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**PERUSAHAAN UMUM LISTRIK NEGARA  
AGENCY OF MINISTRY OF MINES AND ENERGY  
GOVERNMENT OF THE REPUBLIC OF INDONESIA**



**RURAL ELECTRIFICATION PROJECT  
CONTRACT AID/ASIA-C - 1357  
AID LOAN NO. 497 - T - 052**

**CHAS.T. MAIN INTERNATIONAL, INC**

RURAL ELECTRIFICATION PROJECT - INDONESIA  
UNITED STATES AGENCY FOR INTERNATIONAL DEVELOPMENT  
LOAN NO. 497-T-052

MONTHLY REPORT NO. 35  
FOR  
AUGUST, 1981

SUBMITTED BY  
CHAS. T. MAIN INTERNATIONAL, INC.



1. INTRODUCTION

A. THE CONTRACT

Contract AID/ASIA-C-1357 was executed on September 18, 1978 between the United States Agency for International Development and Chas. T. Main International, Inc. following the completion of a Loan Agreement, AID Loan November 497-T-052, dated May 6, 1978, and a Grant Agreement, dated March 30, 1978, between the Republic of Indonesia and The United States of America for the implementation of a Rural Electrification Project, AID Project Number 497-0267.

Funding for Contract AID/ASIA-C-1357 is contained in the Grant Agreement. No Letter-of-Credit is involved in this contract. The date of implementation of the contract was September 18, 1978.

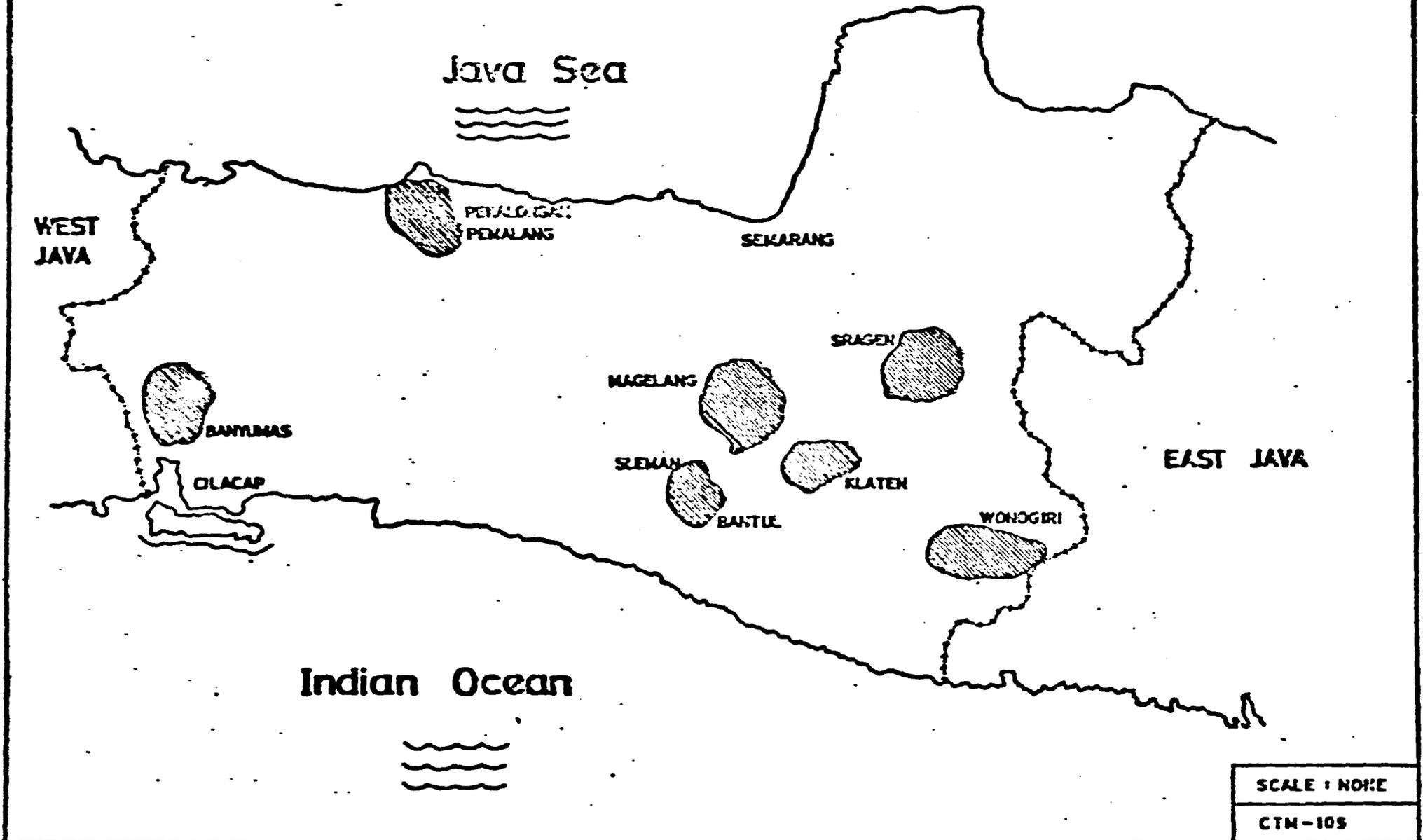
B. DESCRIPTION OF PROJECT

The objective of this project is to assist the Government of Indonesia (GOI) in its plan to provide areawide electric power distribution facilities in ten specified areas.

Seven of the project areas are located in the Province of Central Java, and the distribution systems for these areas will be operated by Perusahaan Umum Listrik Negara (PLN). Information presented in this report applies to the Central Java Project Areas only.

The project will consist of approximately 2,500 kilometers of overhead primary and secondary distribution lines and is planned to encompass at least 440 towns and villages. The completed project will insure the availability of reliable, inexpensive electric service to an estimated 260,000 rural homes. Approximately 130,000 consumers will be connected during the first three years of operation, and the remainder connected during the following twelve years.

**CENTRAL JAVA**  
**RURAL ELECTRIFICATION**  
**PROJECT SERVICE AREAS**



The seven Central Java Project Service Areas are shown on CTM Map No. 109, page 2 of this report. These seven areas will be connected to the existing PLN, Central Java grid for their power requirements. Project Service Areas, number of villages served, approximate number of consumer connections and the estimated total number of power recipients are as follows :

<u>SERVICE AREA</u>	<u>VILLAGES SERVED</u>	<u>APPROXIMATE NO. OF CONNECTIONS</u>	<u>ESTIMATED NO. OF RECIPIENTS</u>
Klaten	95	25,000	225,000
Pem/Pek	103	20,000	180,000
Bantul	21	20,000	180,000
Wonogiri	54	15,000	135,000
Sragen	49	15,000	135,000
Magelang	83	20,000	180,000
Banyumas	<u>35</u>	<u>15,000</u>	<u>135,000</u>
TOTALS	440	130,000	1,170,000

The above tabulations reflect project expectations after the first three years of commercial operation.

## II. SCOPE OF SERVICES

The scope of MAIN's services is to assist the PLN staff located at Semarang and Central Java in all phases of the design and construction of seven rural electric distribution systems. The engineering assistance will consist of, among other things, circuit routing and phasing, structure selection, conductor selection, protection and sectionalizing, and estimating of material and equipment requirements. MAIN will prepare material and equipment bid documents and assist PLN in the evaluation of bids, the preparation and administration of material and equipment supply contracts and the receipt and distribution of materials and equipment. MAIN will also assist PLN during the construction phase of the project by inspecting construction for quality and quantities of work, maintenance of construction schedules and the inventory and documentation of completed construction.

