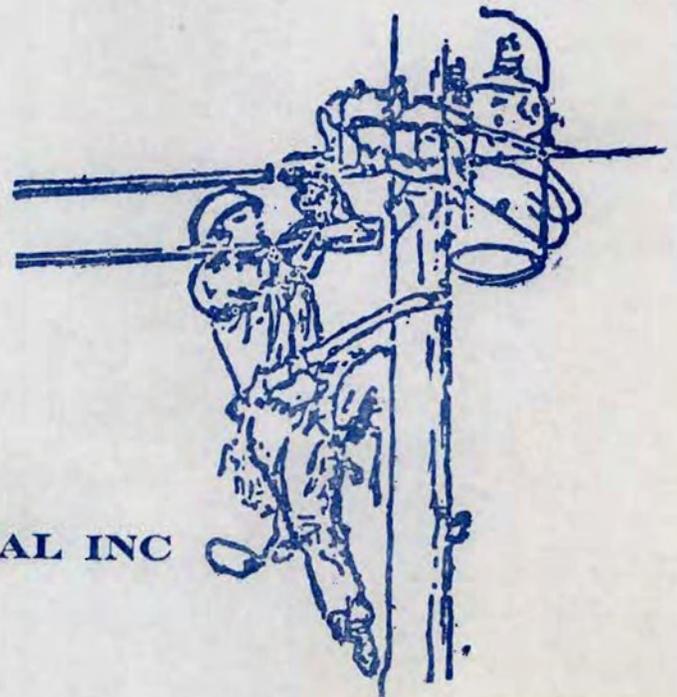


DIRECTORATE GENERAL OF COOPERATIVES

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

MAIN

CHAS. T. MAIN INTERNATIONAL INC



MAIN

Engineers

CHAS. T. MAIN INTERNATIONAL, INC.

BANDUNG - T R O M O L P O S 69. TEL. : 5 6 8 6 9. J L N. P R O G O 3 2
 JAKARTA - P.O. BOX 46 KBYT. KEBAYORAN TIMUR. TEL. 774041-2. - 776925 J L. WIJAYA 1/61
 SEMARANG - P.O. BOX 26. TEL. : 3 1 1 7 0 2. J L N. S L A M E T 5

Date : February 15 , 1982

Letter No. : R - 2794

USAID
 c/o American Embassy,
 Jalan Merdeka Selatan No. 5,
 Jakarta, Indonesia

Attn. : Mr. J.D. Baird,
 Rural Electrification I
 Project Officer

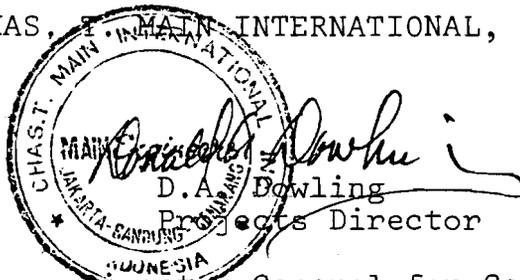
Subject : Rural Electrification
 Contract No. AID/ASIA-C-1357
MONTHLY REPORT for JANUARY 1982

Gentlemen:

Attached hereto are twelve (12) copies of our report summarizing
 MAIN's activities for the month ending 31 January 1982.

Very truly yours,

CHAS. T. MAIN INTERNATIONAL, INC.,



- cc. : Mr. Soedjanadi - Director General for Cooperatives, w/3 copies.
 Mr. Muslimin Nasution - Secretary to the Deputy Minister for Cooperatives, w/2 copies.
 Mr. Sjoufjan Awal - Chief PDO/RE, w/6 copies.
 Mr. Achmad Markam - Chief Foreign Technical Aid Division/ Secretariat to the Directorate General for Cooperatives, w/1 copy.
 Mr. Peter McNeill - NRECA, w/1 copy.
 Mr. A.J. Curran - MAIN Boston, w/2 copies.

-/jd

R E P O R T

NO. 27

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

MONTHLY REPORT

JANUARY 1982

SUBMITTED BY

CHAS. T. MAIN INTERNATIONAL, INC.

