funding under RIIP because the feasibility studies received over the past ten months have not been up to the required standards.

Based on the above, we request that this recommendation be closed.

RECOMMENDATION No. 2(b)

We recommend that USAID/Egypt, in consultation with appropriate GOE officials:

- (b) request PWR to provide an annual report on:
 - (1) the status of RIIP data collection activities and the performance of organizations hired to collect data;

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- (2) the development and effectiveness of water user groups in maintaining completed project improvements;
- (3) A.I.D.-financed construction to be managed by RIIP under the SR Program without a prior feasibility study; and
- (4) vehicle and equipment utilization.

USAID RESPONSE No. 2(b)

- (1) The MKE/LBII technical assistance contract requires that the consultant submit quarterly progress reports. In accordance with the consultant's inception report and detailed work plan, the quarterly reports will specify the status of data collection, problem identification activities, feasibility studies, and design and construction activities.
- (2) As required in the MKE/LBII Contract the development and effectiveness of Water Users Associations will be monitored and reported on in the consultant's quarterly progress reports.
- (3) The inventory of structures constructed under the Structural Replacement Component is described in detail in Exhibits D and F. The inventory will identify structure type and location along with other pertinent information. In addition to the inventory, annual work plans will identify the type and location of structures planned for construction and will lead to inclusion of the structures in the inventory.

Concerning structural replacement in the eleven RIIP irrigation commands, the Project Director has been notified by letter (Exhibit Q) to initiate a moratorium on structural replacement in the RIIP commands until the work plans are reviewed and approved by the central office. The purpose of this directives is to assure that the design of structures in the RIIP commands is compatible with the more comprehensive improvements being identified in the RIIP feasibility studies. Structures constructed under SR will be identified in the inventory and annual work plans while improvements under RIIP will be specifically identified in the feasibility studies and construction contracts developed as implementation of RIIP proceeds.

- (4) In accordance with USAID policy, PWWR reports on vehicle utilization on a semi-annual basis. In line with new Mission policy on equipment utilization reporting, Mission Order 3-33, PWWR has been advised of the requirement and requested

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to develop procedures to comply (Exhibit R). This function will be coordinated by the newly established Project Monitoring Office within the Ministry. Technical assistance in the development of computer systems to carry out this function as well as other monitoring activities is being provided under the project. In addition, PDS/PS will provide assistance to the Monitoring Office in developing reporting procedures and formats required to meet A.I.D.'s reporting requirements.

In summary, reporting requirement procedures have been established for the four items listed under Recommendation No. 2(b). We request that this recommendation be closed.

RECOMMENDATION No. 2(c)

We recommend that USAID/Egypt, in consultation with appropriate GOE officials:

- (c) monitor the Ministry's contract awards related to mesqa improvements in the Herz-Numaniya Unit Command area in order to avoid a commitment to projects before details on the future maintenance of the projects are agreed upon.

USAID RESPONSE No. 2(c)

The studies conducted by PWR leading to their initiation of construction activities in the Herz Numaniya Unit Command have not been approved by USAID and project funds have not been committed for reimbursement of the cost of mesqa improvement.

The Project Paper does, however, recognize benefit of pilot efforts in mesqa improvements to test both the technical feasibility of the improved system and the farmers' acceptance and willingness to pay for the improvements. The Herz-Numaniya pilot areas will be monitored and studied by the TA contractor's team and their PWR counterparts in the El-Minya Directorate to assess both the financial and social soundness of the pilot effort.

We request that this recommendation be closed.

RECOMMENDATION No. 3

We recommend that the Project Officer and Ministry of Irrigation focus priority attention on cost recovery aspects under the RIIP Component in order to establish a clear policy as to what costs will be recoverable and whether total cost recovery is practical at this time.

USAID RESPONSE No.3

Cost recovery as discussed in Grant Agreement Covenant 5.13, presented below, is a priority concern of both USAID and PWR.

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5.13. Cost Recovery. The Grantee will endeavor to develop and implement a cost recovery program, mutually acceptable to the Parties, by December 31, 1988, to collect all or part of the operation and maintenance costs of the irrigation system and 100 percent of the site specific costs of mesqa and on-farm improvements. The development and implementation of such a program will include, but not be limited to: (a) the technical aspects of a cost recovery program; (b) preparation and proposal of necessary legislation for the Assembly; (c) issuance of the necessary decrees and other relevant documentation for implementation of a cost recovery program.

The December 31, 1988, date for satisfying the covenant was not met. This is mainly attributable to the delay in bringing the TA contractor on board to provide required assistance in analysis and in the formulation of cost recovery alternatives. USAID's concerns with satisfying the cost recovery covenant are expressed in our March 28, 1989, letter to Engineer Ahmed Ali Mazen, Chairman of the Irrigation Department (Exhibit S). This letter also recommends a revision of the covenant to extend the deadlines for development of the cost recovery program, the issuance of decrees and the proposal of legislation to the Peoples Assembly.