### III. PROJECT ACTIVITIES & PROGRESS

#### A. ENGINEERING

##### 1. DISTRIBUTION SYSTEMS

The preparation of distribution system construction maps by PLN staff continued throughout the reporting period. The status of completion of the construction maps and structure data sheets for the various systems are shown in Table 1. During the reporting period, the percentage of completion of the construction drawings for Pekalongan was increased.

During the reporting period, MAIN's staff continued the engineering review of the construction maps for Magelang, Sleman/Bantul, Klaten, Pekalongan, and Banyumas.

##### 2. HEADQUARTERS COMPLEXES

On August 6, 1981, PLN requested AID approval for the selection of three (3) contractors to be awarded construction contracts for headquarters complex facilities at Magelang, Sleman/Bantul, and Sragen. These awards were the result of the evaluation of bids for construction received by PLN on July 15, 1981. AID approved the selection of these contractors.

The results of that bid evaluation showed that bid costs for the complexes, as fully specified, were considerably higher than estimated. As a result, PLN elected to construct the specified headquarters complex less the covered storage facility and the telephone system. This construction option most closely matched the funds presently budgeted.

The construction bids received for the sites at Banyumas, Klaten, Pekalongan and Wonogiri were rejected as not being

TABLI. NO. 1

As of : August 31, 1981

STATUS OF MAP AND STRUCTURE DATA SHEETS

Construction Beginning Sequence	PROJECT AREA	No. of Maps	P L N			Structure Data Sheets		M A I N Complete Field Checking & Revisions
			Construction Maps % (1) Complete	No. Complete	Date of Completion	% Complete	Date of Completion	
7	BANYUMAS/CILACAP	311	78.4	87	RE 12/31/81	100	9/30/80	RE 3/31/82
2	KLATEN	352	100	352	A 4/30/81	100	10/31/80	RE 12/31/81
1	MAGELANG	423	100	423	A 12/31/80	100	9/30/80	RE 10/31/81
R 6	PEKALONGAN/PEMALANG	560	78.1	152	RE 10/15/81	100	8/31/80	RE 1/31/82
3	SLEMAN/BANTUL	268	100	268	A 5/31/81	100	8/31/80	RE 11/30/81
R 5	SRAGEN	364	100	364	A 7/31/81	100	9/30/80	RE 4/30/82
4	WONOGIRI	530	100	530	A 10/31/80	100	9/31/80	RE 2/28/81

A - ACTUAL

E - ESTIMATED

R - REVISED

(1) INCLUDES FIELD STAKING

in the best interests of PLN and these sites were scheduled for rebid.

Rebids were received by PLN for the four (4) sites previously named on August 15, 1981. After completion of the evaluation of bids for these sites, PLN requested AID approval, on August 25, 1981, of the selection of three contractor to be awarded contracts for construction of the site facilities at Banyumas, Klaten, and Wonogiri. AID approved the selection of these contractors.

Construction at the Pekalongan site will again be rebid because an insufficient number of bids were received for this site during the rebid action of August 15, 1981.

As a result of the various administrative actions by PLN during the reporting period, the following contractual actions occurred :

<u>SITE</u>	<u>CONTRACTOR</u>	<u>ACTION</u>	<u>DATE</u>
Klaten	P.T. Karang Tempel	Selected	
Magelang	P.T. Mega Ultra	Notice of Award	Aug. 19, 1981
Sleman/ Bantul	P.T. Wijati Aji	Notice of Award	Aug. 19, 1981
Sragen	P.T. Bumi Handayani	Notice of Award	AUG. 19, 1981
Wangon	P.T. Sigma Tirta	Selected	
Wonogiri	P.T. Panca Sakti	Selected	

## **B. PROCUREMENT**

### **1. TOOLS AND EQUIPMENT**

PLN is preparing a submission to AID for formal approval of contract amendments for contract nos. Pj. 215/PST/80 and Pj. 223/PST/80 (Ohm International, Inc.) and for

contract No. Pj. 265/PST/80 (Cable Handling and Stringing Equipment, Inc.). These contract amendments cover approved additional costs, and for contract No. Pj. 265/PST/80, additional quantity of pulling line.

No import permit has yet been received by PLN for the communications equipment shipped by Maison International under Contract Pj. 196/PST/80 and presently held by Customs at Semarang.

Shipments of materials furnished by New World Research Corp. under contract No. Pj. 195/PST/80 has reached the Port of Semarang and is presently under control of Indonesian Customs. A shipment of ground rods was damaged during transit and PLN has engaged a registered marine surveyor to examine the shipment and provide a report for insurance claim purposes.

## 2. MATERIALS AND EQUIPMENT

Several pertinent meetings were held by PLN and AID to resolve the problem of material supply posed by the Ohm International, Inc. and Futura contracts. On August 6, 1981, the parties met and discussed the matters with PLN counsel. At the meeting, PLN formally requested concurrence from AID for PLN to negotiate the areas of conflict with both Ohm and Futura. On August 11, 1981, a follow up meeting was held at AID by the parties. At that time, AID agreed to seek a ruling on both Ohm and Futura matters with AID Washington. As of the end of the reporting period, the matters remain under consideration by AID.

Bank Indonesia has designated the paying banks for contracts Nos. Pj. 114/PST/81, Pj. 156/PST/81, Pj. 157/PST/81, and Pj. 170/PST/81. PLN is preparing requests to AID for the appropriate letters-of-Commitment.

Contract amendments to contracts Nos. Pj. 029/PST/81 (Irby), Pj. 030/PST/81 (Copperweld), and Pj. 032/PST/81 (Produtos Para Linhas) are being prepared for forwarding to AID for formal approval prior to issuance to the respective contractors. These amendments provide for the supply of additional quantities of materials.

### 3. HOUSEWIRING MATERIALS AND METERS

On July 27, 1981, PLN issued Notices of Award to the following bidders :

<u>BIDDER</u>	<u>IFB SECTION</u>	<u>AMOUNT</u>
P.T. Mataram Indah	6	Rp. 84.217.500,-
P.T. Elprima Agung	5	Rp. 85.072.500,-
	7	155.182.500,-
	8	65.407.500,-
New World Research Corp.	11	\$ 338,936.00
General Electric Co.	1	\$ 39,591.72
	3	1,952.86

PLN had previously submitted Sections 2 (Residential Motors) and 4 (Cables), together with contracting recommendations, to SEKNEG for review and approval. During the reporting period, it was concluded by SEKNEG that the materials contained in these contract proposals were suitable for award to Indonesian manufacturers, in accordance with an Indonesian Government policy to promote local manufacturers. It was recommended by SEKNEG that material sections 2 and 4 be awarded to local manufacturers. On August 29, 1981, PLN formally requested concurrence from AID to the recommendations stated above.

4. CONDUCTORS

PLN is preparing the Notice of Award and contract to P.T. Kabelindo for the purchase of conductors being funded by the Netherlands Government. It is anticipated that the contract in the amount of Rupiah 2,349,000,000 will be executed during September, 1981.

5. POLES

During the reporting period, the wood pole supplier delivered 1699 treated wood poles to the Project. A total of 4613 wood poles have been delivered.

As of this reporting period, the PLN Contractor supplying steel poles has delivered and set 9679 steel RS poles.

6. ADDITIONAL LINE HARDWARE

The evaluation of bids on July 22, 1981 is presently being conducted by PLN.

