PD-ABG-609
83908

Monthly Progress Report
for July 1993

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Contract No.: *263-0194-C-00-1035-00*

Project No. : *263-0194.01*

Alexandria Electrical Network Modernization
Distribution System

Black & Veatch International/Sabbour Associates

USAID/Cairo

15 August 1993

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I. Executive Summary

The purpose of this report is to present project activities during July and project status through July 1993. Project activities during the period includes Low Tension Overhead Networks rehabilitation, Service Box Rehabilitation, Medium Tension Cable design and construction monitoring, Capacitor design, Preparation of Procurement Documents, and other tasks being implemented to help improve the distribution system operation.

Through July the project is 3.4 percent behind schedule. The rate of progress was below schedule during July. It is anticipated progress will be above schedule for the next several months. The project is behind schedule because procurement was delayed initially while USAID resolved the security requirement with AEDC and authorized AEDC for administration of a Host Country Contract. It has not been possible to get procurement back on schedule due to unanticipated obstacles occurring. The most severe, the requirement to rebid two IFB's due to all tenders being evaluated non-responsive. Design has been shifted in order to place more effort on construction that was initiated ahead of schedule, utilizing surplus material remaining from earlier phases of the project. Overhead Low Tension and Service Box construction is ahead of the original Work Plan schedule. The construction was initiated with surplus material from the previous phase and as the surplus material is exhausted AEDC procures additional material through local sources. Procurement is the most important phase to the overall project and emphasis is placed on getting all IFB's out for bid. While the project is behind schedule there are no items to the condition that will delay completion of the project work plan. There are not any unresolved obstacles holding up progress at the present. The important item that is behind schedule is procurement. One IFB was transmitted for advertising, during July.

Through June, the allocated professional manhour budget is 49.0 percent of the total budget. Through this period the manhours expended is 32.9 percent of the total budget. Through this same period the scheduled completion was 49.0 percent and the actual completion was 45.7 percent. We have completed 93.3 percent of the assigned effort while expending only 67.2 percent of the allocated budget. While the project is behind schedule, the expenditure is well below the budget amount.

II. Project Administration

1. The BVI Resident Distribution engineer was assigned. The Project on July 25. The current staff includes the following positions

   - Resident Project Manager
   - Resident Distribution Engineer
   - Resident Construction Specialist

2. The Sabbour Associates staff included the change of personal for one of the Distribution engineer. The current staff includes the following positions

   - Project Coordinator (part time)
   - Assistant Resident Project Manager (Part time)
   - Three Distribution Engineers
   - Financial and Administration Director
   - Assistant Financial Director
   - Draftsman
   - Secretary
   - Executive Secretary (Part Time)
   - Executive Secretary

III. Project Activities

1. Low Tension Overhead Network Rehabilitation for the Low Tension Overhead System continued progressing ahead of schedule. Design has been completed for 13 of the 14 districts. Through the end of July design work and release of construction documents is according to schedule. Low Tension Overhead network construction was initiated during December 1991. The AEDC district construction crews are carrying out construction in their respective districts. During July construction was completed in 4 Transformer Points, in 4 districts, with construction in progress on 26 Transformer Points in 13 districts. Through July construction is 40.7 percent complete which is 1.4 percent behind schedule.

2. Low Tension Underground Network Rehabilitation of the Low Tension Underground System involves application of proper electrical connections and installation of new Service Boxes. The design effort includes identification of the Service Boxes for rehabilitation and preparation of work orders itemizing the material required to complete the work. The scheduled design work was completed in February 1993.

Construction for rehabilitation of Service Boxes is in progress utilizing surplus materials procured on the previous project. The AEDC district construction crews initiated construction in June 1991 with the monthly rate improving as construction was implemented in additional Districts. During January 1992 the districts conducted a detailed survey of the number of Service Boxes that require rehabilitation. During the survey the districts evaluated the rate they could carry out the construction. Based on that evaluation the construction schedule was updated to reflect the revised quantity of service boxes and the more realistic rate of construction. Through July construction is 78.0 percent complete which is 4.8 percent ahead of schedule.

3. Medium Tension (11kV) Cable effort this month includes design and construction monitoring.

AEDC identified 56 Km of cable for placement during the 1993/1994 digging season. This will require issuing 104 Work Orders. The design is underway selecting routes, verifying constructability, and Preparing Work Orders for the circuits that have been identified. Through July design is 46.8 percent complete which is 0.7 percent ahead of schedule.

Construction for the 1992/1993 digging season was initiated during October. Through the end of July 102.2 Km has been placed under construction, 89.6 Km of cable has been placed, and 88.9 Km has been energized. Through July construction is 51.2 percent complete which is 13.7 percent ahead of schedule.

All underground cable installed under this project will be local purchase of cable produced in Egypt. The project developed a design guide for use in installation of cable under this project. This guide will be developed as a standard for AEDC use in their cable installation design. The data presented in the guide has been accepted by AEDC and is in use for the project 11kV design and AEDC is using the data for cable rating applications.

4. Capacitor work and system analysis project activity related to the capacitor study included recording power factor and reactive power, and performing economic analysis. Recordings taken through August 1992 are for data to use in preparing the system analysis input to the Capacitor Study. Starting in September 1992 the recording data obtained will be utilized for determining the placement of capacitors.

The Capacitor study will identify the amount of reactive power to be compensated, determine where the capacitors will be located, and specify which locations will be fixed or switched. The economic analysis part of the program will establish the economic feasibility of which capacitors are justified.

The economic analysis part of the capacitor Study was initiated during July 1992. BVI/SA prepared the proposed criteria for use in conducting the economic analysis. The criteris was reviewed updated, and accepted by AEDC and USAID. Utilizing this criteria the capacitor study was prepared and the final report was issued during June.

The capacitor program is 79.2 percent complete which is 2.4 percent ahead of schedule. The capacitor study identified where capacitors are required. There is a quantity of capacitors remaining from the previous project. Design is underway to install these units while the new supply is bing procured. The IFB for purchase of capacitors is under preparation.

IV. Procurement

1. US Dollar Purchase

Activity relating to USAID financed material involved the following items.

1.1 IFB#1

Bid documents for construction tools was issued for AEDC and USAID review on October 23, 1991. AEDC provided their comments on the technical section during December. This IFB was issued for final review in early February.

After USAID issued a certificate for AEDC to administer a Host Country Contract, on 8 April, the announcement was sent for placement in the Commerce Business Daily. The announcement was published in CBD on April 17, 1992. Bid opening was held on June 22,1992. Tender documents were sold to nine potential bidders. Bids were submitted by three bidders with each bidder quoting on all three line items. The bid evaluation was completed and forwarded by the bid evaluation committee on July 13. During August the High Purchase Committee approved issuance of the contract. To obtain the best price it is necessary to issue this IFB in two Contracts. The draft contracts were transmitted for USAID approval on September 14, 1992. USAID would not approve AEDC signing the contract without AEDC agreeing to eliminate the Performance Guarantee covering the warranty period. USAID issued conditional approval on October 22 and AEDC signed the contracts on October 25. To satisfy USAID requirements an Amendment was issued to delete the Performance Guarantee during the warranty period. The Performance Guarantees were received by AEDC and transmitted to USAID on November 29, 1992. USAID issued the letter of Commitment for each contract on December 14, 1992. The letter of Commitment was signed by these suppliers on 4 January and 11 January and returned to USAID. The mechanical hand tools were ready for shipment on February 15. The first shipment arrived on 31 March. A second shipment arrived on June 12 and the final shipment was delivred in early July. The fiber glass ladders arrived on 24 May.