RURAL ELECTRIFICATION PROJECT

MONTHLY REPORT

JANUARY 1982

DIRECTORATE GENERAL OF COOPERATIVES

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I. DESCRIPTION OF PROJECT

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

Three service areas are located on the islands of Sumatra, Lombok and Sulawesi and will be constructed and operated as investor owned Cooperatives under the direction of the Directorate General of Cooperatives (DGC). Information presented in this report applies to the DGC service areas only.

The Cooperative Projects will consist of approximately 1,647 kilometers of overhead primary and secondary distribution lines and is planned to encompass at least 190 towns and villages. The completed Projects will ensure the availability of reliable and inexpensive electric service to an estimated 110,000 homes. Approximately 51,500 customers will be connected during the first three years of operation and the remainder connected during the following twelve years.

Each of the Project service areas shall include a Headquarters Complex consisting of a Cooperative administrative office building, a warehouse building containing an operations office and vehicle maintenance facilities as well as covered and open material and equipment storage areas.

The power requirements of the completed distribution system will be supplied by diesel powered electric generating plants which shall be owned and operated by each of the Cooperatives.

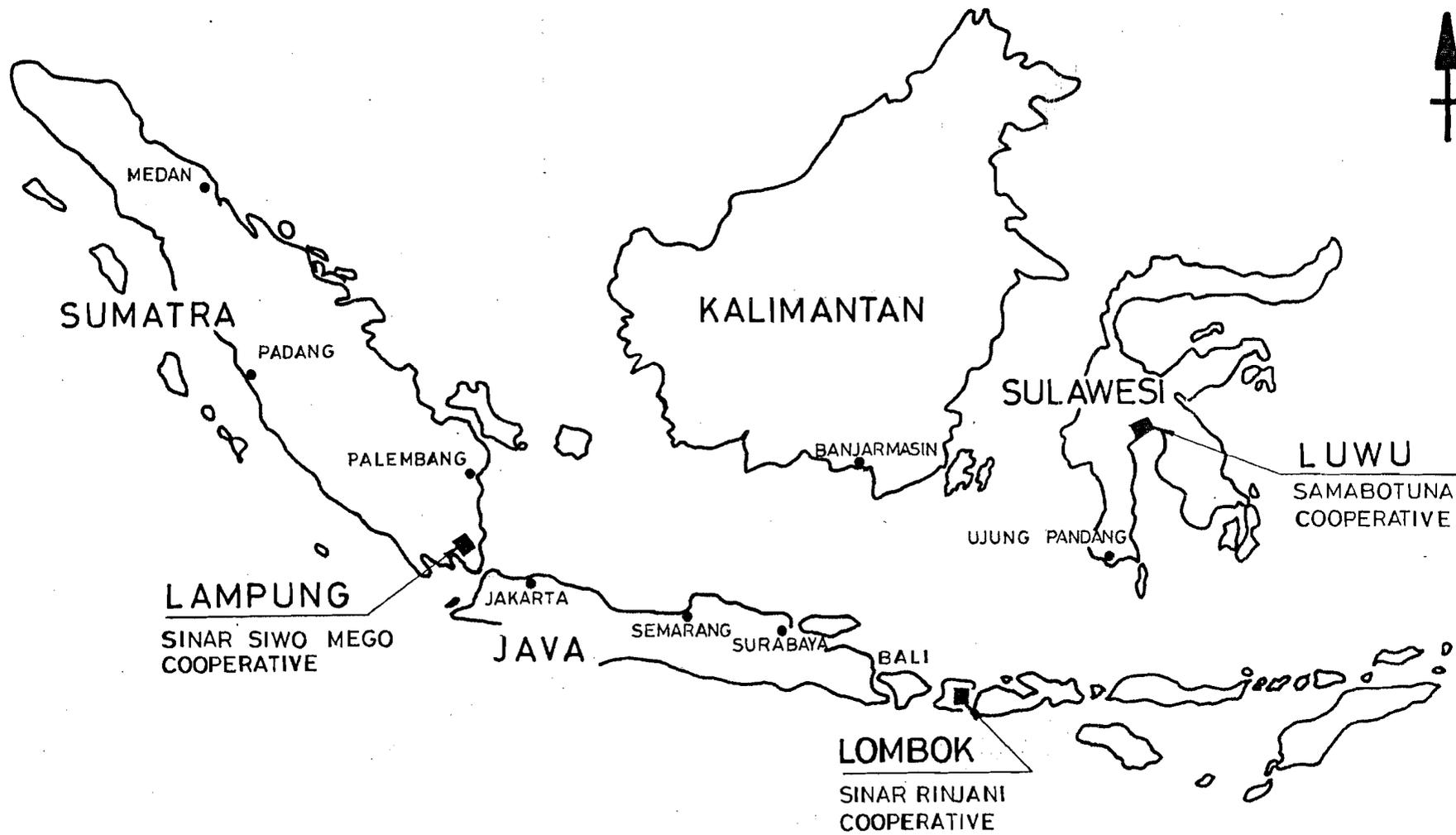
Locations of the three Cooperative service areas are shown on Page 3 of this report. Project service areas, estimated pole line kilometers, numbers of villages to be served and the approximate number of consumer connections after three years of commercial operation are as follows :