7. ADDITIONAL HOUSEWIRING MATERIALS

On IFB containing three items of housewiring materials has been prepared by MAIN and forwarded to PLN for review and issuance. This IFB is presently being processed by PLN in preparation of being submitted to AID. The materials contained in this IFB are service entrance fittings, roof flashings, and cable staples (clips).

8. FUNDING

The present accumulated value of procurement contracts and funds committed by Letters of Commitment from the USAID loan are shown in Table 2.

**TABLE 2**  
**COMMITTED FUNDS - AID LOAN**

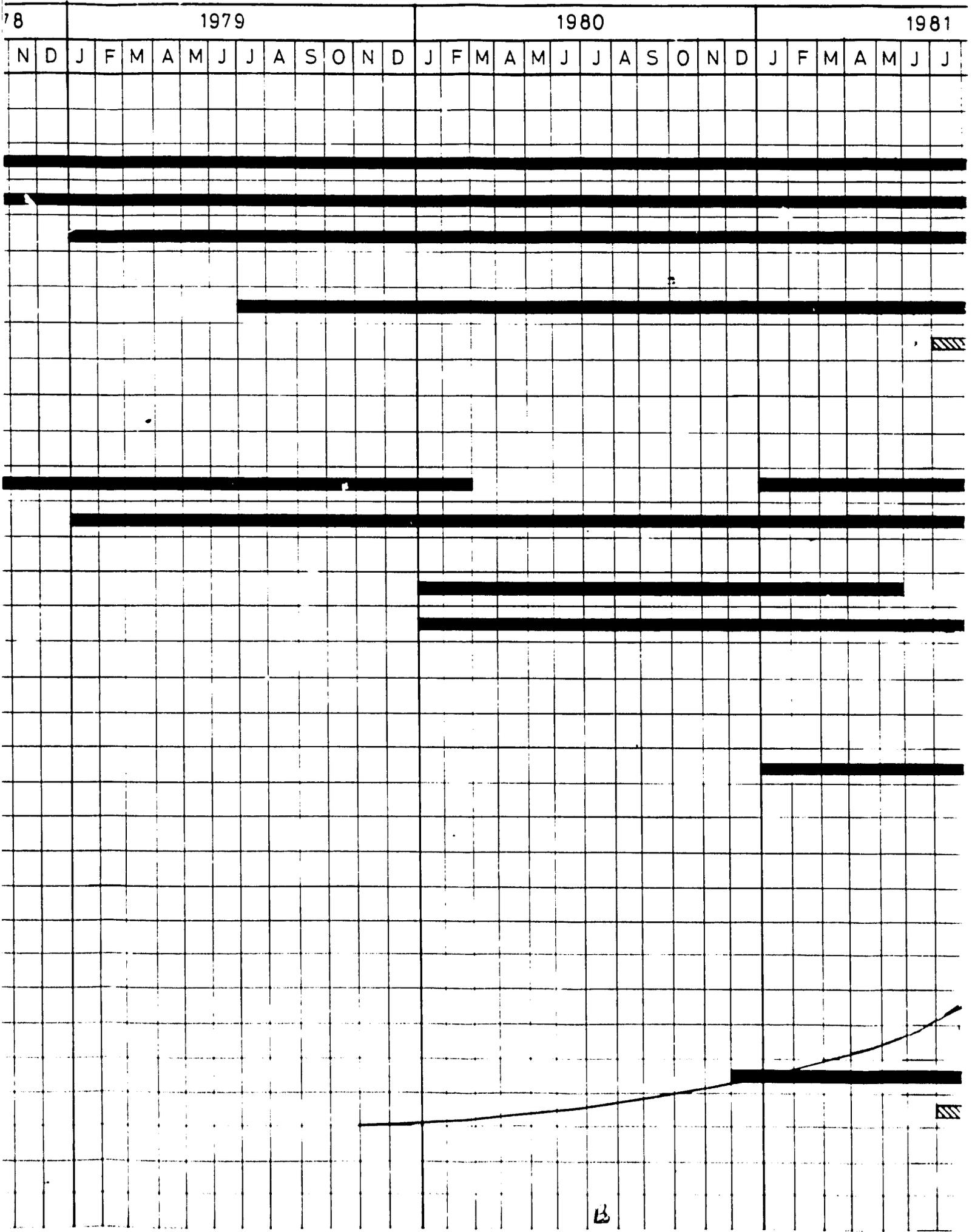
As of : Aug. 31, 1981.

<u>NO.</u>	<u>CONTRACT SUPPLIER</u>	<u>AMOUNT</u>	<u>NO.</u>	<u>LETTER OF COMMITMENT</u>	
				<u>BANK</u>	<u>AMOUNT *</u>
Pj. 194/PST/1980	Naison Int'l. Ltd.	\$ 322,267.55	497-T-05207	CitiBank NA	\$ 323,878.89
Pj. 195/PST/1980	New World Research Corp.	621,722.00	497-T-05208	CitiBank NA	825,722.00
Pj. 198/PST/1980	Hyundai Corp.	327,604.00	497-T-05209	CitiBank NA	329,443.02
Pj. 215/PST/1980	Chm International	169,185.17 )			
		)			
Pj. 216/PST/1980	Mexican Curtis, Inc.	569,473.00 )			
		)			
Pj. 223/PST/1980	Chm International	69,149.63 )	497-T-05210	Wells Fargo	1,326,715.29
		)			
Pj. 245/PST/1980	Cable Handling & Stevedoring Equip. Inc.	314,714.96 )			
		)			
Pj. 269/PST/1980	ITT Export Corp.	195,171.76 )			
		)			
Pj. 029/PST/1981	Irty Const. Co.	455,516.38 )	497-T-05214	CitiBank NA	849,916.81
		)			
Pj. 030/PST/1981	Copperweld Industries	390,177.99 )			
		)			
Pj. 031/PST/1981	McGraw Edison Co.	67,619.20 )	497-T-05215	American Express	233,612.46
		)			
Pj. 032/PST/1981	Produtos Para Linhas Perfomades Ltda.	144,631.00 )			
		)			
	Present Total	: \$ 3,870,632.64		Present Total	: \$ 3,889,288.47

\* Includes Bank Charges.