1.2 IFB#2

This IFB was to include 11kV and 380V Cable accessories, including splices, terminations, fault indicators, and other items not available from the local market. The IFB technical section was reviewed by AEDC during May 1992. The document was updated to incorporate AEDC requirements, commercial section added , and issued for final AEDC and USAID review and approval on June 23. USAID approved the document and transmitted the Commerce Business Daily announcement on July 28, with a bid opening date of September 27. The announcement was included in the CBD on July 30, 1992. BVI, Kansas City, sold six sets of tender documents. The bid opening was held on September 27, with four suppliers submitting bids.

All four Tenders were declared non-responsive during bid evaluation. The IFB was cancelled and a new IFB 02A, will be issued to obtain new bids. The IFB -02A was issued for AEDC review on November 9, 1992 and forwarded for USAID review on November 24, 1992. On February 16 USAID issued instructions to rewrite the IFB according to USAID model IFB for commodities. The IFB commercial and technical sections are rewritten. The IFB was issued for AEDC review on April 4, and forwarded for USAID review on April 15. The IFB was advertized in the CBD on July 1 with a bid opening date of September 1.

1.3 IFB#3

Bid documents were completed for construction vehicles, including bucket trucks, crane trucks, and fork lift trucks and issued for AEDC technical specifications review on March 26, 1992. A technical review was held with AEDC on 3 May. AEDC requirements, including quantities, were incorporated and the document was issued for final review by AEDC and USAID on July 14. The Guarantee sections of section 3 was revised to meet USAID requirements and reissued on September 21. USAID requested an additional addition to section 3, which was incorporated and transmitted on October 29. USAID transmitted the advertisement to CBD and the announcement was published on November 27, 1992 with a bid opening date of February 8, 1993. Bid opening was held on February 8 with 10 companies submitting tenders.

The Bid Evaluation and recommendation was completed and transmitted to AEDC on March 21. AEDC forwarded the evaluation to USAID on April 14. USAID did not concur with the bid evaluation and recommendation as it was presented by BVI and AEDC. Implementation letter No. 19C, dated June 13, provided USAID requirements. The bid evaluation was update to comply with IL 19C and transmitted to USAID on June 29. The recommendation is to issue a contract with one supplier for item 1 & 2, issue a second contract with a second supplier for item 3, and rebid item 4.

1.4 IFB#4

Technical specifications for 42 items of test equipment

have been prepared, the test equipment includes equipment for testing all types of power apparatus. The specification include a van equipped for testing and location of faults in underground cable. The technical specifications have been reviewed by AEDC and updated to incorporate their comments. This IFB was delayed, at AEDC request, during August for addition of spare parts and additional items of test equipment. The IFB was issued for AEDC and USAID final review on september 29. During December USAID instructed AEDC that specific items must be changed before they will approve the IFB. The changes were incorporated and the revised section issued to AEDC on December 14 and AEDC transmitted to USAID on December 24. USAID approved advertising of the IFB on 24 January and transmitted the advertisement for publication in the Commerce Business Daily with a bid opening date of 21 April. The bid opening was held on 21 April with seven bids received. The bid evaluation was completed during May. The bid evaluation was transmitted to USAID on June 17. All tenders were declared non-responsive due to no bid security, bid security not according to IFB requirement, not meeting source of origin requirement, not technically acceptable, or price not reasonable. The recommendation is to cancel the IFB and reissue for bid.

1.5 IFB#5

This IFB is for purchase of overhead material and miscellaneous material and equipment. The technical specifications and a list of quantities was prepared and the document submitted for AEDC technical review on September 30. A meeting was held with AEDC on October 21, for review of the specifications and quantities. AEDC Comments was incorporated and the IFB issued for AEDC review on 26 November. AEDC transmitted to USAID on December 22. On February 16 USAID issued instructions to rewrite the IFB according to USAID model IFB for commodities. The rewritten IFB was issued for AEDC review on April 22 and forwarded to USAID on May 5. The advertisment for bids was published in the CBD one July 15 with a bid opening date of September 15.

1.6 IFB#6

This IFB is for purchase of capacitors and capacitor switching equipment. The technical specifications and list of quantities are scheduled for delivery to AEDC

during Augest 1993.

2.0 Local Purchase

AEDC will finance and procure a major part of material and equipment from local sources, with payment in Egyptian Pounds. Material for local purchase will include LTOH cable, underground cable, transformers, switchgear, and miscellaneous hardware.

BVI/SA will prepare the technical specifications and bill of material for these purchases. AEDC will receive bids and issue purchase orders according to their standard purchase procedures. Items of material included in the Work Plan for USAID financing that will be procured from local manufacturer's must be inspected and tested to assure they are produced to acceptable quality standards. BVI/SA will assist AEDC in establishing test requirements and witnessing the tests.

BVI/SA accompanied AEDC on inspection trips to witness production and testing of insulated cable being purchased for installation by the project. Two separate trips were made to Electro-Cable for inspection and testing of low tension overhead cable. Based on observations during the trips BVI/SA provided AEDC the acceptance test requirements that are required to verify the cable quality. Electro-cable is issuing factory production test and the cable is being checked as it is received by AEDC.

During September 1992 an inspection trip was made to El Sewedy Arab Cables Co. to observe the production and testing of medium tension underground cable that is being produced for the project. The test procedures are in compliance with standards and no changes are recommended. AEDC will witness all acceptance tests before the cable is delivered.

3.0 Status

Project procurement is 43.6 percent complete through July

which is 12.2 percent behind schedule. There are several reasons procurement is behind schedule. USAID requires that IFB's allow the Supplier to choose the type of security they provide. AEDC insisted that the security be in the form of a bank guarantee. This issue required a considerable amount of time and effort to resolve. Initially, IFB's could not be issued until AEDC was authorized to administer a Host Country Contract. Now that purchase documents are being processed the USAID review and approval process is requiring more time and effort than was allowed when the original plan and schedule was developed. The requirement to declare tenders for two IFB's non-responsive and cancel the IFB's has delayed procurement further. Procurement has dropped more than six months behind schedule and with time required for the review and approval process it is not anticipated the overall rate of progress will improve over the next several months. With IFB's in the procurement process and other IFB's being processed the rate of progress will continue at approximately or below the scheduled rate until all IFB's have been advertised.

V. Training

Training AEDC personnel in proper operation and maintenance procedures is a vital part of this project. The major portion of training will be conducted by AEDC personnel actually performing the work assignments with the guidance of BVI/SA personnel. At the end of July AEDC has six employees assigned to the project. The following is a listing of titles for the personnel.

Number	Title
1	Manager
1	Manager (AutoCad)
1	11kV Cable Engineer
1	Capacitor Engineer
1	Distribution Engineer
2	Warehouse Inventory

The project Work Plan requires autocad training to commence the first of October 1991. The AEDC Provided Computers required for Autocad training were delivered on December 24 and the network was installed during January. Autocad training was implemented the first of February 1992. Two engineers and three technicians were assigned to the first group to receive autocad training. AEDC has equipped the Information Department with Autocad

equipment. Five of the trainees have been assigned to produce drawings on this equipment. The other trainees are continuing advanced training by production of project drawings. A second group of trainees, consisting of two engineers and two technicians, commenced training on the first of May. A third group of trainees, consisting of four technicians, commenced training during August. Since the departure of the BVI AutoCad specialist one class of trainees has been conducted and a second class was initiated during June.

The Trainees in advanced training performing production work are producing Single Line Diagrams of Distribution Points and digitizing city maps. The digitized data is utilized for preparation of maps showing facility location and cable routing. At the end of July there are 16 AEDC engineers and technicians assigned to AutoCad work.

VI Design

Project design through this period involves design of Low Tension Network and 11kV cable design. Low Tension Overhead Design includes rehabilitation of 560 Transformer Points. Low Tension Underground design includes rehabilitation of 9,556 Service Boxes. Medium tension (11kV) design involves preparation of maps and Work Orders for placement of 283 Km of underground cable.

