PD-ABS-331

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UNITED STATES GOVERNMENT

memorandum

DATE : 8 December 1989

REPLY TO ATTN OF : Michael McGovern, Engineering Advisor, AID/Rep, Peshawar

SUBJECT : **END OF CONTRACT REPORT**
PSC 306-0200-S-00-9211

TO : H.B. Cushing, AID/Rep, Peshawar

Attached find the subject report which outlines activities undertaken during the term of the contract and recommends future AID/Rep civil engineering/technical assistance (CE/TA) modalities. This report was requested earlier by Mr. Crandall.

My files which document all activities worked on during the past year have been handed over to the Monitoring Specialist.

Allow me to say here that I have enjoyed working for you and appreciate the support you gave me during the past year. I wish you and the AID/Rep well in the future and hope that you are successful in achieving your very worth while objectives in the coming years. I would look forward to being a part of it again in the future. For your information, I will be taking up a position with DAI in Wash.,D.C., starting on or about 10 February.

END OF CONTRACT REPORT

Michael McGovern, P.E.
Engineering Advisor
AID/Rep Peshawar

Personal Services Contract (PSC) Number
306-0200-S-00-9211 00

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APPENDICES

SUBMITTED BY
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5 DECEMBER 1987

COMMONWEALTH OF VIRGINIA
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11156
CERTIFIED PROFESSIONAL ENGINEER

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ABBREVIATIONS

ACLU	The Afghan Logistics and Construction Unit
ASSP	Agriculture Sector Support Project
CEP	Commodity Export Project
ESSP	Education Sector Support Project
HSSP	Health Sector Support Project
AMEG	American Manufacturers Export Group
UNO	University of Nebraska , Omaha
VITA	Volunteers In Technical Assistance
PSC	Personal services contract
NACP	Narcotics And Awareness Control Project
CE/TA	Civil engineering/technical assistance
CCSC	Construction Control Services Corp.
NGO	Non-government organization: The antiquated term, "volag" or voluntary agency is sometimes used to define these entities.

1.
BACKGROUND AND SUMMARY

This two year contract (PSC), with three additional and separate one year options, was executed on 15 December 1988 and terminates on 14 December 1989, at the completion of one year. The contract was terminated early at the request of the contractor for reasons of personal convenience.

The original Contract Scope of Work (SOW) is contained in **Appendix 1.** A listing of activities and work carried out during the past year under the contract is contained in **Appendix 2.**

The purpose of this end of contract report is not only to recount what was accomplished under this contract but to also suggest to AID/Rep management where to go from here on the question of future civil engineering technical assistance (CE/TA) in the AID/Rep program.

Existing AID/Rep programs are reviewed for current and future CE/TA inputs and needs by activity category. **Table 1.** on the following page is a summary of this review.

During the past year the PSC engineering advisor has not been sufficiently involved with the AID/Rep civil engineering portfolio as it exists in the AID/Rep projects. The reasons for this would be a subject for debate, however the bottom line is unequivocal: civil engineering activities were on-going during the past year that the PSC advisdr had little or no input in at any stage.

There are several ways to ensure the future required level of CE/TA is provided. After examining the alternatives the report recommends that AID/Rep retain an American PSC engineering advisor and that the contractors increase their level of CE/TA also. The report also suggests a framework, including delegations of responsibilities and authorities, through which the AID/Rep engineering advisor becomes actively involved in all work that is civil engineering related.

TABLE 1. Existing and Future CE/TA

AID/REP PROJECTS	CIVIL ENGINEERING ACTIVITIES EXISTING	TECHNICAL ASSISTANCE EXISTING
	POSSIBLE FUTURE	SUGGESTED FUTURE
ASSP (306-0204)	o Rural Works Construction (VITA)	VITA provides engineers and technicians as required/ No AID/Rep technical oversight to date
	o Larger Irrig. Scheme Rehab. And Const.	more, organized CE/TA will be necessary in VITA, better const. inspection and monitoring is probably needed/ More AID/Rep
CEP (306-0205)	o Construction And Maint. Of Roads (ACLU) (CCSC)	CCSC provides engineers and technicians as required/ Little AID/Rep oversight to date
	o Larger Road Rehab. And Const. Activity	Ex-pat CE/TA is needed now, more will be needed in the future
RAP (306-0208)	o Infrastructure Rehabilitation (NGO'S)	NGO's have little CE/TA capacity but projects are small/ Good level of AID/Rep oversight
		Future RAP activities should probably have more NGO CE/TA. Current level of AID/Rep support is adequate
ESSP (306-0202)	o Training (UNO)	UNO provides minimal CE/TA. virtually no AID/Rep oversight
	o School Const.	This would be a program and would require the services of 1 ex-pat engineer, additional
<u>OTHER</u> STUDIES	o variable	The studies contractor is responsible to provide as req./ No AID/Rep oversight
HSSP	o Health Unit Construction	1 ex-pat engineer required, add. / AID/Rep oversight a good idea
NACP	o Variable Infrastructure Rehabilitation	1 ex-pat engineer req. by contr. / AID/Rep oversight a good idea
STUDIES	o variable	AID/Rep CE/TA clearance