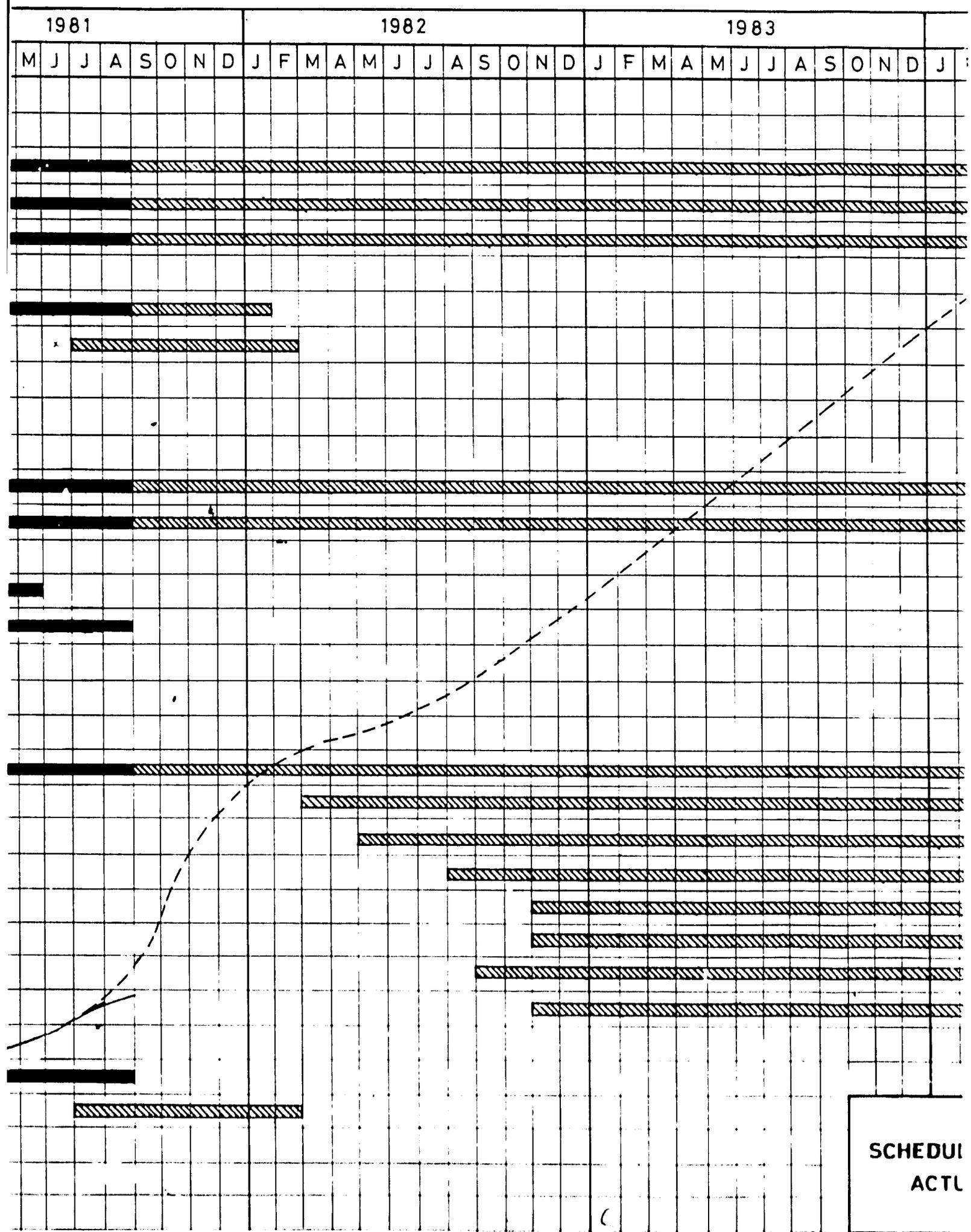


# ENGINEERING & CONSTRUCTION PR RURAL DISTRIBUTION SYSTEM - CEN



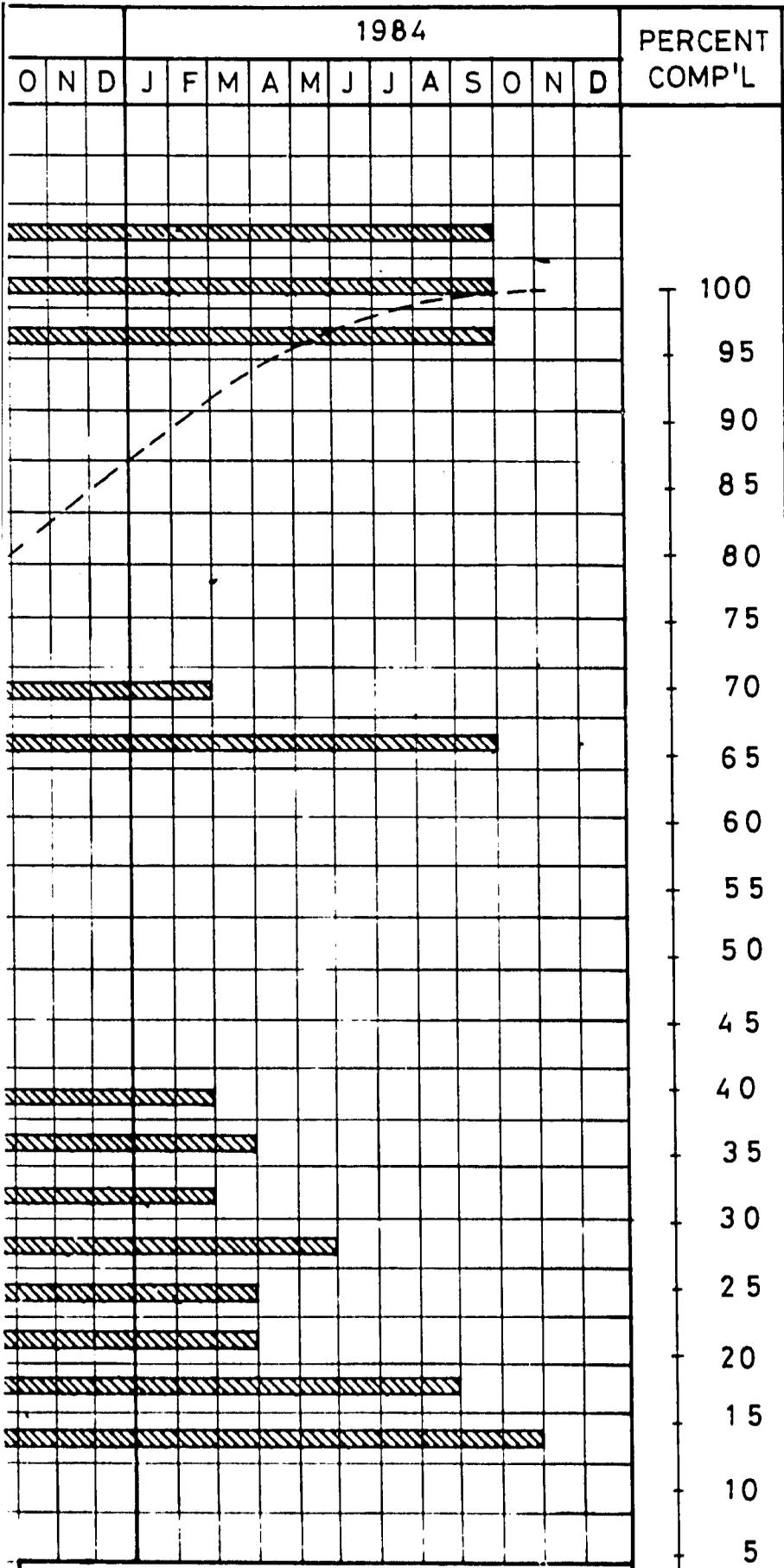
B

# PROGRESS - CENTRAL JAVA



MAIN

AS OF : Aug 31, 1981  
REV : -0



SCHEDULED % COMPLETE : 100  
ACTUAL % COMPLETE : 14.4

D

A spread sheet showing additional details of contracts, Letter of Commitment and Letters of Credit is contained in the Appendix.

C. CONSTRUCTION

1. DISTRIBUTION SYSTEMS

Line construction continued at Sleman/Bantul, Klaten, and Magelang, and began at Pekalongan, Sragen, and Wonogiri, with the hauling and setting of steel RS and wood poles.

<u>SITE</u>	<u>STEEL RS</u>	<u>WOOD</u>
Sleman/Bantul	2090	332
Klaten	2154	-
Magelang	564	1060
Pekalongan	1768	-
Sragen	1924	10
Wonogiri	1179	7

2. HEADQUARTERS COMPLEXES

During the reporting period, site works construction proceeded at two (2) sites. The status of this construction activity is shown in Table 3.