The composite design for all project design requirements is 61.0 percent complete through July, which is 5.6 percent behind schedule. Project design is behind schedule due to greater effort being placed on procurement and construction activities. While design is behind schedule it is not creating any delay to the overall project. The design is well ahead in issuing documents for construction.

VII Schedule

Project planned and actual schedules are presented in earlier sections under their respective categories. The overall schedule for the entire project is 47.34 percent complete through July, which is 3.4 percent behind schedule.
The overall project is 3.4 percent behind schedule compared with 3.3 percent in June. The progress rate was below

schedule in July. There are several factors that have contributed to the project being behind schedule. Design is behind schedule due to more effort placed on monitoring construction. The project plan scheduled design to be essentially complete before initiation of construction. Construction was initiated ahead of schedule in order to utilize surplus material from the previous project and to make the construction duration longer to enable the construction to be carried out by AEDC crews without the use of contractors. During the period while the conflict over conditions in the Commercial Section of the IFB was being resolved and AEDC was not authorized to administer a Host Country Contract no IFB'S were issued. Procurement is being delayed due to two IFB's being cancelled due to non-responsive tenders.

All issues have been resolved, certification approved, and IFB's are being issued. With IFB's being issued the rate of procurement progress will be at or below schedule for the next several months. With autocad and other computer training advancement to where project personnel are utilizing computers for production of project activities overall progress will improve.

VIII Manhour Budget

The overall project manhour expenditure is 67.4 percent of the scheduled budget through June. Through this same period 32.9 percent of the total budget was expended, compared with the scheduled expenditure of 49.0 percent. The main reason expended time is below schedule is due to AEDC providing staff to some of the positions scheduled to be staffed by Sabbour Associates personnel. The Capacitor Engineer Position transferred from Sabbour Associates to AEDC at the end of June 1991. The 11kV Distribution Engineer was not assigned until September 1992. Appendix A provides the status of expenditure for each position included in development of the project.

IX Expenditures

1.0 U.S. Dollar Expenditures

The following is a summary of U.S. dollar expenditures, except for consultant services.

Item	Committed	Expended	Total
17841 SVP#1		24,135.20	24,135.20
IFB 17841-01			
Parts 1 & 2		424,399.30	424,399.30
Part 3		78,069.29	78,069.29
IFB 17841-02			
IFB 17841-03			
IFB 17841-04			
IFB 17841-05			
IFB 17841-06			
TOTAL		**$ 526,603.79**	**$ 526,603.79**

2.0 L.E Expenditures

The following is a summary of L.E. expenditures through March 1993.

In-Kind Contribution		**641,368.17**
Cash Payment		**18,533,460.77**
TOTAL	**L.E**	**19,174,828.94**

Note:
The total L.E expenditure includes L.E. 4,170,200 for local purchase of Quadraplex cable manufactured in Egypt. The original implementation plan called for this item to be purchased with USAID funds.

X Attachments

To provide more in depth details of project activities and a graphical display of progress for the various activities appendices A through N are attached.

File:28.0200
PC:PROGRESS
F.A.

BVI/SA
July 1993

APPENDIX A
ALEXANDRIA NETWORK MODERNIZATION
DISTRIBUTION SYSTEM
USAID PROJECT NO. 263-0194.01

MANHOUR BUDGET STATUS

Expended Through: June 1993	Expenditure Actual	Expenditure Scheduled	Total Budget
Black & Veatch International			
Field Staff			
Resident Project Manager	4,592	4,600	12,020
Resident Distribution Engineer	4,730	3,680	6,500
Resident Autocad Specialist	2,056	1,904	1,904
Resident Construction Specialist	2,102	1,564	6,270
Sub Total	13,480	11,768	26,694
Home Office Staff			
Project Manager	913	647	1,300
Distribution Engineer	198	1,162	1,560
Inspection Engineer	32	168	467
Procurement Specialist	174	722	1,300
Subcontract Administrator	69	200	560
Sub Total	1,386	2,899	5,187
Total BVI	14,866	14,666	31,881
Sabbour Associates			
Project Coordinator	1,661	2,383	4,144
Assistant Resident Manager	2,822	4,768	10,214
Distribution Engineer 11 KV	1,585	5,245	7,916
Distribution Engineer (1)	4,548	5,245	10,840
Distribution Engineer (2)	4,580	5,245	10,840
Capacitor Engineer	777	5,245	9,680
Financial & Administration Director	4,584	4,768	10,012
Asst. Administration Director	0	4,768	9,694
Asst. Financial Director	4,151	4,768	9,694
Materials Inventory Specialist	0	1,113	4,609
Home Office Engineer	0	693	693
Total Sabbour	24,706	44,237	88,336
Project Total	39,572	58,903	120,217