<u>SERVICE AREA</u>	<u>COOPERATIVE</u>	<u>POLE LINE KM</u>	<u>VILLAGES TO BE SERVED</u>	<u>APPROXIMATE NO. OF CONNECTIONS</u>
Central Lampung, Sumatra	Sinar Siwo Mego	974	108	23,000
East Lombok	Sinar Rinjani	196	32	14,000
Luwu, South Sulawesi	Samabotuna	477	50	14,500
		<u>1,647</u>	<u>190</u>	<u>51,500</u>
		=====	===	=====

LOCATIONS OF PROJECT SITES



3



II. ENGINEER'S SCOPE OF WORK

On 18 September 1978, Contract AID/ASIA-C-1357 was executed between the United States Agency for International Development (USAID) and Chas. T. Main International, Incorporated (MAIN). MAIN's scope of work, as described in this Contract and as amended by Amendment No. 1 to said Contract, is as follows :

A. ENGINEERING/DESIGN

MAIN will be responsible for all phases of the Cooperative distribution systems to include field surveys, electrical design studies and the preparation of material, equipment and construction specifications. The design and construction management of Headquarters Complexes at each of the three Cooperative sites will also be MAIN's responsibility.

B. PROCUREMENT

Procurement activities to be performed by MAIN shall include the preparation and issuance of tender documents, evaluation of proposals received, recommendations for awards of contracts, preparation and administration of supply contracts and assistance to PDO/RE and the Cooperatives in the receiving, inspection, storage and accounting of project material and equipment.

C. CONSTRUCTION

MAIN shall be responsible for administrative procedures relevant to the construction of the Cooperative distribution systems and headquarters complexes. Responsibilities shall include the pre-qualification of local construction contractors, the preparation and issuance of construction tender documents, bid evaluations for awards of contracts and the preparation and administration of construction contracts.

Construction records to be maintained by MAIN shall include distribution systems construction inventories, as-built construction drawings, construction schedules and documentation

for payments to the construction contractors. MAIN shall also be responsible for construction supervision and inspection of all aspects of the contractor's construction activities.

D. TRAINING

The PDO/RE staff will increase their administrative and technical skills through active participation in MAIN's Project activities.

This transfer of technology through On-The-Job Training is concentrated primarily with the six Electrical Engineers and four Design Draftsmen who were designated to be assigned to MAIN's production staff by Amendment No. 1.

III. FINANCIAL

A. Following is a summary of USAID and DGC/PDO costs invoiced through 31 December 1981 :

	<u>BUDGET</u>	<u>INVOICE TO DATE</u>	<u>PAID TO DATE</u>
USAID	\$ 5,355,261	\$ 3,664,648	\$ 3,562,723
DGC		Rp. 48,353,150.-	48,353,150.-