D. PROJECT PROGRESS

The Project progress chart showing the scheduling and progress status of engineering and construction activities is contained herein. A tabulation of project percent completion is contained in the Appendix. As of this reporting period, percent completion is :

Scheduled : 19.00 %  
Actual : 14.41 %

TABLE 3  
SITE DEVELOPMENT CONTRACTS  
HEADQUARTERS COMPLEXES

As of : August 31, 1981

<u>SITE</u>	<u>BID REC'D</u>	<u>CONTRACT AWARD</u>	<u>CONSTRUCTION START</u>	<u>% COMP.</u>	<u>REVISED SCHEDULED CONSTRUCTION COMPLETE</u>	
BANYUMAS	OCT. 9, 1980	DEC. 15, 1980	JAN. 1, 1981	85	SEPT. 26, 1981	
KLATEN	OCT. 9, 1980	NOV. 8, 1980	NOV. 10, 1980	100	MAY 12, 1981	
MAGELANG	AUG. 25, 1980	SEPT. 22, 1980	OCT. 10, 1980	100	APRIL 21, 1981	
PEKALONGAN	AUG. 9, 1980	NOV. 10, 1980	NOV. 15, 1980	96	SEPT. 22, 1981	
SLEMAN-BANTUL	AUG. 25, 1980	SEPT. 15, 1980	SEPT. 29, 1980	100	MAY 6, 1981	Not include deep well.
SRAGEN	OCT. 9, 1980	DEC. 1, 1980	DEC. 9, 1980	100	JULY 15, 1981	
NONOGIRI	OCT. 9, 1980	NOV. 3, 1980	NOV. 15, 1980	100	JULY 21, 1981	Not include deep well.

Scheduled progress has slipped by an accumulated total of 4.59 % since March 31, 1981. This slippage in the schedule was caused by lack of scheduled progress in wood pole settings, headquarters site construction, and headquarters facilities construction.

As stated in the previous report, the progress data shown has become invalid. The assumptions regarding material availability have not been realized, and as a result, distribution line construction cannot start when scheduled. Re-scheduling is required and will be accomplished when procedural decisions are reached as to how essential line hardware will be procured and the timing of that procurement.

#### IV. ADMINISTRATION

##### A. PERSONNEL

Table 4 lists the job classifications and associated manmonths allocated to MAIN. Also shown are the personnel assigned and manmonths consumed for each job classification. The associated manmonths and the percentages related thereto that are shown are as of July 16, 1981.

Mr. Eugene M. Downing and family arrived in Indonesia on August 3 to begin assignment as civil engineer at Semarang.

Mr. J. J. Bennett and family departed Indonesia on August 14, 1981 for home leave and vacation in the U.S.

Mr. R. N. Key departed Indonesia on August 20, 1981 for home leave and vacation in the U.S.

##### B. LOGISTICS

Table A-2, Appendix, lists the continuing logistic support furnished by PLN to MAIN.

TABLE 4  
JOB CLASSIFICATIONS & MANMONTHS

THROUGH : AUG.31, 1981.

JOB CLASSIFICATIONS	LOCATION	AGENCY		PERSONNEL ASSIGNED	MANMONTH		% CONS.	% REMAIN
		PLN	DGC		ALLOCATED	CONSUMED		
Project Director	Jakarta	x	x	D.A. Dowling	40	31.8	79.5	20.5
Business Manager	Semarang	x	x	R.N. Key	39	32.1	82.3	17.7
Administrative Ass't	Jakarta	x	x		24	10.8	45.0	55.0
Area Manager	Semarang	x		H.E. Johnson	24	9.3	38.8	61.2
Lead Elect. Engineer	Semarang	x			38	27.8	73.2	26.8
Civil Engineer	Semarang	x		E.M. Downing	24	19.1	79.6	20.4
Architect	-	x		-	3	-	0.0	100.0
Field Supervisor	Semarang	x		H.E. Earl	37	29.5	79.7	20.3
Field Supervisor	Semarang	x		J.J. Bennett	34	26.8	78.8	21.2
Field Supervisor	Semarang	x		J.V. Hardman	35	26.3	75.1	24.9
Lead Electrical Eng.	Jakarta		x	G.G. Smith	39	29.2	74.9	25.1
Electrical Engineer	Jakarta		x	E.S. Leffler	24	24.0	100.0	0.0
Distribution Engineer	Jakarta		x	E.V. Borja	24	11.1	46.3	53.7
Distribution Engineer	Jakarta		x	G.S. Sanial	24	12.9	53.8	46.2
Distribution Engineer	Jakarta		x	T.L. Resabal	24	7.3	30.4	69.6
Civil Engineer	Jakarta		x	V.H. Sydiongco	24	12.6	52.5	47.5
Senior Draftsman	Jakarta		x	D.K. Hoffer	24	15.7	65.4	34.6
Field Supervisor	Lampung		x	F.P. Cachin	35	30.3	86.6	13.4
Field Supervisor	Lombok		x	C.T. Nuez	35	24.4	69.7	30.3
Field Supervisor	Luwu		x	R.M. Garcia	35	30.6	87.4	12.6
Materials Supervisor	Jakarta		x	P.V. Wilson	12	4.5	37.5	62.5
Admin. Manager	Jakarta	x	x	C.J. Whitby	-	1.7	-	-
Home Office	Boston	x	x	Various	90	53.8	59.8	40.2
					688	471.6	68.5	31.5
					688	471.6	68.5	31.5

Mr. Whitby has been approved by U.S. AID for work on this Project. Provision for this position will be included in a future contract amendment.

V. FINANCIAL

A. Following is a summary of costs invoiced through 31 August 1981 :

	<u>Budget</u>	<u>Invoiced To Date</u>	<u>Paid To Date</u>
U.S. AID	\$ 5,355,261	\$ 3,044,111	\$ 2,579,661
PLN		Rp. 66.150.811,-	Rp. 66.150.811,-

B. A detailed breakdown by Contract line item of MAIN's invoices to U.S. AID is as follows :

<u>Description</u>	<u>Budget</u>	<u>Costs To Date</u>		
		<u>PLN</u>	<u>DGC</u>	<u>TOTAL</u>
Salaries & Wages	\$ 1,484,257	402,024	479,928	941,952
Fringe Benefits	273,636	71,950	78,284	150,234
Allowances	382,355	104,475	117,991	222,466
Travel & Transportation	959,825	224,846	204,779	429,625
Other Direct Costs	450,037	41,609	177,032	214,241
Overhead	1,390,151	433,770	450,392	884,162
Fee	410,000	98,695	102,736	201,431
<b>T O T A L :</b>	<b>\$ 5,355,261</b> *****	<b>1,437,369</b> *****	<b>1,606,742</b> *****	<b>3,044,111</b> *****

VI. PROBLEM AREAS

The major project problem continues to be that of availability of line materials. PLN has concluded that negotiations with Ohm International, Inc. and Futura Trading, Inc. is the only feasible solution that will permit the project to move forward. PLN has requested AID concurrence to price increases with those suppliers. AID is presently studying the matter.

VII. OFFICIAL VISITS AND TRIPS

A. OFFICIAL VISITS

Mr. Irwan of AID's technical Staff was in Semarang on August 7, 1981 and on August 15, 1981 to consult with PLN and to attend opening of rebids for headquarters complex construction.

Mr. R.C. Johnson, AID Project Officer, and Mr. Eddie Setianto, of AID's technical Staff, was in Semarang and Central Java on August 19 - 20, 1981. Messrs. Johnson and Setianto, accompanied by MAIN's field staff, inspected the engineering drawings for Magelang and reviewed the proposed construction locations in the field. Messrs. Johnson and Eddie Setianto also consulted with PLN and MAIN personnel on various engineering matters related to the Project.