APPENDIX B

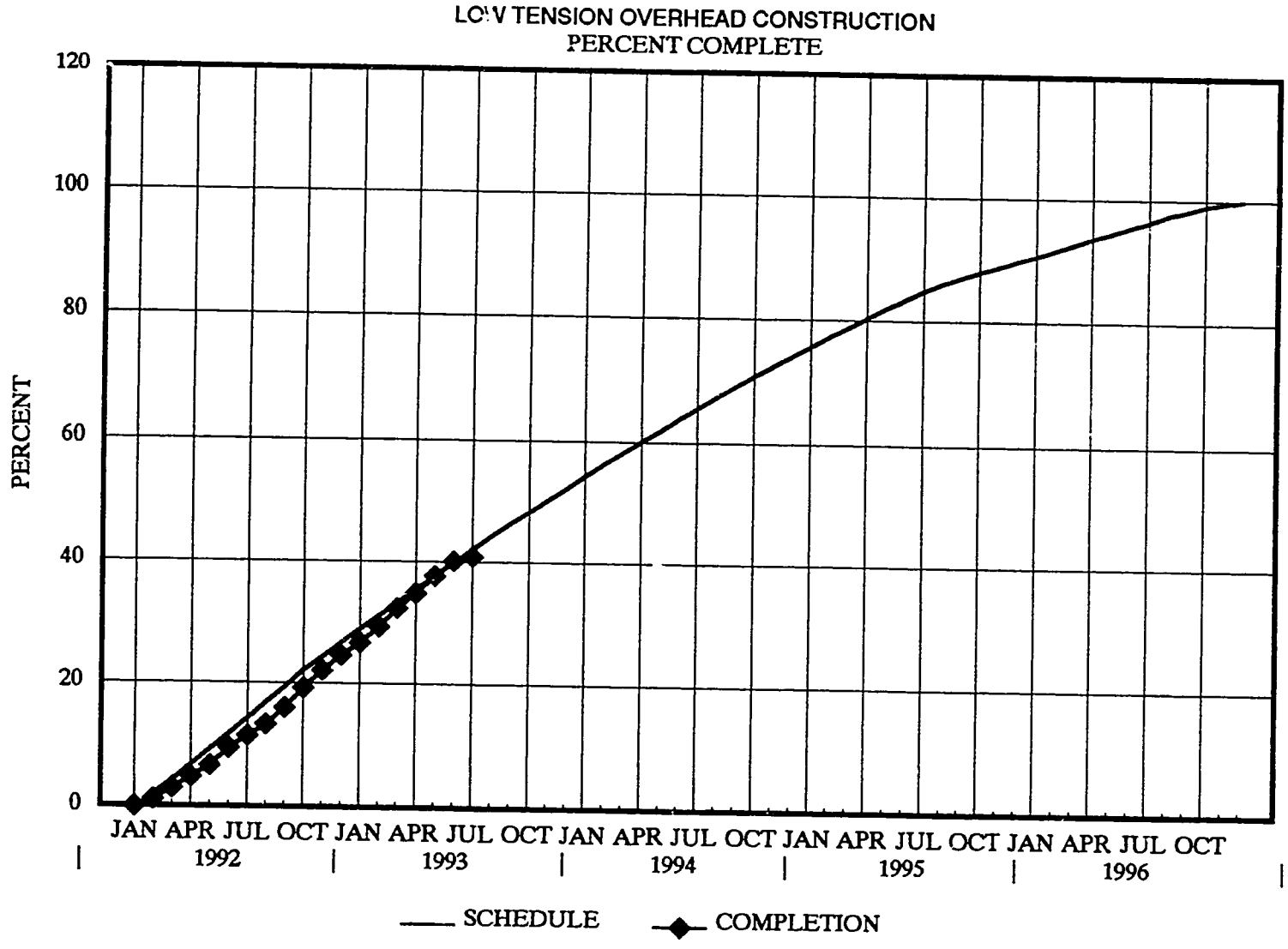
BVI/Sabbour
Month: July 1993

Low Tension Overhead Network Construction

District	Number of T.P.'s	Status This Month			Status To Date		
		Transformer Points			Transformer Points		
		Monthly Rate	Under Construction	Construction Complete	Scheduled Completion	Construction Complete	Status *
East/Central Zone							
Abukir	21	1	2	1	13	11	Bh.S.
Mandara	121	2	4	1	21	18	Bh.S.
Sidi Bishr	41	1	1	–	26	28	Ah.S.
Siouf	118	2	3	–	36	36	A.S.
Saba Pasha	55	1	1	–	18	19	Ah.S.
Semouha	35	1	1	1	18	19	Ah.S.
TOTAL	391	8	12	3	132	131	
Central/West Zone							
Ibrahimia	49	2	3	–	27	22	Bh.S.
Moharem Bey	50	2	3	–	31	38	Ah.S.
Gomrok	86	2	4	–	33	31	Bh.S.
Kabbary	7	–	–	–	7	7	C–C
Dekhela	14	1	1	1	11	12	Ah.S.
Amria	16	1	1	–	11	9	Bh.S.
Agami	9	1	1	–	9	8	Bh.S.
NW Coast	19	1	1	–	4	3	Bh.S.
Total	250	7	14	1	133	130	
Grand Total	641	15	26	4	265	281	
Percent Complete	100	2	4	1	41	41	

* A.S. : According to schedule; Ah.S. : Ahead of schedule;
Bh.S.: Behind schedule.

** A number of T.P.s shall be moved from Mandara to Abu Kir



APPENDIX C

19

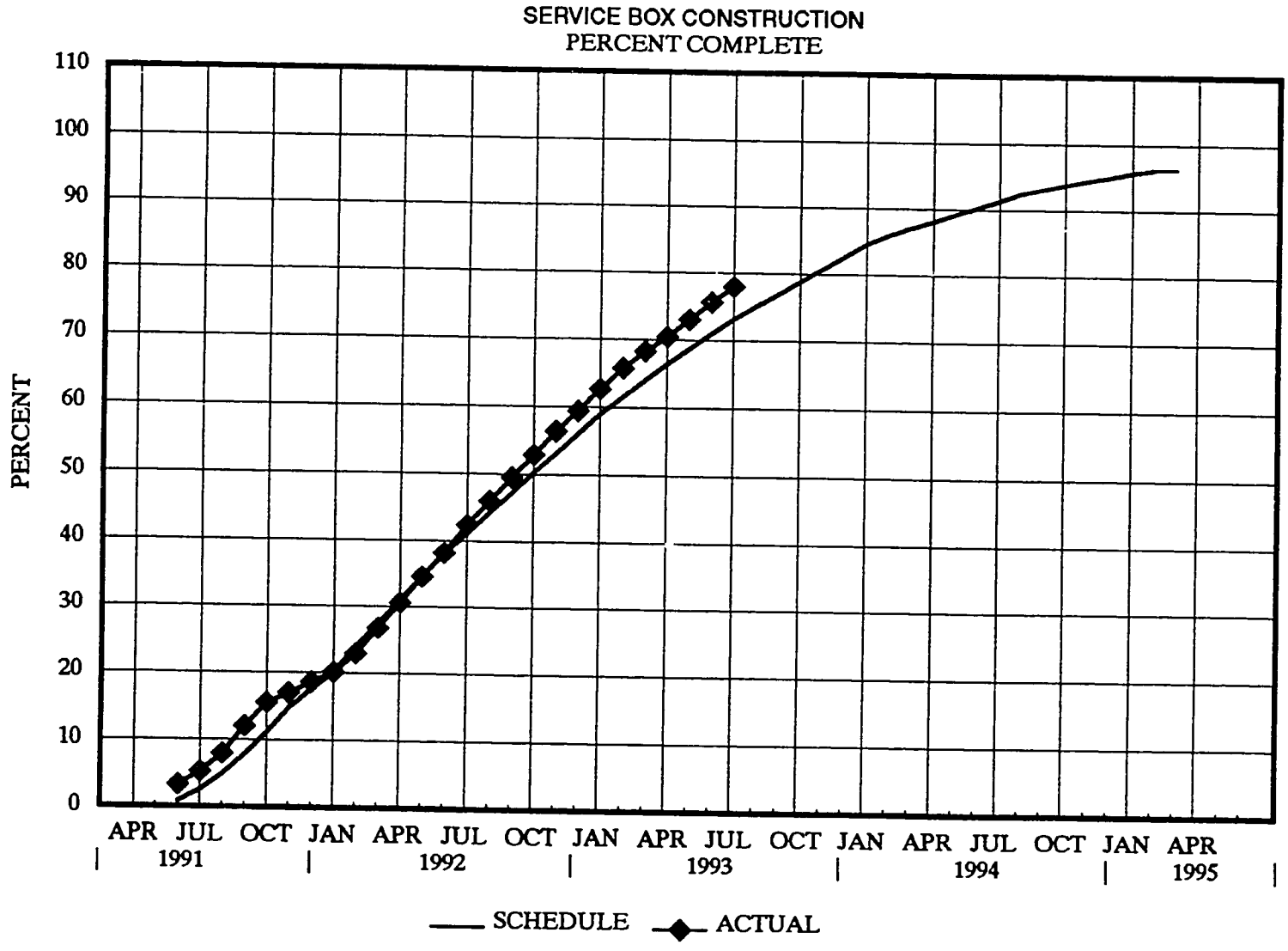
APPENDIX D

BVI/Sabbour
Month: July 1993

Service Box Rehabilitation

District	S.B's To Rehab.	Completed This Month				Completed To Date			
		Work Orders		Construction		Design	Construction		
		No. Issued	No. of S.B.'s	Monthly Rate	S.B.'s Complete	No. of S.B.'s	Scheduled Completion	S.B.'s Complete	Status **
East/Central									
Abukir	107	–	–	–	–	107	107	107	C.C.
Sidi Bishr	355	–	–	–	–	355	355	355	C.C.
Siouf	749	–	–	30	20	749	696	741	Ah.S.
Saba Pasha	1,648	–	–	40	30	1,648	924	1,100	Ah.S.
Semouha/ Sidi Gaber	446	–	–		–	446	446	446	C.C.
Total	3,305	0	0	70	50	3,305	2,528	2,749	
Central/West									
Ibrahimia	388	–	–	11	–	388	388	377	Bh.S.
Moharem Bey	257	–	–	–	–	257	257	257	C.C.
Gomrok	276	–	–	–	–	276	278	278	C.C.
Kabbary	191	–	–	–	–	191	191	191	C.C.
Dekheila	–	–	–	–	–	0		0	
Agamy	2,782	–	–	80	108	2,782	2,272	2,470	Ah.S.
Amria	2,355	–	–	60	70	2,355	1,239	1,130	Bh.S.
North West Villages	–	–	–	–	–	0		0	
Total	6,251	0	0	151	178	6,251	4,625	4,703	
Grand Total	9,556	0	0	221	228	9,556	7,153	7,452	Ah.S.
Percent Complete	100	–	0	–	2.4	100	74.9	78	