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

	<u>Budget</u>	<u>Cost To Date</u>		
		<u>PLN</u>	<u>DGC</u>	<u>TOTAL</u>
Salaries & Wages	\$ 1,484,257	546,858	604,756	1,151,614
Fringe Benefits	278,636	82,619	87,091	169,710
Allowances	382,355	123,144	147,694	270,838
Travel & Transportation	959,825	276,894	241,602	518,496
Other Direct Costs	450,037	43,538	184,098	227,636
Overhead	1,390,151	513,307	567,101	1,080,408
Fee	410,000	118,100	127,846	245,946
T O T A L	\$ 5,355,261	1,704,460	1,960,188	3,664,648
	=====	=====	=====	=====

IV. ENGINEERING

A. SYSTEM DESIGN

The office design of the electrical distribution systems of the three (3) Cooperative service areas is complete. Preparation of maps and staking sheets for the three (3) service areas continued during this report period.

Following pages indicate the previous, current and total progress of mapping, survey and staking sheet preparation for each service area; page 9 - Lampung, page 10 - Lombok and page 11 - Luwu. The current data indicated on the progress charts shows the work accomplished during the Months of December 1981 and January 1982. The majority of the Project's Staff was on vacation during those two months, therefore, work accomplished as shown is not indicative of the work that may be accomplished in a typical two month time frame. It has been decided that information called for on these charts concerning poles and circuit kilometers will be collated from completed staking sheets before the sheets are checked and approved, and will be subsequently included on this chart of the Monthly Project Report.

MAIN is presently planning methods whereby the preparation of staking sheets can be completed by May 1982. MAIN's present time projection for the completion of staking sheets without any change in the implementation process for this phase of the work, is; Lombok-end of February, Luwu-end of April, Lampung-end of July. The changes that appear necessary in order to complete staking sheets by May are : 1. The assignment of PDO/RE Distribution Engineers to MAIN's Project Staff, 2. The temporary transfer of MAIN's Lombok and Luwu Field Supervisors to Lampung to assist with survey and staking, 3. An in-house change in the way circuit design is presented to the Field Supervisors, 4. The Field Supervisors will determine pole locations based upon the Distribution Engineer's

circuit design, 5. The Distribution Engineer presently responsible for the Lombok System Design will assist with individual circuit design of the Lampung Area after he completes the Lombok Area staking sheets.

Preparation of the DGC Specifications and Construction Standards progressed satisfactorily during this report period. It is anticipated that approximately eighty one (81) drawings will be required to complete the set. The status of drawing preparation is as follows :

Total drawings authorized to date	77
Complete (signed off)	67
Drafted (in process-ck/corr./bkck, etc.)	1
Layed out (ready for drafting)	0
Remaining (approximately)	13

A preview copy of the DGC Construction Standards Manual was sent to PDO/RE and USAID during the report period.

NRECA suggested to MAIN that details of Service Entrance Installations should be included with the DGC Construction Standards. MAIN agreed that the applicable information pages would be prepared showing service entrance configurations at a later date when Project Engineering and Drafting Staff had completed the tasks to which they are presently committed.

The preparation of key and detail system maps will be accelerated after the DGC Construction Standards are completed.

A1. STATUS REPORT OF MAPS, SURVEY AND STAKING SHEETS INDICATING SELECTED KEY QUANTITIES

FOR THE SERVICE AREA : Lampung

	<u>DESCRIPTION</u>	<u>ESTIMATED QUANTITY</u>	<u>PREVIOUSLY COMPLETED</u>	<u>PROGRESS THIS REPORT PERIOD</u>	<u>COMPLETED TO DATE</u>
1.	Key Maps	1	.1	0	.1
2.	Detail Maps	35	0	0	0
3.	Centerline Staking (Kilometers)	974	974	0	974
4.	Pole Staking (Kilometers)	974	263	113	376
5.	Line Restaking, Kilometers (Resurvey)	100	0	0	0
6.	Staking Sheets	850	32	164	196
	A) Checked	850	0	65	65
	B) P o l e s	12,700	0	2,226	2,226
	C) Pole Line Kilometers	974	0	175	175
	(a) Primary	563	0	100	100
	(b) Secondary	411	0	75	75
	(c) Underbuild	424	0	77	77
	D) Approved	850	0	65	65