B. PROJECT TRIPS

During the period, MAIN field staff members made several lengthy trips to Klaten, Magelang, Pekalongan, Sleman and Wagon to assist PLN pole setting activities at Magelang and Klaten and to review construction drawings in the field. Several trips were made to Jakarta by MAIN staff members to coordinate project administrative, procurement and technical matters with PLN-PUSAT and AID.

C. PROJECT COORDINATION MEETINGS

A Project Coordination Meeting was held at PLN Pusat on August 10, 1981, to discuss pertinent project matters and to review procurement progress. The meeting was attended by officials of PLN Pusat, P. I. Ring, and AID and personnel of NRECA and MAIN.

The next Project Coordination Meeting is scheduled to be held at PLN Pusat on September 28, 1981.

VIII. PROJECT CORRESPONDENCE

A. The following communications were issued from MAIN's Semarang office during the reporting period :

<u>Addressee</u>	<u>Letter No.</u>	<u>Date</u>	<u>Subject</u>
Memo to Mr. Soedjono	S - 7616	Aug. 4, 81	R.E.P. Contract Pj. 267/PST/80 Shipment of Material
Telex to C.V. Dahana Kencana	S - 7618	Aug. 4, 81	PLN Contract No. Pj. 031/PST/81
Telex to Irby Jackson	S - 7620	Aug. 4, 81	Color Coding & Marking of packages.
PLN Pusat	S - 7622	Aug. 4, 81	Pj. 029/PST/81 Contract Amendment
Telex to Boston	S - 7624	Aug. 4, 81	Received Shipping Documents.
Telex to Curran	S - 7636	Aug. 10, 81	Time charges for P/E August 13, 1981.
DGC	S - 7638	Aug. 11, 81	Rupiah Invoice No. 30 P/E August 10, 81
USAID	S - 7640	Aug. 11, 81	Invoice No. AID-79 P/E August 10, 81
PLN Pusat	S - 7642	Aug. 12, 81	Distribution Materials II IFB Evaluation.
USAID	S - 7644	Aug. 12, 81	R.E.P. Utility and Housing Expenses No.17
PLN Pusat	S - 7646	Aug. 12, 81	Proposed IFB for Housewiring Materials-II
Tlx. to Cable Handling	S - 7650	Aug. 12, 81	Amendment of Pj.265/PST/81 for PLN
P. I. Ring	S - 7654	Aug. 12, 81	Communications Equipment Pj. 196/PST/80.
Tlx. to P.T. Putera Tolhas	S - 7656	Aug. 13, 81	Quantity of Materials
Tlx. to Boston	S - 7664	Aug. 13, 81	Clean on Board Ocean Bills of Lading
Maison Intu'l.	S - 7666	Aug. 14, 81	R.E.P. Central Java Indonesia.

<u>Addressee</u>	<u>Letter No.</u>	<u>Date</u>	<u>Subject</u>
P. I. Ring	S - 7672	Aug. 15, 81	R.E. Invoice No. 39 P/E August 10, 81.
PLN Pusat	S - 7674	Aug. 18, 81	Contract Pj. 265/PST/80 Amendment
P. I. Ring	S - 7682	Aug. 19, 81	R.E.P. Central Java
P. I. Ring	S - 7686	Aug. 19, 81	R.E. Invoice No. 40 P/E August 18, 81.
Tlx. to Cable Handling	S - 7690	Aug. 20, 81	Contract Amendment
Telx to Boston	S - 7692	Aug. 20, 81	Contract L./Comm., & L/C.
Mr. Karso	S - 7696	Aug. 21, 81	Bantul Headquarters Complex Site Deficiencies
P. I. Ring	S - 7698	Aug. 21, 81	Funding for Headquarters Complex Construction
Tlx. to Cable Handling	S - 7702	Aug. 22, 81	Stamp Tax
USAID	S - 7704	Aug. 24, 81	Monthly Report - July, 1981
PLN Pusat	S - 7708	Aug. 29, 81	Revised Allocation of Tools & Equipment
Memo to Mr. Soedjono	S - 7714	Aug. 31, 81	Ground Rod Shipment
Tlx. to P.T. Putera Tolhas	S - 7716	Aug. 31, 81	Contract Pj. 157/Pst/81.
Tlx. to New World Research	S - 7718	Aug. 31, 81	Shipment of Ground Rods

B. The following communications were issued from MAIN's Jakarta office during the reporting period :

<u>Addressee</u>	<u>Letter No.</u>	<u>Subject</u>
Ir. Soedjadi	J - 4293	Invitation for Coordination Meeting # 6.
H.E. Johnson	J - 4297	Memo - ITT Export Corp.
R.C. Johnson	J - 4304	Rural Electrification Project Main Field Staff Man Hour Report.
R.C. Johnson	J - 4305	Rural Electrification Loan 497-T-052 Activity Report June 1981 and your letter II/2174 dated 4 August 1981.
A.J. Curran	J - 4308	Telex - Time Charges
Joo Dai Jhong/ Ilyosung	J - 4311	Rural Electrification Project Crating Specification.

<u>Addressee</u>	<u>Letter No.</u>	<u>Subject</u>
Ken Jordan/CHASE	J - 4316	Telex - Contract 265
Ir. Moh. Basoeki	J - 4331	R.E. Project Central Java Housewiring Materials.
Mr. Stefan Siregar	J - 4332	Sidohita Bid on Additional Hardware for Concrete Poles Central Java Rural Electrification Project.
Ir. Soedarso	J - 4336	Copy of Trip Report of Mr. A.J. Graceffa.
R.C. Johnson	J - 4337	Rural Electrification Project MAIN Field Staff Man Hour Report.
Ir. Wiratmoko Setiadji	J - 4349	Addendum to PIN/CTM Joint Evaluation Report - Housewiring Material - and Meters Central Java Rural Electrification.
Ir. Andoyo	J - 4351	Amendment to Ohm Int'l Contracts Pj.215/PST/80 and Pj.223/PST/80 for Supply of Tools & Equipment Central Java Rural Electrification.
John Mullins/Ohm	J - 4352	Telex - Pj. 215/PST/80 and Pj. 223/PST/80.
Ir. H. Kullit	J - 4355	Rural Electrification Project Invoices and Shipping Documents.
Ir. H. Kullit	J - 4356	Rural Electrification Project Hyundai Corporation Contract No. Pj. 198/PST/80.
Ir. Soedarso	J - 4357	Mobile Radio Equipment Maison International Ltd. Contract No. Pj. 196/PST/80 Rural Electrification Project
Ir. J.J. Rumondor	J - 4366	Rural Electrification Contract No. AID/ASIA-C-1357, Additional Conductor Requirements.
USAID	J - 4370	Contract No. AID/ASIA-C-1357 R.E. Invoice AID-81R.
N.G. Popov	J - 4371	Telex - Info for AID Wash meeting on 10 September 1981.
Ir. Moh. Basoeki	J - 4372	Central Java Rural Electrification Housewiring Contracts.
Ir. H. Kullit	J - 4376	R.E. Project ITT Export Corp. Pj. 269/PST/80.
USAID	J - 4379	Contract No. AID/ASIA-C-1357 Rural Electrification Invoice No. AID-81R.