2.
ENGINEERING AND CONSTRUCTION IN THE AID/REP PROGRAM

Five current AID/Rep projects have engineering related activities on-going. The ASSP, CEP, RAP, and the Studies contract. Other engineering or construction work can be foreseen developing in the future under the existing projects or in new projects not yet obligated. This future work is not discussed in detail herein but is briefly outlined in **Table 1.**

ASSP

This project includes the Rural Works component, as currently implemented through a contract with VITA. The Rural Works project has a large number of sub-projects dealing with both new construction and rehabilitation of damaged infrastructure. These activities include road, irrigation, building and other types of construction. An analysis of the program and its CE/TA requirements here is not possible as the PSC advisor has had no contact with VITA during the past year. One recent exercise carried out at the request of the project officer, interviewing ex-pat and Afghan NGO personnel[1], found several, NGO perceived, specific problems with the implementation of the Rural Works Program

VITA currently employs an all Afghan staff to implement the sub-projects in several specific project areas in Afghanistan.

CEP

The ACLU is funded under the CEP. CCSC is under contract to provide technical assistance and to manage the ACLU. The ACLU has 2 main components (1) transport operations and (2) construction/rehabilitation of roads. To carry out operations in the latter, the ACLU has 2 construction units that are equipped with several pieces of expensive project funded, heavy construction equipment and manned by all Afghan construction crews. CCSC does not have an American engineer on their staff.

The two crews have not really been employed to a great extent. The 2 most significant activities carried out thusfar include the erection of the Arandu Bailey bridge and the improvement to the Nawa Pass road, which is still on-

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[1] The sources of these reports are reliable, experienced field workers who visited areas where Rural Works sub-projects were on-going during the past 10 months. All of the reports were verified once.

going. The latter should prove to be very useful and shows foresight in deciding which projects should be undertaken. The Nawa Pass is traditionally a problem in the spring because of melting snow and mud. This work should help to alleviate this problem allowing the transport of goods during the time when most commodities need to be transported. The bridge is still problematic. Testing of the bridge material should be a priority. Until proven otherwise this bridge is a risk. If the testing shows that the steel does not conform to material standards set for the bridge it should be dismantled and replaced at the cost of the supplier. It should also be noted that corrosion of that magnitude should have been spotted in an inspection by the AID/Rep purchasing agent before the bridge was shipped to Pakistan.

Future ACLU construction activities will probably include more road and bridge repair. The 2 crews need a great deal of additional inputs to do this effectively.

RAP

Small scale engineering and construction activities are carried out by RAP grantees, all NGO"S. Road and irrigation repair work predominates. Most of the work is done by hand although construction of concrete structures is undertaken. NGO's normally have local hire Afghan and/or Pakistani technicians. Technically, they know what to do but can be sloppy if not properly organized, supervised and/or motivated. NGO's generate large quantities of data, both survey/reconnaissance and implementation; participate in information sharing meetings, etc.,etc, but they still seem to implement projects "by feel," raising questions of quality and priority. Certainly they are proficient in moving inside Afghanistan and are very well aware of local politics and moods in their project areas.

The NGO's have many constraints to overcome to achieve anything, yet they do. Their strength is their laissez-faire. Assessing the quality of their work, under RAP, in traditional terms may be misleading. Their engineering and construction activities can be viewed as self help, income generating activities. This is also a criteria that must be used when reviewing designs and implementation reports. Quality control in cross border construction activities is still a real issue but must be looked at in light of other important objectives that are unique to this situation.