A2. STATUS REPORT OF MAPS, SURVEY AND STAKING SHEETS INDICATING SELECTED KEY QUANTITIES

FOR THE SERVICE AREA : Lombok

	<u>DESCRIPTION</u>	<u>ESTIMATED QUANTITY</u>	<u>PREVIOUSLY COMPLETED</u>	<u>PROGRESS THIS REPORT PERIOD</u>	<u>COMPLETED TO DATE</u>
1.	Key Maps	1	.1	0	.1
2.	Detail Maps	7	0	0	0
3.	Centerline Staking (Kilometers)	196	196	0	196
4.	Pole Staking (Kilometers)	196	155	0	155
5.	Line Restaking, Kilometers (Resurvey)	25	0	0	0
6.	Staking Sheets	250	99	42	141
	A) Checked	250	0	0	0
	B) P o l e s	2,600	0	1,846	1,846
	C) Pole Line Kilometers	196	0	117.542	117.542
	(a) Primary	148	0	85.516	85.516
	(b) Secondary	48	0	32.026	32.026
	(c) Underbuild	54	0	41.778	41.778
	D) Approved	250	0	0	0

A3. STATUS REPORT OF MAPS, SURVEY AND STAKING SHEETS INDICATING SELECTED KEY QUANTITIES

FOR THE SERVICE AREA : L U W U

	<u>DESCRIPTION</u>	<u>ESTIMATED QUANTITY</u>	<u>PREVIOUSLY COMPLETED</u>	<u>PROGRESS THIS REPORT PERIOD</u>	<u>COMPLETED TO DATE</u>
1.	Key Maps	1	.08	0	.08
2.	Detail Maps	30	0	0	0
3.	Centerline Staking (Kilometers)	477	477	0	477
4.	Pole Staking (Kilometers)	477	477	0	477
5.	Line Restaking, Kilometers (Resurvey)	50	0	0	0
6.	Staking Sheets	415	80	56	136
	A) Checked	415	0	0	0
	B) P o l e s	7,500	0	2,005	2,005
	C) Pole Line Kilometers	477	0	143.756	143.756
	(a) Primary	263	0	92.164	92.164
	(b) Secondary	214	0	51.592	51.592
	(c) Underbuild	214	0	72.259	72.259
	D) Approved	415	0	0	0

II

B. DESIGN OF HEADQUARTERS COMPLEXES

The working drawings have again been returned by MAIN to the Architect to incorporate necessary changes after a decision was made to completely revise the water system originally included in the plans by P.T. Arkonin. The Architect admits to the fact that the originally designed water system was very elaborate, therefore, too expensive for these complexes.

Volume I - Standard Conditions of the Invitation for Bids (IFB) has been approved and MAIN is presently editing this volume in preparation for printing. Volume II - Technical Specifications of the IFB is under preparation by MAIN. It is planned that this volume will be ready for review by the middle of February.

Seven local consulting firms were contacted by MAIN to see if they would be interested in providing construction supervision services for the Headquarters Complexes.

1. P.T. DACREA, Jl. Jenderal Sudirman, Jakarta
2. P.T. ARCHICONS, Jl. Jenderal Sudirman, Jakarta
3. P.T. CIPTA PURA, Jl. Surabaya, Jakarta
4. P.T. PERENCANA JAYA, Jl. S. Parman, Jakarta
5. CIPTA STRADA Engineering Consultants, Jl. Jenderal Sudirman, Jakarta
6. P.T. WIDYA PERTIWI, Jl. Menteng Raya, Jakarta
7. P.T. ENCONA ENGINEERING, INC., Jl. Angkasa, Jakarta

During December MAIN received from P.T. DACREA and P.T. ENCONA replies stating that they regretted their inability to provide the services requested. Reminder letters were sent to the remaining five firms during January. P.T. WIDYA PERTIWI answered that they would review their staffing arrangement, but indicated that they were very pessimistic. No replies were received from the other communications sent on this subject.

PDO/RE has notified MAIN that a Presidential Decree establishes certain time limits for the various activities associated with the tendering process for in-country construction projects. Time periods are set that start on the date that notices are sent to prequalified Bidders of a tender opening to the formal Notice of Contract Award. The tendering process time period involved for these Headquarters Complexes on this Project is a minimum of three months.