** A.S. According to schedule; Ah.S. Ahead of schedule;
Bh.S. Behind schedule; C.C. Construction completed.


SERVICE BOX CONSTRUCTION
PERCENT COMPLETE
PERCENT
110
100
90
80
70
60
50
40
30
20
10
0
APR JUL OCT JAN APR JUL OCT JAN APR JUL OCT JAN APR JUL OCT JAN APR
1991
1992
1993
1994
1995
SCHEDULE
ACTUAL

APPENDIX E

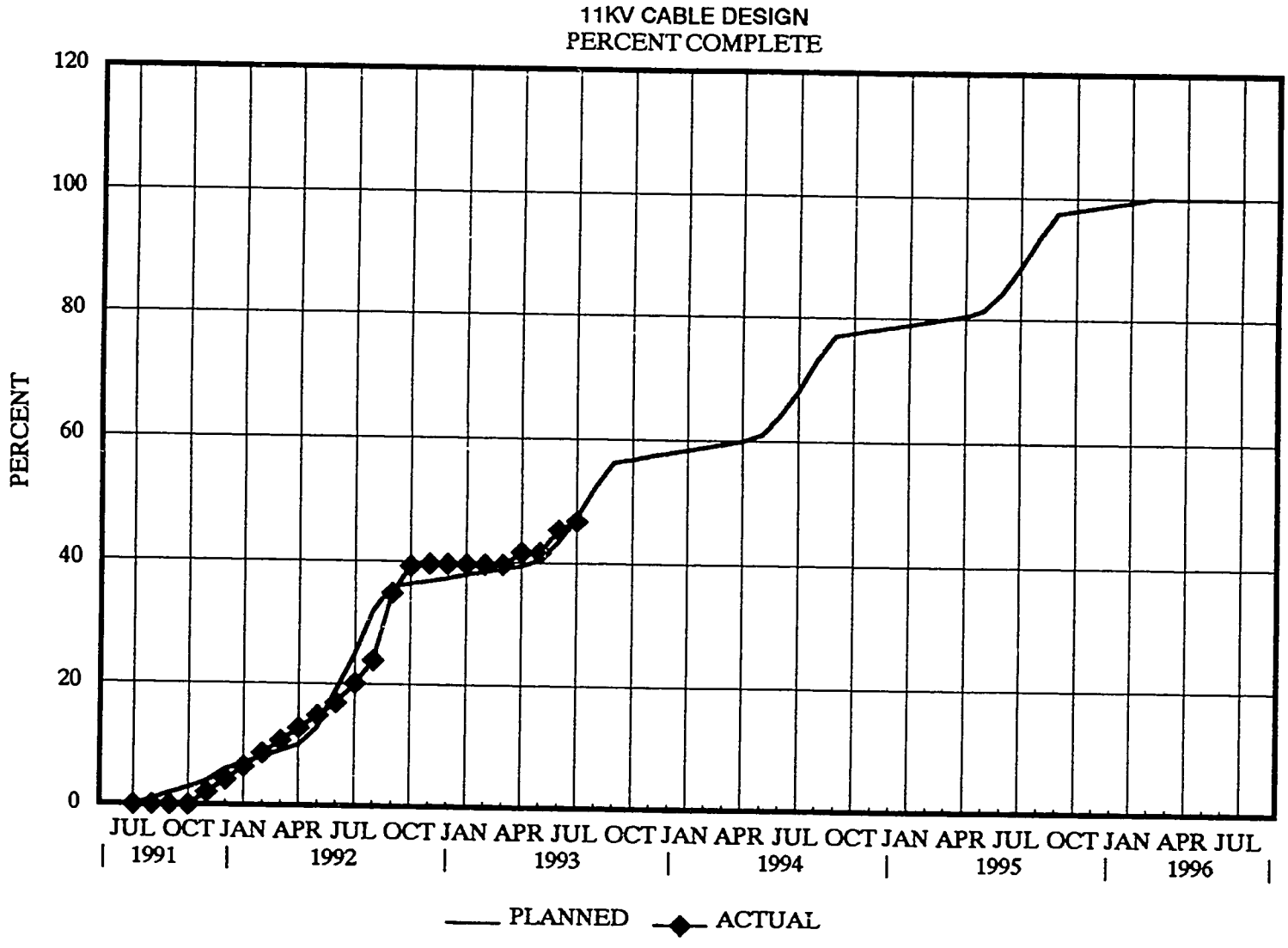
APPENDIX F

BVI/Sabbour
Month: July 1993

11 kV Cable Design

	Estimated Number of W.O.'s	Completed This Month					Completed To Date				
		Route Selected	Route Field Verified	Route Appr'd	Work Order Compl	Work Order Delivered	Route Selected	Route Field Verified	Route Appr'd	Work Order Compl	Work Order Delivered
Previous Digging Seasons											
	228						228	228	228	228	228
Current Digging Season 1993/1994											
East Zone	50	16	16	0	0	0	28	28	12	12	0
West Zone	54	0	0	0	0	0	11	11	11	11	1
Total	104	16	16	0	0	0	39	39	23	23	1
Remaining Project Requirement											
	86										
Project Summary											
Grand Total	418						267	267	251	251	229
Percent Complete											
Current Season		15.38	15.38	0	0	0	37.5	37.5	22.12	22.12	0.96
To Date							63.88	63.88	60.05	60.05	54.78

22


11KV CABLE DESIGN
PERCENT COMPLETE
PERCENT
120
100
80
60
40
20
0
JUL OCT JAN APR JUL OCT JAN APR JUL OCT JAN APR JUL OCT JAN APR JUL OCT JAN APR JUL
1991
1992
1993
1994
1995
1996
PLANNED
ACTUAL