Currently, the AID/Rep engineering advisor formally clears off on the technical aspects of all RAP proposals. The real purpose of this check is to ensure that nothing too ambitious is started without the proper consideration given by the applicant. Proposals reviewed to date have been mainly irrigation rehabilitation with large income generating potential and should result in bringing

previously irrigated lands back under irrigation. The quality of the technical proposals are poor in traditional terms, but may be sufficient enough to allow goals to be achieved. Technical review of implementation monitoring reports should be used to determine continued support for each activity.

The Construction Guidelines were drafted with these thoughts in mind. These will be revised one additional time in response to constructive feedback by the RAP grantees received in a recent meeting attended by the evaluation team. Comments from the team will also be used to shape this revision.

ESSP

The UNO is now beginning the implementation of a construction skill manpower training program. Again, no analysis of this activity can be made here as only initial contact with UNO on this program has been made. No contact with this activity has been made for 4 months. Initial contacts did reveal a very junior Afghan staff and a lack of understanding of the needs and issues involved by the UNO management.

OTHER

STUDIES CONTRACT

Through Robert Nathan and Assoc., a series of studies are being undertaken, some of which to date have included reference to roads, their use and priority to repair. The engineering advisor assisted a team of TDY consultants, at their request, in gathering information along these lines.

ROAD DAMAGE AND REPAIR ASSESSMENT STUDY

A study was undertaken by an Afghan contractor and staff in close collaboration with the engineering advisor. This report was recently submitted behind schedule. It provides a preliminary view of the major eastern access routes to Afghanistan (1380 Km. of road was surveyed).

NARCOTICS AWARENESS AND CONTROL PROJECT

An Activity Authorization Paper was recently developed by a TDY consultant team. The engineering advisor served as a team member and made input relating to technical requirements of possible future project activities.

3.
AID/REP
CIVIL ENGINEERING TECHNICAL ASSISTANCE (CE/TA) REQUIREMENTS: NEEDS, ISSUES AND OPTIONS

NEEDS

The previous section outlined a large, diversified engineering and construction program with hundreds of activities, that cuts across several projects. Millions of dollars are spent on implementing engineering and construction activities in the AID/Rep program. How much CE/TA is needed for this? Enough to ensure that all, **WHICH IS REASONABLY POSSIBLE**, is being done to implement activities that are both generally, **AND TECHNICALLY**, well thought out, cost effective and useful. The civil engineering related aspects of the program are large and sophisticated enough to require a significant level of American, Afghan and TCN CE/TA specialist input at all levels, including effective, day to day, AID/Rep in-house CE/TA oversight. It is in the best interests of any organization that is funding a program with a large and complex civil engineering component to delegate the oversight of this component to properly qualified, trusted, in-house civil engineering staff. Properly utilizing experienced, in-house civil engineering capability in the AID/Rep program will result in better planned and executed construction projects by the contractors.

ISSUES AND OPTIONS

In deciding the total level and organizational aspects of CE/TA required in the program, several issues and options need to be looked at in light of the needs as mentioned.

Where should the required CE/TA be functionally located? With the contractors, with AID/Rep?

> It is needed at both levels. The operational need is with the contractors. They must have sufficient technical skill to do their job effectively. The oversight need is real and belongs with AID/Rep, in-house. Considering the size and diversity of the contractors' work, it should undergo AID/Rep scrutiny to ensure that technical proposals are adequate and cost estimates reasonable. In civil engineering work now on-going, this assurance is missing.

In the current situation, is there a sufficient level of CE/TA?

> No. All the contractors need additional CE/TA inputs. CCSC badly needs 2 **AMERICAN** engineers to mobilize the

moribund construction units of the ACLU. Their expertise must not only be related to road construction, design and maintenance but also be organizational. Both units need to be well scheduled and operational. There should be a plan which includes several activities for each unit. They should not have to look for work when they finish a job. The units also need to be self directed, not relying for much support on the main office. Without this they cannot work as fast as they have the potential to. Americans are needed not only for organizational skills but also to motivate the existing Afghans. Hiring another Afghan, no matter what his qualifications, will not achieve the desired result. Because any Afghan serving in this program must make his way with the complex local political scene, his effectiveness will always be limited to some degree. At the ACLU only a truly exceptional Afghan could do what is required to rouse those units. He will not be able to turn around the 2 units including all the fine tuning that will be required and at the same time assume the required authority from the chief of party necessary to do the job.