TABLE A - 1

PRE DESIGN LINE STAKING

<u>Service Area</u>	<u>No. Villages</u>	<u>Circuit Length - Total KM.</u>			<u>% of Feasibility Study Requirements</u>
		<u>Three Phase</u>	<u>Single Phase</u>	<u>Sec. Only</u>	
Sleman/Bantul	21	30	192.8	172.6	130
Banyumas	35	45.6	135.6	64.6	102
Klaten	102	64.5	206.8	303.8	112
Magelang	83	51.6	277.8	86.1	131
Pemalang/ Pekalongan	136	73.1	226.1	197.7	153
Sragen	55	35.1	217.3	236.4	149
Wonogiri	54	58.7	346.5	255.7	181

TABLE A-2  
LOGISTICS SUPPORT

<u>PERSONNEL</u>	<u>HOUSING</u>		<u>TRANSPORT</u>
	<u>LOCATION</u>	<u>BY</u>	
J. J. Bennett & Family	Semarang	PLN	PLN
D. A. Dowling & Family	Jakarta	AID	Vehicle by PLN operation by DGC
E. M. Downing & Family	Semarang	PLN	PLN
H. E. Earl	Semarang	PLN	PLN
J. V. Hardman & Family	Semarang	PLN	PLN
H. E. Johnson	Semarang	PLN	PLN
R. N. Key & Family	Semarang	PLN	PLN

PLN provides offices at Semarang for MAIN and full logistics support consisting of secretarial personnel, drivers and all operational necessiters.

PLN provides office facilities at Jakarta and partial operational support for that office.

CONTRACT No	CONTRACTOR	DATE OF CONTRACT	EFFECTIVE DATE OF CONTRACT	
Pj. 195/PST/80	New World Research Corp.	30-7-80		Lab. & Te Vehicular Ground Ro
Pj. 196/PST/80	Maison International Ltd.	18-8-80		Communica Maint. Sho
Pj. 198/PST/80	Hyundai Corp.	5-8-80		Grounding
Pj. 215/PST/80	Ohm International, Inc.	8-9-80		Distr. Har
Pj. 216/PST/80	Merican Curtis, Inc.	8-9-80		Maintenan
Pj. 223/PST/80	Ohm International, Inc.	23-9-80		Compressi
Pj. 265/PST/80	Cable Handling & Stringing Equipment Inc.	27-10-80		Stringing
Pj. 269/PST/80	ITT Export Corp.	10-11-80		Distr. Lin
Pj. 029/PST/81	Irby Construction Co.	20-2-81	15-7-81	Service M Protective
Pj. 030/PST/81	Copperweld Industries	25-2-81	10-7-81	Guy Stran
Pj. 031/PST/81	McGraw Edison Co.	23-2-81	17-6-81	Protective
Pj. 032/PST/81	Produtos Para Linhas Preformadas LTDA	25-2-81	15-6-81	Conductor
Pj. 100/PST/81	Futura Trading, Inc.	27-4-81		Copper Co Service Co
Pj. 101/PST/81	Futura Trading, Inc.	27-4-81		Crossarms Insulator Insulator
Pj. 148/PST/81	Hyosung Corp.	4-5-81		Distribut Transfe
Pj. 156/PST/81	Walsin Lihwa Electric Wire & Cable Corp.	27-5-81		Ho Wire

# SUMMARY OF CONTRACT STATUS

## CONTRACT FOR MATERIAL & EQUIPMENT

TYPE OF CONTRACT	FOR SUPPLY OF	LETTER OF COMMITMENT		
		CORRESPONDENT BANK	No	D/
	Lab. & Test Equipment \$ 197,822.00	CITI BANK N.A.	497-T-05208	2-
	Vehicular Equipment 113,900.00			
	Ground Rods 510,000.00			
	Communication Equipment 225,073.71	CITI BANK N.A.	497-T-05207	25-
	Maint. Shop Equipment 97,193.84			
	Grounding Material 327,804.00	CITI BANK N.A.	497-T-05209	21-
	Distr. Hand Tools 169,185.17	WELLS FARGO BANK INTERNATIONAL		
	Maintenance Trucks 569,473.00	WELLS FARGO BANK INTERNATIONAL	497-T-05210	12-
	Compression Tools 69,149.78	WELLS FARGO BANK INTERNATIONAL		
	Stringing Equipment 314,714.96	WELLS FARGO BANK INTERNATIONAL		
	Distr. Line Tools 198,171.76	WELLS FARGO BANK INTERNATIONAL		
81	Service Materials 268,197.50	CITI BANK, N.A.	497-T-05214	19-
	Protective devices 187,408.88			
81	Guy Strand 390,177.99	CITI BANK, N.A.	497-T-05214	19-
81	Protective devices 87,619.20	AMERICAN EXPRESS BANK	497-T-05215	19-
81	Conductor Specialties 144,851.00	AMERICAN EXPRESS BANK	497-T-05215	19-
	Copper Conductors 18,303.98			
	Service Conductors 486,049.56			
	Crossarm & Braces 125,597.10			
	Insulators 221,803.50			
	Insulators 85,471.75			
	Distribution Transformers 1,640,840.00			
	Tie Wire 21,261.50			

**TABLE A-3**

AS OF : Aug. 31, 1981

SHEET 1 OF 2

MENT		LETTER OF CREDIT			
DATE	EXPIRE. DATE	BANK INDONESIA No	DATE	CORRESPONDENT No	BANK DATE
2-1-81	1-11-82	0103/17157/PL	18-3-81		
25-11-80	1-11-82	0103/16410/PL	18-12-80		
21-1-81	1-11-82	0103/16903/PL	18-2-81		
		0103/16909/PL	29-4-81		
12-2-81	31-1-83				
		0103/17610/PL	29-4-81		
		0103/17611/PL	29-4-81		
		0103/17612/PL	29-4-81		
19-6-81	15-9-83	0103/18075/PL	8-6-81	10783079	
19-6-81	15-9-83	0103/18076/PL	8-6-81	10783080	10-7-81
19-6-81	15-9-83	0103/18077/PL	8-6-81		
19-6-81	15-9-83	0103/18078/PL	8-6-81	E 057905	15-6-81

CONTRACT No	CONTRACTOR	DATE OF CONTRACT	EFFECTIVE DATE OF CONTRACT	
Pj. 157/PST/81	P.T. Putera Tolhas	9-5-81		Miscellar Material
Pj. 170/PST/81	Walsin Lihwa Electric Wire & Cable Corp.	27-5-81		Service (

A 44

# SUMMARY OF CONTRACT STATUS

## CONTRACT FOR MATERIAL & EQUIPMENT

VF IF CT	FOR SUPPLY OF	CORRESPONDENT BANK	LETTER OF COMMITMENT	
			No	DAT
	Miscellaneous Materials - 1                      24,164.00			
	Service Conductor-1            878,750.00			



CONTRACT No	CONTRACTOR	MATERIALS
Pj. 196/PST/80	Maison International	Communications Equipment Maint. Shop Equipment
Pj. 195/PST/80	New World Research Corp. " " " " " " " "	Grounding Mat'l - Partial " " " Headquarters Test Equip.
Pj. 269/PST/80	ITT Export Corp.	Distribution Line Tools

# SUMMARY OF SHIPPING MATERIALS & EQUIPMENT

S	INVOICE TOTAL	BILL OF LADING No	LADING DATE	DATE OF ARRIVAL		
				PORT	WAREHOUSE	
it	\$ 224,857.57	007	Jan. 23, 1981	March 1981	April 1, 1981	Ret
	97,195.84	007	Jan. 23, 1981	March 1981	April 1, 1981	Cor
al	150,218.80	1	April 9, 1981	Aug. 14, 1981		Par
	189,767.60	1	June 6, 1981			Part
	50,392.00	2	June 8, 1981			Part
s	198,171.76	1	July 10, 1981			Cor