The RIIP technical assistance contractor has, as one of its contractual obligations, the task of analysis of cost recovery options and the development of the technical aspects of the cost recovery program. USAID's recommended revision of covenant 5.13 adjusts deadline dates to account for delays in contracting for technical assistance.

The Ministry has responded favorably to the suggested covenant revision, however, they have suggested an additional six months to meet the requirements. A revised covenant will be included in the next IMS Project Grant Agreement Amendment (Exhibit T).

We request that this recommendation be closed.

RECOMMENDATION NO. 4(a)

We recommend that USAID/Egypt, in consultation with cognizant GOE officials, assess whether PPD:

- (a) can be expected to become viable given its inability to attract and retain staff with appropriate experience and language skills;

USAID RESPONSE No. 4(a)

In reference to this issue, the March 1989 evaluation of the Project Preparation Unit (ISPAN Report No. 18, page 78, Exhibit U) stated that "we do not believe that PPU will become a self-sustaining unit if by that it is meant the ability to function at high professional levels without any external assistance. If PPU is obliged to do

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without all external assistance, we believe it could provide special skills in computer science, agriculture, and benefit-cost estimation to the Ministry if studies are to be prepared in Arabic. With the support of limited external assistance, we believe the original goal of high-quality viability is attainable."

The evaluation recommends that USAID extend the PPD Component completion date provided that the Ministry responds favorably to three conditions identified by the evaluation team as being essential to the Project Preparation Department's success. The three conditions are:

- (a) formal assignment of a pipeline of appropriate studies to PPD;
- (b) provide authorization and budget for at least three staff to be posted directly to the unit; and
- (c) assignment of at least two, but preferably three, senior staff who are capable of leading feasibility study teams and are free to spend at least 75 percent of their time on substantive work.

The Ministry has taken significant steps to meet these three requirements (Exhibit V). In light of the Ministry's actions, USAID has extended the Components' completion date to September 21, 1991, and has agreed to approve an extension of the TA contract at the reduced level of effort as recommended in the evaluation. We request that this recommendation be closed.

RECOMMENDATION No. 4(b)

We recommend that USAID/Egypt, in consultation with cognizant GOE officials, assess whether PPD:

- (b) should be directed primarily at RIIP studies as they would appear to be of a narrower scope than those originally envisioned; and

USAID RESPONSE No. 4(b)

In response to this issue, the evaluation team has responded as follows (ISPAN Report No. 18, page 78, Exhibit U).

"At this stage, we believe it would be premature to assign RIIP studies to PPU because the nature of RIIP improvements has not been spelled out in detail. As a result, there is no basis on which to estimate such pivotal parameters as crop output per unit of water and water use efficiency. Even the costs of the RIIP improvements can only be guessed at at this stage, and major changes in RIIP plans are quite likely as that project gains experience in the field. PPU would likely wind up studying a planned development which in fact became

quite different in execution. After several years of RIIP experience and a stable data collection program, it would be appropriate for PPU to analyze the economic feasibility of one or more RIIP projects. Even at that point, however, it is our opinion that it would not be advisable for PPU to "be directed primarily" at RIIP studies if the Unit is to serve the larger needs of the Ministry in a responsive and balanced manner. In any case, choice of study assignments should be left to the committee recommended to take on that function.

In addition, the RIIP implementation schedule calls for the completion of or analysis of feasibility studies for the eleven command areas followed up by numerous more detailed feasibility studies for each unit command area proposed for construction within the commands. Planning units within the RIIP organizational structure are being organized in each of the six directorates involved in the RIIP Component to undertake these studies over about a three year period. It is not possible or desirable for the PPD to carry out the studies planned under the RIIP Component.

We request that this recommendation be closed.

RECOMMENDATION No. 4(c)

We recommend that USAID/Egypt, in consultation with cognizant GOE officials assess whether PPD:

- (c) will be able to encourage staff to perform necessary travel under current GOE per diem schedules.

USAID RESPONSE No. 4(c)

The adequacy of current GOE per diem rates to encourage staff to perform necessary travel was assessed during the April 1989 evaluation of the Project Preparation Department. The evaluation team found that PPD staff was reluctant to make overnight field trips to collect data because the per diem rates, reported to be less than LE 3.50 per night, are so low. The evaluation goes on to recommend PWR improve PPD's efficiency by providing per diem of approximately LE 20 per day to permit the staff to make overnight trips to the field for data collection purposes (Exhibit W).