The Rural Works program needs an organizational overhaul and study into the VITA office and procedures by a well qualified engineer. There are questions surrounding their operations. Such a study is long overdue and needs to be in depth. Based on the results of this study, changes to the program management can be planned, if necessary. Again I recommend that an American engineer be included in the VITA office to direct the technical and organizational aspects of the program. An Afghan or Afghan naturalized citizen of another country cannot "be all that he can be" in that position.

Under the RAF, IRC needs an engineer to work with the NGO's. This position should be filled by a mid-level ex-pat. with about 3-5 years of overseas work experience in roads, irrigation, concrete and large labor intensive construction projects.

The UNO manpower training program needs more qualified management, at least, to continue. The program should also be critically reviewed for AID/Rep to ensure that the goals are reasonable in light of the needs. Also the program plan needs to be reviewed. Can the training to be provided pass on the necessary skills to the participants?

All the future studies that concern infrastructure should be planned by the AID/Rep including formal input from their engineering advisor. How can non-engineers determine the what needs to be studied to determine

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what needs exist, and how to address them in future projects. Omissions made at this early stage of any work will lead to problems later.

There needs to be an overall responsible AID/Rep engineer to ensure that the work in all the projects is satisfactory and coordinated.

What should the qualifications of the AID/Rep engineer be?

The engineer should have the same level of qualifications used to obtain the existing advisor. This position needs to be filled by someone who has excellent organizational skills as well as technical skills. At least 15 years experience managing large, extensive infrastructure design and implementation projects overseas is required.

Can a local hire Afghan or internationally recruited Afghan or naturalized Afghan assume these duties?

Generally, Afghan engineers, now available in Pakistan, trained in Afghanistan are technically well founded but seriously lack organizational skills and experience. They are not qualified to assume the duties of this position. Afghans who are naturalized citizens of other countries with overseas education and experience would be better and may be technically qualified, however they will have to take part, even to a minimum extent in the local Afghan political scene. This will limit their ability to be professional at all times. Their strength would be their ability to work closely with their people, however this could easily be offset by the limitations imposed on them due to political realities. They cannot be fully objective.

Should the AID/Rep engineering role be active or passive?

During the past year the role of the engineer has been advisorial, when requested at all. This has resulted in confusion over his job description and several activities receiving no AID/Rep qualified reviews. It does not matter at this point that the complexity of some work is not great, it could be in the future. A qualified individual needs to review and constantly monitor the contractor's work as it relates to civil engineering to ensure that proposals are adequate and cost estimates reasonable given the circumstances. **The AID/Rep engineer needs to be involved in all stages of any engineering activity including the design and survey work required.** This should prevent problems and time delays later. The AID/Rep engineering advisor should have **clearly defined, formal authorities and responsibilities** similar to those that other AID missions delegate to their Chief Engineer. It is not

understood why this has not been instituted in the past. Specialist activities related to engineering and construction should be managed by qualified engineering managers. The AID/Rep contractors, as their CE/TA is configured now, cannot be always relied upon to provide all that is required, nor can the project officers without specialist input. Currently they do not properly or sufficiently address these specialist requirements. This omission seems particularly glaring in the management of AID/Rep engineering and construction activities. **THE PROGRAM NEEDS AN ENGINEER MANAGER WHO ASSUMES RESPONSIBILITY FOR ALL AID/REP ENGINEERING AND CONSTRUCTION ACTIVITIES.** This includes a major role in the planning of future such activities.

Should a future AID/Rep engineer be based in Peshawar or Islamabad?

The engineer should be based in Peshawar so as to work closely with the contractors. The engineer should however be in a position to manage the engineering aspects of the various projects on behalf of the project officers. Without this delegation, His function is cursory at best. Based on first hand knowledge, the contractors will not cooperate unless he has this authority. There also needs to be much more liaison with the AID/Rep main office in Islamabad, however basing the position in Islamabad is not the key to making the engineer effective, it's the delegations that are required.

ADDRESSING FUTURE CE/TA IN THE AID/REP PROGRAM

Based on the experience gained in the last year and the size of the civil engineering component of the AID/Rep program. the following is recommended:

- Advertise for a qualified PSC American engineer to fill the position of a Peshawar based, AID/Rep Chief Engineer. Appendix 3. recommends a SOW for the position.