TABLE A-4

AS OF: Aug. 31, 1981

SHEET 1 OF 1

**REMARKS**

Retained by customs due to lack of import permit. Complete Shipment

Complete Shipment

Partial Shipment

Partial Shipment

Partial Shipment

Complete Shipment

14

APPENDIX  
PERCENT COMPLETION  
ENGINEERING & CONSTRUCTION PROGRESS

<u>PERIOD</u>	<u>SCHED.</u>	<u>ACT.</u>	<u>PERIOD</u>	<u>SCHED.</u>	<u>ACT.</u>
SEPT. 78	-	.01	NOV. 81	33.76	
OCT. 78	-	.04	DEC. 81	37.71	
NOV. 78	-	.06	JAN. 82	40.69	
DEC. 78	-	.13	FEB. 82	41.88	
JAN. 79	-	.24	MAR. 82	42.75	
FEB. 79	-	.36	APR. 82	43.63	
MAR. 79	-	.49	MAY 82	44.92	
APR. 79	-	.63	JUN. 82	46.21	
MAY 79	-	.78	JUL. 82	47.5	
JUN. 79	-	.97	AUG. 82	49.21	
JUL. 79	-	1.16	SEPT. 82	51.43	
AUG. 79	-	1.35	OCT. 82	53.9	
SEPT. 79	-	1.53	NOV. 82	56.17	
OCT. 79	-	1.70	DEC. 82	58.51	
NOV. 79	-	1.86	JAN. 83	60.85	
DEC. 79	-	1.99	FEB. 83	63.23	
JAN. 80	-	2.11	MAR. 83	65.63	
FEB. 80	-	2.24	APR. 83	68.04	
MAR. 80	-	2.35	MAY 83	70.46	
APR. 80	-	2.46	JUN. 83	72.89	
MAY 80	-	2.56	JUL. 83	75.32	
JUN. 80	-	2.67	AUG. 83	77.74	
JUL. 80	-	2.78	SEPT. 83	80.17	
AUG. 80	-	2.88	OCT. 83	82.58	
SEPT. 80	-	2.99	NOV. 83	85.0	
OCT. 80	-	3.1	DEC. 83	87.39	
NOV. 80	-	3.71	JAN. 84	89.77	
DEC. 80	-	4.65	FEB. 84	92.09	
JAN. 81	-	6.0	MAR. 84	93.83	
FEB. 81	-	7.48	APR. 84	95.31	
MAR. 81	-	9.06	MAY 84	96.75	
APR. 81	10.84	10.63	JUN. 84	97.7	
MAY 81	12.45	12.12	JUL. 84	98.6	
JUN. 81	13.59	13.40	AUG. 84	99.46	
JUL. 81	14.71	14.22	SEPT. 84	99.55	
AUG. 81	19.0	14.41	OCT. 84	100.0	
SEPT. 81	24.37	-			
OCT. 81	30.66	-			

APPENDIX  
REFERENCE NOTES  
ENGINEERING & CONSTRUCTION  
PROGRESS CHART

1. - Assumed date of availability of line construction materials in the field is March 1, 1982.
2. - Assumed date of availability of transformers in the field is October 15, 1982.
3. - Assumed date of availability of housewiring materials in the field is September 1, 1982.
4. - Schedule of construction as prepared by Wilayah XIII/NRECA.
5. - Manmonths and construction period as prepared by PLN.
6. - Scheduled manmonths - 337
7. - Scheduled manmonths - 1836
8. - Scheduled manmonths - P.L.RING - 27,104  
- Wilayah - 10,077
9. - Second portion of staking activity represents efforts to replace missing construction stakes and any revised staking required.
10. - Includes continuing engineering time for revisions and as-built drawings.
11. - Pole placement by Contractors
12. - Includes anchor installations by contracted labor

APPENDIX  
ENGINEERING & CONSTRUCTION  
PROGRESS CHART

PURPOSE

USAID has requested a monthly record and display of Project engineering and construction progress which documents the level of effort expended in these project activities to construct the project facilities. The goals are to determine actual progress as compared to scheduled progress and to more effectively identify discrete areas of activity which may become delayed. The ultimate purpose, of course, is the development of a management tool to assist in bringing the project to a successful completion in accordance with the project schedule.

The parameters used to develop the bars and the status curve are labor, in terms of manmonths, and time. Plotted completion will then correlate with visible construction, the stated USAID goal. The effect of funds expended for procurement of materials is not contained in the input data.

The plotted data is pragmatically based on existing project conditions as they exist now. No consideration is given to original project schedules or previous planning. The plot displays past progress to date as it occurred, in terms of manmonths, and the plotted future progress is based as realistically as possible on factual conditions and assumptions now considered valid.

METHODOLOGY

Manmonths are determined, generally, from construction units required times the predicted rates of construction unit completion. Time frames are established from the quantities of assigned manpower times the manmonths required, coordinated with the time of availability of materials.

Quantities of line construction units were tabulated from the distribution system construction documents (SDS sheets). PER distribution construction unit work rates, developed from previous PER construction activities, were then used to translate quantities of various construction units to total manmonths required to construct the various units.

The required manmonths were then allocated to assigned PLN crews and PLN-contracted labor forces to determine construction periods for various activities, these periods beginning with assumed dates of material availability and sequenced by required line construction activities.

The time periods of the various line construction activities are plotted as a bar chart. The quantity of manmonths, expended by periods and continuously summed, are plotted as a curve of percentage of overall project completion.

The construction schedule and percent of project completion curve shown are based on the following conditions for labor supply and the following assumptions for material availability :

LABOR

1. PLN-P I RING will assign construction crews as follows :
  - (a) 4 each 18-man crews to frame and conductor 3-phase lines at all sites.
  - (b) 3 each 6-man crews at each site to
    - (1) install all required guys
    - (2) frame and conductor all 1-phase, secondary, and underbuild secondary circuits
    - (3) Install all transformers and all apparatus on all circuits.
2. PLN-Wilayah XIII will assign forces to accomplish housewiring-service installations and to install meters.
3. PLN-P I RING will contract labor forces to set poles and install anchors.
4. PLN-P I RING will contract all labor to construct headquarters complex facilities.
5. Engineering manmonths by PLN and MAIN are based on the number of persons who participated in such activity and who are scheduled to participate in such activity.

## MATERIAL AVAILABILITY

It is assumed that :

1. All contract suppliers of distribution materials and equipment will have their respective Letters-of-Credit not later than August 1, 1981.
2. All contract suppliers of housewiring materials and meters will have their respective Letters-of-Credit, or equivalent, not later than January 1, 1982.
3. Sufficient quantities of conductor will be available at the sites to begin and continue conductor stringing as shown.
4. All material suppliers will ship materials in accordance with the shipping schedules contained in their respective contracts.
5. Average period of four (4) months after shipping time allowed for shipping, Indonesian customs clearing, warehousing, and distribution of materials to various sites.

Monthly evaluation of actual construction progress, for comparison with monthly scheduled progress, will be accomplished by comparing the amount of installed construction units with quantities scheduled and reducing the results in terms of manmonths, the basic parameter of the progress chart.

If any conditions on which the schedule is based change to a degree which would affect the accuracy of the charting, the schedule will be revised to reflect the changed condition. If any of the assumptions made prove to be invalid, the schedule will be revised to reflect the changes necessary.