APPENDIX G

APPENDIX H

BVI/Sabbour
Month: July 1993

11 kV Cable Construction

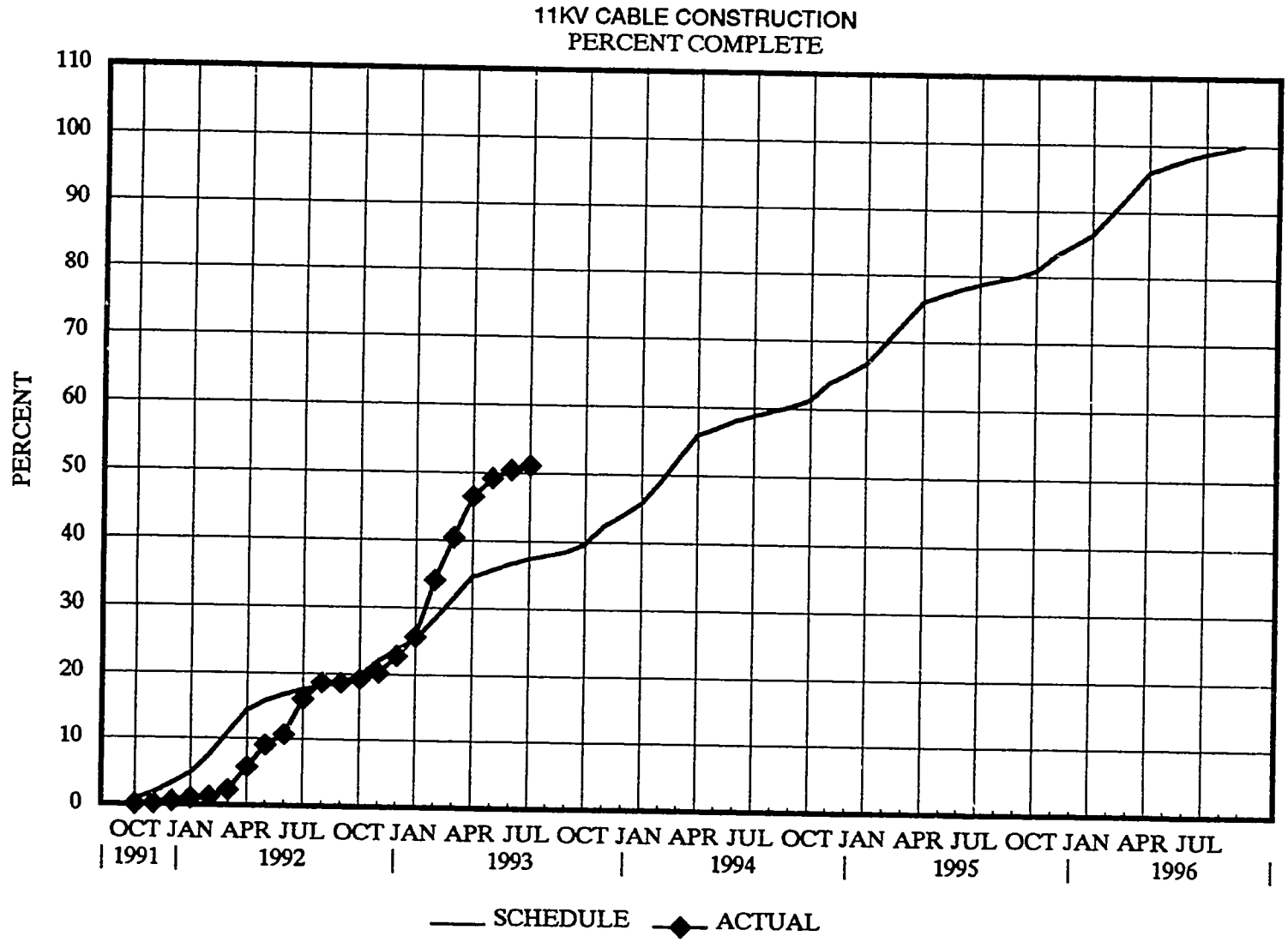
	Estimated Number of km	Completed This Month			Completed To Date		
		Placed Under Const	Cable In Place	Cable Energized	Under Const.	Cable In Place	Cable Energized
Previous Digging Seasons							
	158				158	146	145
Current Digging Season 1993/1994							
East Zone	17.92	–	–	–	–	–	–
West Zone	38.08	12	–	–	12	–	–
Total	56	12	0	0	12	12	16.4
Percent Complete		21.43	0	0	21.43	21.43	29.29

Detail Plan for Season

Month	Oct	Nov	Dec	Jan	Feb	Mar	Apr
km							

Remaining Project Requirement							
	* 69						
Project Summary							
Grand Total	283				170.18	157.645	160.925
Percent Complete					60.1	55.67	56.83

* 69 km Planned 94/95


11KV CABLE CONSTRUCTION
PERCENT COMPLETE
PERCENT
110
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80
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60
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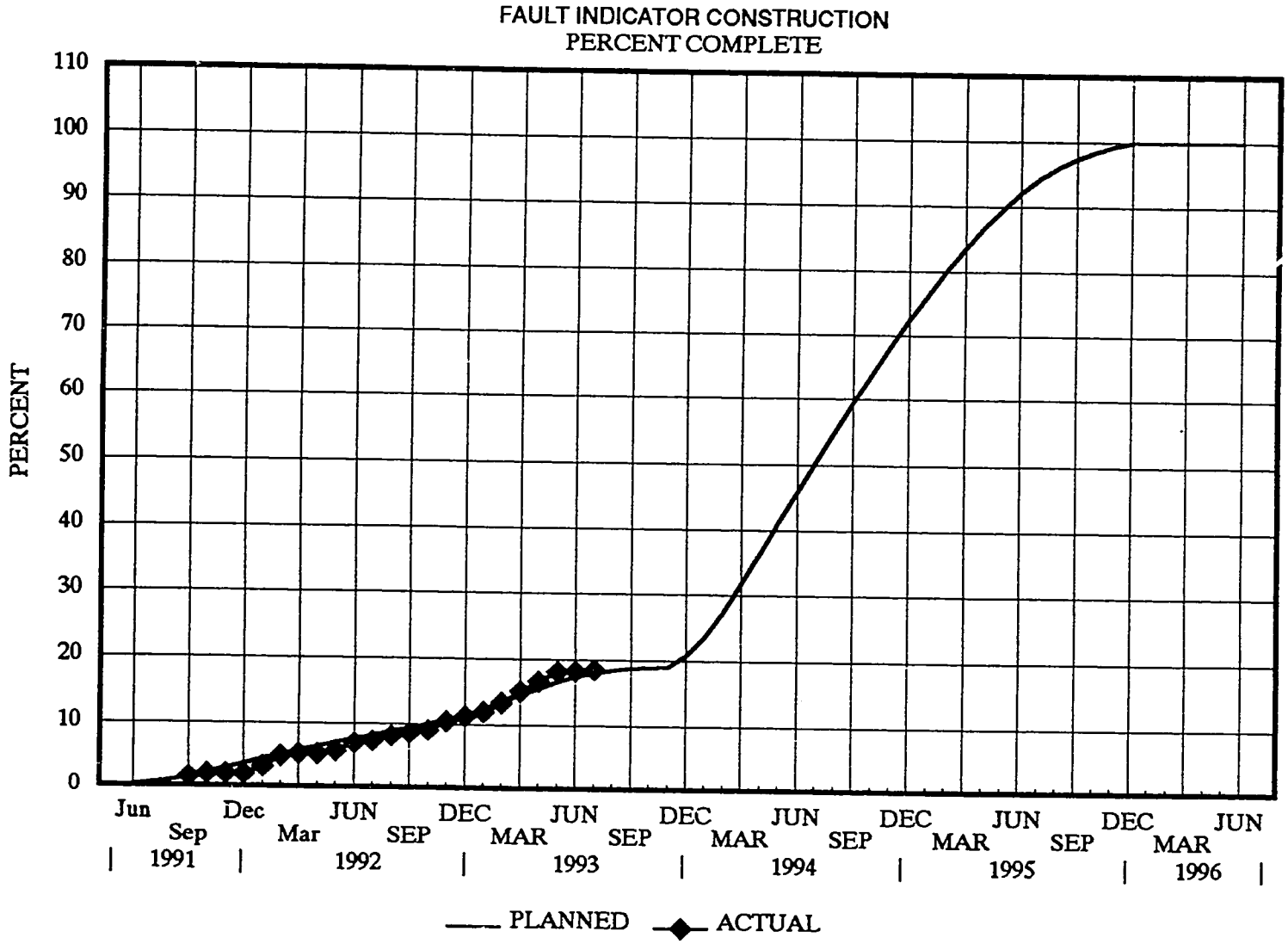
0
OCT JAN APR JUL OCT JAN APR JUL OCT JAN APR JUL OCT JAN APR JUL OCT JAN APR JUL
1991
1992
1993
1994
1995
1996
SCHEDULE
ACTUAL