- Develop a formal protocol for this person to assume project officer responsibility for the civil engineering aspects of the AID/Rep program (this should include delegations to approve and clear new or modified activities and taking an authoritative role in AID/Rep planning for such future activities). The AID/Pakistan Mission Order concerning such delegations to their Office of Engineering should be used as a model.

- His first assignment snould be to study the civil engineering aspects of all the projects and to report on his findings and recommend any changes in each project that may be required. The AID/Rep civil engineering portfolio is in need of good specialist input. There are several problems which can only be addressed by an oversight engineer who has the authority delegated to him to correct deficiencies.

- Create 2 FSN engineer positions to support the engineer in reviewing contractor review reports and implementation in the field. These 2 Afghan engineers and the Engineering advisor would work closely with the Monitoring Specialist to coordinate monitoring in the field and to produce reports that include properly gathered and analyzed information

In making these recommendations, to empower an engineer to take on project officer duties, there must be full trust in the engineer by the project officers and an understanding that the engineer will not operate in a vacuum. Such a situation can be cultivated and be fruitful.

APPENDIX 1.
SCOPE OF WORK
PSC 306-0200-S-00-9211

STATEMENT OF DUTIES

A. NATURE AND SCOPE OF WORK

The Contractor, under the supervision of the Regional Affairs Officer/Afghanistan (RAO/A) and in collaboration with responsible Project Officers, shall assist Afghan organizations and/or AID/REP contractors to plan, design, implement and monitor civil engineering programs and projects or components thereof. This position has broad ranging responsibilities involving planning, design, construction and maintenance of structures, systems and facilities which are built on or below the surface of the ground. The Contractor shall also advise the O/AID/REP and entities designated by that office on the design, development, construction, and maintenance of roads, highways, bridges, railroads, buildings, dams, canals, drainage and irrigation systems, waterworks, reservoirs, sewage and waste disposal plants, and structures to prevent soils erosion. The Contractor will also advise on matters related to natural resource management and environmental engineering. To provide engineering expertise and advise to the O/AID/REP, the Contractor will be required to be knowledgeable about the range of AID/REP supported programs and projects and engineering components thereof. The Contractor will, from time to time, assist in the implementation of project activities as well as other O/AID/REP responsibilities.

B. SPECIFIC DUTIES

The Contractor shall:

1. serve as Technical Advisor to O/AID/REP, appropriate contractors, and Afghan Officials on matters relating to the planning, design, construction, and maintenance of civil engineering programs and projects; assist these officials in formulating plans for undertaking these activities; and advise on the socio-economic and technological factors which must be considered in relation to the cost of the undertaking and the impact its purpose will have on development of Afghanistan's resources.

2. participate in the review of project proposals to ensure that proposals meet the technical and managerial requirements necessary for successful accomplishment of project objectives, and advise on the practicability of undertaking the project from the standpoint of physical or other construction impediments, the availability and

accessibility of materials and equipment, and the planned use of the structure or system.

3. assist in preparing preliminary analyses of engineering projects or project components in coordination with other U.S. Mission offices and Afghan officials; review project and program documentation for adequacy of description of the scope of work, cost estimates and timing schedules; and recommend modifications as required.

4. recommend the need for feasibility studies and advise on criteria established for undertaking such studies, including the scope of work and cost factors involved.

5. recommend corrective action to resolve disagreements on engineering and construction practices and procedures, schedules, staffing requirements, and contract coverage.

The above scope of work is general and does not include all the possible requirements that could emerge in the unique circumstances of the O/AID/REP's program. Flexibility and the capability for immediate adaptation to changing conditions shall be the characteristics of the position and its incumbent.

D. REPORTING

The contractor will work under the direct supervision of the Regional Affairs Officer/Afghanistan (RAO/A). He will coordinate his work plan with the relevant Project Offices and provide advice and analyses to the AID/REP project staff, contractors and grantees. The Contractor shall also work closely with the technical staff of the Alliance and individual Afghan parties.

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APPENDIX 2.
MAJOR ACTIVITIES DURING CONTRACT

Effective date: 16 January 1989

ASSP

None

CEP

Arandu Bridge
Assisted the project officer from time to time during the course of the year. Input was limited to inspections and responding to specific technical questions. This activity should have been managed by an engineer from the procurement stage through erection. The bridge materials still urgently needs to be tested.