USAID has discussed the inadequacy of the current GOE per diem rate with PWR. The Ministry has agreed that the rates are too low to provide an incentive to travel, not only for PPD but for all the IMS Component activities, and they are currently assessing options for increased per diem for personnel assigned to the various IMS Components. We request that this recommendation be closed.

RECOMMENDATION No. 5(a)

We recommend that USAID/Egypt, in consultation with cognizant GOE officials:

- (a) advise CID to coordinate with the Water Research Center on actions needed to derive maximum benefits from \$429,000 in project equipment included in this review;

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USAID RESPONSE No. 5(a)

It is agreed that some equipment provided to WRC was not installed or being utilized at the time of the audit, but in most cases not all relevant parts of each equipment package had arrived in Egypt to be assembled into a fully usable system. We requested a special report on this equipment from the contractor. The contractor's report, Exhibit X, describes the status of equipment and the plan to make the equipment usable. Training of WRC staff in the operation of the equipment has either been completed or is scheduled. The status of equipment utilization will be followed up with site visits and contractor reports.

The WRC and the contractor have been advised that prior to the procurement of additional equipment, a plan must be developed to include: type, use, function, staff training, and how it fits into the WRC's overall workplan. An Action Memorandum format to request USAID approval of commodity procurement has been developed. The Action Memorandum must be approved by USAID prior to the procurement of commodities. This gives USAID additional control and leverage in monitoring host country procurement through the TA contractors.

We request that this recommendation be closed.

RECOMMENDATION No. 5(b)

We recommend that USAID/Egypt, in consultation with cognizant GOE officials:

- (b) require CID, in its procurement plans:
 - to identify WRC staffing capabilities or training needs as well as expected target usage dates related to future requests from WRC for technical equipment;
 - to begin to operate or test technical equipment within the warranty period;

USAID RESPONSE No. 5(b)

Although AGR/ILD is aware of the many problems encountered by CID in the commodities acquisition process, it agrees with the recommendation that the contractor and WRC should work together to improve identifying staff requirements and training needs for future activities. It also agrees that the contractor should make every effort to insure that the interrelated equipment and instruments are shipped together to avoid delays and to test or operate the equipment within the warranty period (See Exhibit X).

CID has been advised to assess WRC capabilities and training needs as well as expected usage dates for future technical equipment procurement. The ILD Project Officer for the Water Research Center will closely monitor requests for procurement approval to insure that these requirements are met. We request that this recommendation be closed.

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RECOMMENDATION No. 5(c)

We recommend that USAID/Egypt, in consultation with cognizant GOE officials:

- (c) to approve procurement of additional soil test equipment, motorcycles, boats, flow meters, expensive survey equipment or trailers for the RIIP project only after evaluating the utilization of such equipment already provided to the Minya pilot project in order to verify that it is being adequately used and that appropriate space for the equipment has been provided.

USAID RESPONSE No. 5(c)

The RIIP Project Director has been advised by letter of this audit finding. He has also been advised that all major items of existing equipment be identified in the equipment procurement plan to be prepared with the assistance of the new technical assistance contractor and also that no equipment that duplicates equipment currently in the inventory will be procured unless clearly justified in the equipment procurement plan. The equipment identified in the audit as being under-utilized was procured by the Consortium for International Development, CID, which was at the time of the audit the TA contractor for RIIP. CID's response to this audit issue is attached as Exhibit Y. Their response indicates that the problems resulted from the slower than planned implementation and manpower constraints related to the start-up of a new and complex activity.

Technical assistance to the RIIP activity changed hands in December, 1988, upon the signing of a contract with Morrison-Knudsen/Louis Berger International. While the MKE/LBII operation is in the start-up phase, they are aware of the audit findings and are taking the recommendations into consideration in their operations.

A draft of the Morrison-Knudsen/Louis Berger International procurement plan is available and currently being reviewed by ILD. The plan takes into account the necessity of insuring that the required commodities are provided to the project within the appropriate timeframes and in the proper quantities in order to serve the project needs. Procurement is phased through the life of the contract in accordance with the needs identified in the RIIP/contractor's work plans and schedule. Commodities will be delivered to Egypt in a planned sequence whereby MKE/LBII will be able to control RIIP material requirements on an as needed basis, as opposed to having large volumes of material in Egypt before they are required. RIIP directorate personnel and MKE/LBII team members have conducted surveys of equipment and material on hand in each directorate. The survey includes an inventory of commodities procured by the previous TA contractor, CID, and those funded by IBRD. These inventories are also included in the procurement plan.

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A considerable amount of equipment will be procured under the MKE/LBII contract. The draft procurement plan has identified storage space requirements for both the directorates and the central office. The contractor has also proposed the use of steel shipping containers for the shipment of spare parts and other high value items. Upon arrival into Egypt, the containers will be used at the directorates for storage. The provision of adequate storage space by RIIP will be followed up as part of normal project monitoring activities.