APPENDIX I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Sep
Dec
Mar
JUN
SEP
DEC
MAR
JUN
SEP
DEC
MAR
JUN
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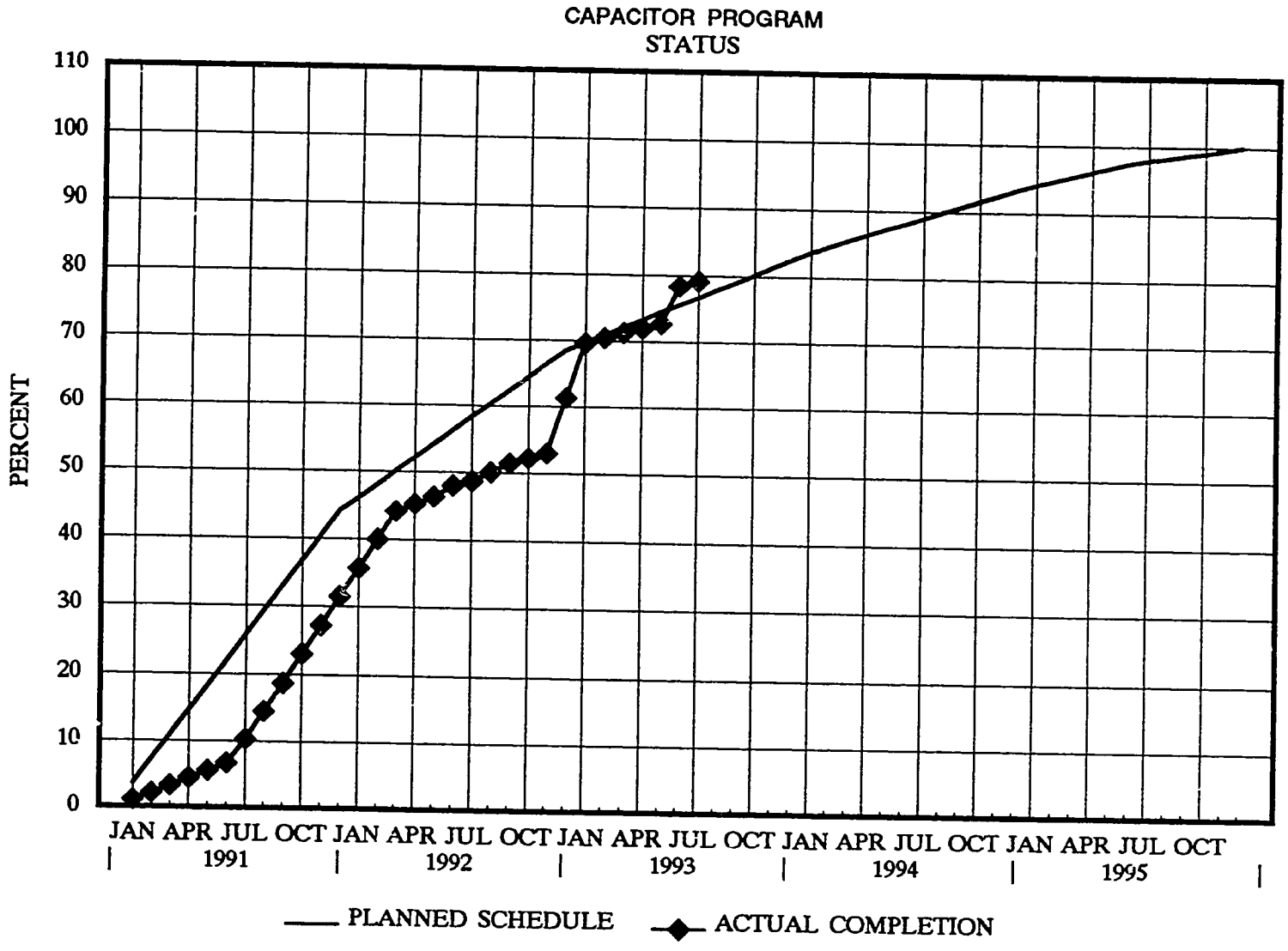
PLANNED
ACTUAL

APPENDIX J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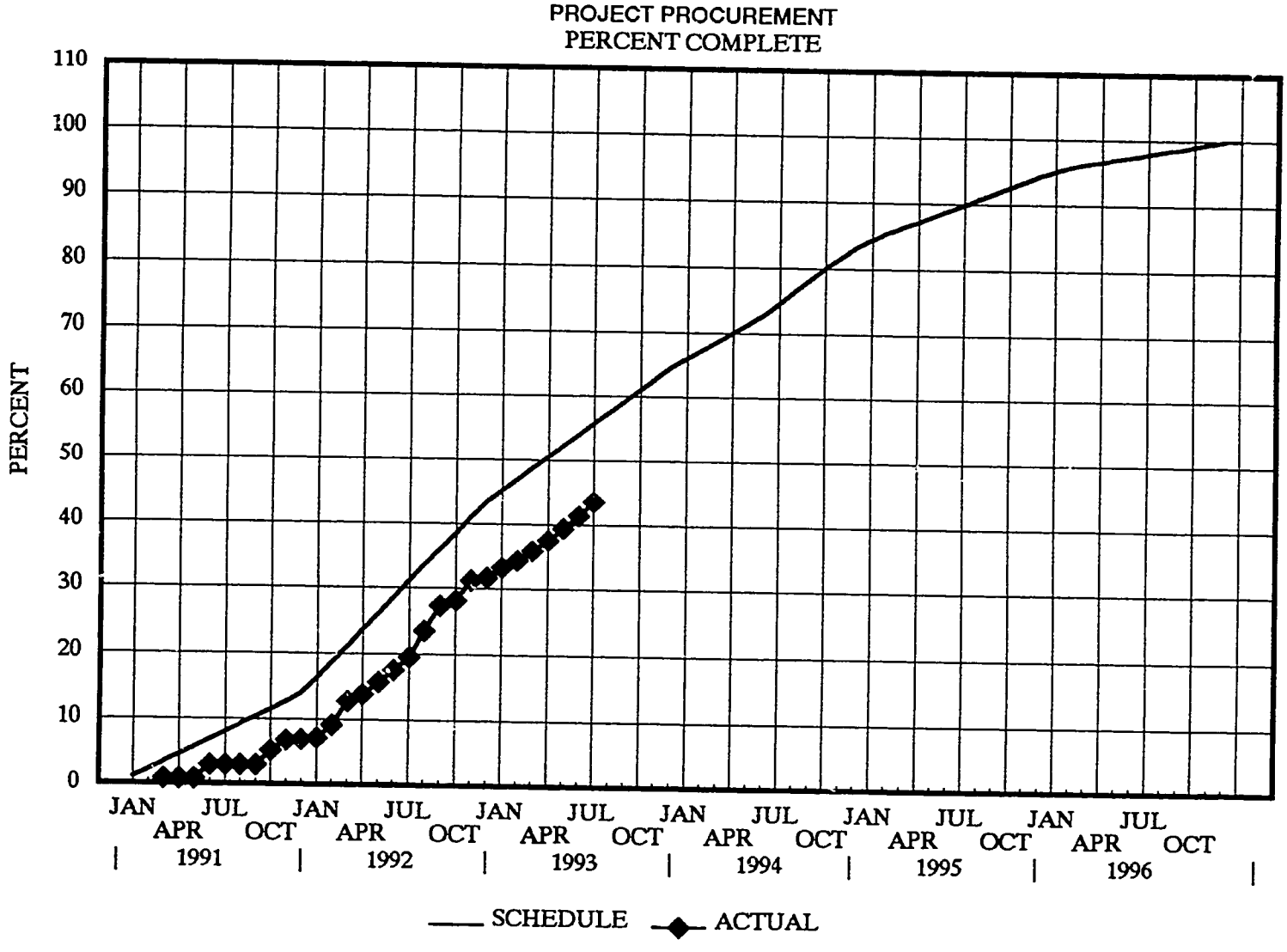
1991
1992
1993
1994
1995
PLANNED SCHEDULE
ACTUAL COMPLETION