ACLU
Assisted the CCSC chief of party from time to time. The CCSC crew is a good team, however they cannot cope with the transport load and the construction load without at least one and preferably two American engineers. It is suggested that these additional positions be created and funded as soon as possible. Again it should be noted that the CCSC chief of party should **delegate** responsibility for construction to qualified staff.

RAP

The project officer delegated responsibility to the AID/Rep engineer for reviewing and approving the civil engineering components of RAP projects in July. Seven proposals were reviewed and six were approved. The RAP Construction Guidelines were also drafted and will be re-submitted after final revisions before departure.

ESSP

Preliminary review of the manpower project was made.

OTHER

SECONDMENT TO UNOCA/UNDP
For three months, was seconded as chief advisor to the Short Term Assistance for Rehabilitation Team (START). During this period, an office of approximately 40 Afghan technicians was established, 22 field trips by 11 two man teams were made to survey civil engineering projects for potential funding by UNDP. Advice to the START team was given informally for 2 months after secondment. The START

team now is providing direct support to the UNDP.

GARUM CHASMA TO BADAKSHAN ROAD
A field trip was made in October to determine and report on the possibility of funding some improvements of the on-going work being carried out by The Reconstruction Committee of the Panjshir.

MINISTRY OF RECONSTRUCTION/DIRECTORATE OF PLANNING AND STATISTICS
Assisted the Director in drafting a proposal to allow for the establishment of the unit.

NARCOTICS CONTROL AND AWARENESS PROJECT
Served as a team member with two other TDY consultants to draft the activity approval paper. Also participated in several narcotics related meetings and seminars on behalf of the AID/Rep.

IRC'S REHABILITATION PROJECT FOR AFGHANISTAN
As agreed by the Deputy AID/Rep, carried out a study of the technical and management aspects of the program as requested by IRC.

STEVENS INSTITUTE PROPOSAL

Carried out a review of the proposal to establish a civil engineering non-diploma school.

APPENDIX 3.
RECOMMENDED SCOPE OF WORK FOR FUTURE AID/REP ENGINEERING ADVISOR

POSITION: Chief Engineer, AID/Rep

GENERAL

Under the direction of the Deputy AID/Rep, the Chief Engineer shall advise, assist and provide oversight, as directed to the civil engineering and construction components of the AID/Rep program. The engineering and construction activities in the AID/Rep program exist in several different large projects. The Chief Engineer shall liaise closely with the relevant project officers to ensure that delegated responsibilities and authorities are discharged in accordance with the special conditions that affect program implementation. The Chief Engineer shall coordinate the on-going and future implementation of these activities as carried out by AID/Rep contractors and others as required.

SPECIFIC DUTIES

The Chief Engineer shall:

- Use same 5 paragraphs from original position description as shown in Appendix 1.

REPORTING

The incumbent shall report to the Deputy AID/Rep and shall work closely with the project officers to ensure that the management of the engineering and construction activities in each of the various projects is done so as to contribute to achieving project objectives and in light of the special characteristics of the AID/Rep program. The incumbent shall provide the following reports as well as others as required and directed:

- o Preliminary Assessment Report
  After five weeks from the effective date of the contract, the incumbent shall provide a report which presents conclusions concerning the AID/Rep civil engineering and construction activities as they exist in each of the projects. The report shall comment specifically on the following:

  * are the objectives reasonable,
  * are the objectives being achieved,
  * management of on-going engineering and construction activities,
  * technical soundness of on-going and completed work

* reasonability of cost of on-going and completed work
* how can the engineering and construction programs in each project be coordinated so as to compliment each other

This report will be used by the AID/Rep to outline a work plan for the Chief Engineer.

- **Monthly Project Reports**
  By the 5th day of the following month, the incumbent shall provide each project officer with a brief report which outlines the progress, problems and projections in the engineering and construction components of each project during that month.

- **Semi-annual Report**
  The Chief Engineer shall present a detailed report each 6 months which summarizes progress in all civil engineering activities in all the projects during the past 6 month period, examines and recommends adjustment to goals as required, recommends changes to management, implementation, reporting, and monitoring, etc., and makes projections of work to be accomplished during the next 6 months.

- **End Of Contract Report**
  The Chief Engineer shall submit a comprehensive final report which summarizes all AID/Rep engineering and construction activities during the term of the contract and makes recommendations to AID/Rep concerning future directions, including management and implementation modalities

IMAGE EVALUATION TEST TARGET (MT-3)

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