Concerning the equipment specifically identified in the audit as being not in use, the Project Director is currently taking action to place the equipment in operation. For example, space has been allocated for all test equipment and it is being installed. Field visits by ILD staff have been conducted to follow up on equipment installation at each materials testing lab site. ILD monitoring of equipment utilization will be a continuing activity.

We request that this recommendation be closed.

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List of Recommendations

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<p>With regard to the Structure Replacement Program we recommend that USAID/Egypt, in consultation with appropriate GOE officials:</p>	
<p>(a) extend the SR project completion date or, alternatively, reprogram/deobligate approximately \$10 million earmarked for SR;</p>	
<p>(b) assist PWR to develop clear guidelines for prioritizing what needs to be replaced and built;</p>	
<p>(c) formally notify PWR that:</p>	
<p>(1) its annual replacement plan submitted to A.I.D. should contain individual justifications for building SR structures estimated to exceed an A.I.D.-designated dollar amount;</p>	
<p>(2) A.I.D.'s contribution to the SR program is to fund replacement structures only, unless otherwise specifically approved by USAID/Egypt on a case-by-case basis; Arabic language guidance to this effect should be issued to all PWR directorates;</p>	
<p>(3) it has failed to comply with the prohibitions in PIL #82 against awarding contracts to public sector companies, claims for costs under such contracts will not be paid, and those already paid without appropriate justification will be offset against future billings;</p>	
<p>(4) it should consider establishing increased performance bonds and guidelines for termination of work under A.I.D.-funded contracts when contractors fall seriously in arrears in meeting completion dates;</p>	

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- (5) larger structures costing in excess of an A.I.D.-designated amount should be identified by an appropriate plaque as A.I.D. financed improvements;
 - (6) efforts should be made to improve the timeliness of head regulator gate installation.
- (d) obtain from PWWR evidence that it has issued:
- (1) a notice to its Directorates regarding the PIL #82 prohibition on awards to public sector companies;
 - (2) certifications that claimed costs involve no payments to public sector companies; and
 - (3) a report on the prospects for electrical power being provided to motorized regulators planned to be built, or built but not yet supplied with power, in the Minya Governorate;
- (e) recover from PWWR all amounts reimbursed for structure replacement construction in excess of 80 percent of net costs to the GOE, offset the same against future billings, verify whether this situation obtains under other projects in its portfolio, and take appropriate action or show why no corrective action is required;
- (f) review when power is to be available for mechanical structures being furnished electric motors, and assess whether the procurement of electric motors should be deferred or the motors stockpiled until power is available.

Recommendation No. 2

14

We recommend that USAID/Egypt, in consultation with appropriate GOE officials:

- (a) have a periodic evaluation made of the methodologies used by RIIP directorates to prioritize which canals or segments thereof and their problems receive priority study and funding;
- (b) request PWR to provide an annual report on:
 - (1) the status of RIIP data collection activities and the performance of organizations hired to collect data,
 - (2) the development and effectiveness of water user groups in maintaining completed project improvements,
 - (3) A.I.D. financed SR program construction to be managed by RIIP without a prior feasibility study, and
 - (4) vehicle and equipment utilization; and
- (c) monitor the Ministry's contract awards related to mesqa* improvements in the Herz-Numaniya Unit Command area in order to avoid a commitment to projects before details on the future maintenance of the projects are agreed upon.

Recommendation No. 3

15

We recommend that the project officer and PWR focus priority attention on cost recovery aspects under the RIIP component in order to establish a clear policy as to what costs will be recoverable, and whether total cost recovery is practical at this time.

Recommendation No. 4

18

We recommend that USAID/Egypt, in consultation with cognizant GOE officials, assess whether PPD:

- (a) can be expected to become viable given its inability to attract and retain staff with appropriate experience and language skills;
- (b) should be directed primarily at RIIP studies; and
- (c) will be able to encourage staff to perform necessary travel under current GOE per diem schedules.

Recommendation No. 5

22

We recommend that USAID/Egypt, in consultation with cognizant GOE officials:

- (a) advise CID to coordinate with the Water Research Center on actions needed to derive maximum benefits from \$429,000 in project equipment included in this review;
- (b) require CID, in its procurement plans:
 - to identify WRC staffing capabilities or training needs as well as expected target usage dates related to future requests from WRC for technical equipment;
 - to begin to operate or test technical equipment within the warranty period; and
- (c) approve procurement of additional soil test equipment, motorcycles, boats, flow meters, expensive survey equipment or trailers for the RIIP project only after evaluating the utilization of such equipment already provided to the Minya pilot project in order to verify that it is being adequately used and that appropriate storage space for the equipment has been provided.

APPENDIX 3

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