APPENDIX K


PROJECT PROCUREMENT
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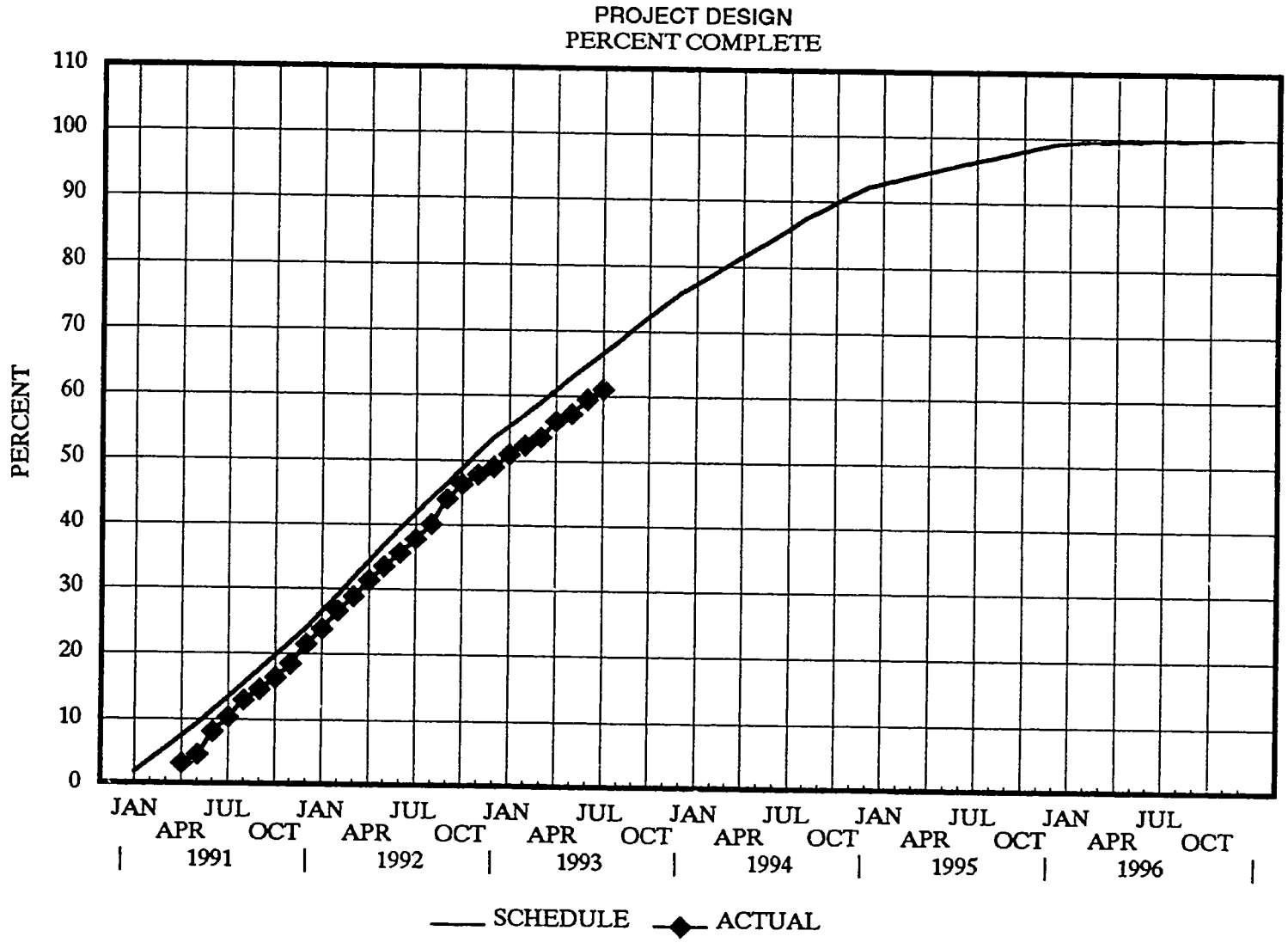
JUL
OCT
1991
1992
1993
1994
1995
1996
SCHEDULE
ACTUAL

APPENDIX L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JAN
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1991
1992
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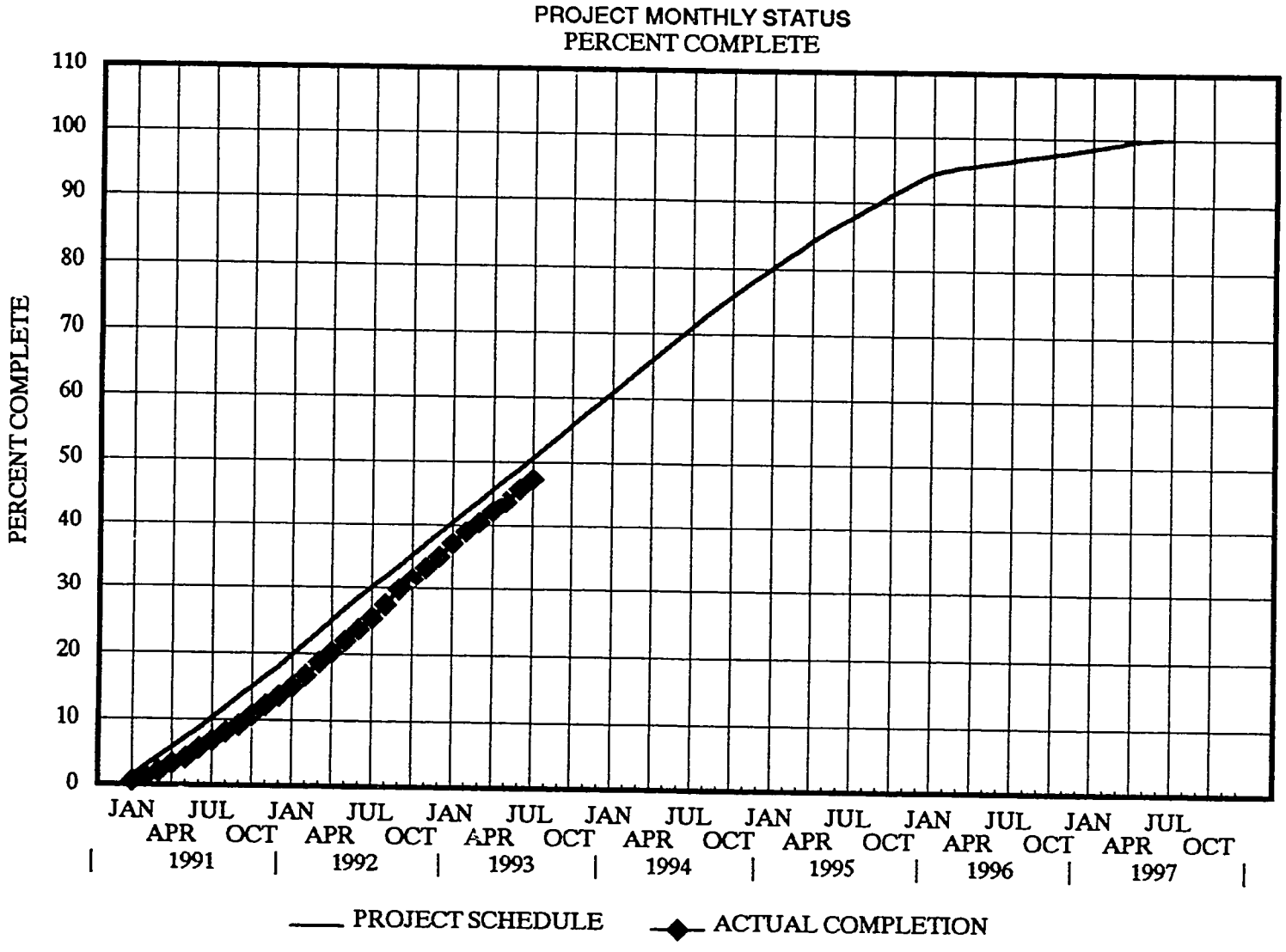
1994
1995
1996
SCHEDULE
ACTUAL

APPENDIX M


PROJECT MONTHLY STATUS
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PERCENT COMPLETE
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80
70
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JAN JUL JAN JUL JAN JUL JAN JUL JAN JUL JAN JUL JAN JUL
APR OCT APR OCT APR OCT APR OCT APR OCT APR OCT APR OCT
1991 1992 1993 1994 1995 1996 1997
PROJECT SCHEDULE
ACTUAL COMPLETION

APPENDIX N