C. FIELD TRIPS

MAIN's Distribution Engineer responsible for the Lampung System Design visited the Project site during this report period. He reviewed and coordinated the work of the area survey crew and drafting personnel working on staking and staking sheet preparation.

MAIN's Project Civil Engineer travelled to the Lombok Area in January to offer advice and make recommendations as to the most expeditious way to provide temporary storage facilities for the soon to arrive Project material and equipment.

D. PDO/RE STAFF ASSIGNED TO MAIN'S PROJECT STAFF

PDO/RE will assign three Distribution Engineers in February to MAIN's Project Staff. The three Engineers will receive training in the preparation of staking sheets and will assist MAIN's regular staff in preparation of the Project staking sheets. Training for these Engineers will also include other relevant procedures as time permits.

V. PROCUREMENT

A. MAIN's Project procurement activity during this report period was the completion of the IFB's for Lombok and Lampung Line and House Wiring Material. The Line and House Wiring Material IFB for Luwu was sent during the month to PDO/RE and USAID for review and correction advice or approval. All noted corrections, if any, will be incorporated in the Lombok, Lampung and Luwu IFB's before issue.

USAID correctly advised MAIN that at least one month should be reserved as a pre-advertisement period.

It is anticipated that a period of time less than one month for pre-advertisement from the date MAIN submits the IFB synopsis to USAID to the date the advertisement is published in The Commerce Business Daily, Export Opportunities Bulletin or other appropriate journals, is not feasible. A revised schedule of events relevant to the new IFB incorporating the one month period discussed above is appended below :

<u>EVENT</u>	<u>DATE</u>	<u>MONTHS</u>
IFB Preparation started	1 December 1982	
IFB Preparation complete	15 January 1982	1.5
IFB Approved by PDO/RE and USAID	15 February 1982	1
IFB Advertisement	15 March 1982	1
IFB Opening	15 M a y 1982	2
IFB Evaluation complete	15 J u n e 1982	1
SEKNEG Evaluation approval	15 J u l y 1982	1
Contract formalities complete	1 September 1982	1.5
L/Com and L/C issued and opened	15 October 1982	1.5
Material Delivery FOB vessel	15 January 1983	3
Material Delivery Port of Entry	15 March 1983	2
Material Delivery at site	1 April 1983	0.5
		<hr/>
		16 MONTHS

The three IFB's under preparation will include bid requests for the following Categories of Material and Equipment for the areas noted.

	<u>DESCRIPTION</u>	<u>LAMPUNG</u>	<u>LOMBOK</u>	<u>LUWU</u>
1.	Line Hardware (Additional)	x	x	x
2.	Steel Strand		x	
3.	Conductor, Bare	x	x	x
5.	Conductor, Bare (Special)		x	
*6.	Conductor, Insulated (Special)		x	
8.	Connectors (Additional)	x	x	x
9.	Insulators		x	
14.	Wood Products (Plus Additional Items)	x	x	x
2H.	Cables	x	x	x
3H.	Wiring Devices - I	x	x	x
4H.	Wiring Devices - II	x	x	x
8H.	Miscellaneous Material - II	x	x	x

* To be included in Category 3 for Lombok.

A page following this narration indicates the distribution and status of the Project's Dollar Funds, which is followed by three (3) sets of Procurement Status Reports, one for each service area. It may be noted that various Dollar values were changed from the previous months Dollar Fund Status Report. The changes were made possible due to updated information and policy decisions initiated during the report period.

1. Total Dollars required were reduced due to a decision to use the excess quantity of distribution transformers purchased for the Lampung Project for the requirements of the Lombok Project.
2. The water systems proposed for the three Headquarters Complexes were revised, thereby making possible a reduction in the overall estimated construction cost of the Complexes.

3. It has been determined that the amount of Project Dollars estimated for increased quantity of line material for the Luwu Project will not be required and permits a further reduction in the projected Project Dollar requirement.
4. This months Dollar Fund Status Report indicates a negative Dollar value under Dollars required for the Luwu REIL Project. MAIN will recommend that PDO/RE request USAID to De-Subobligate the negative amount shown from Direct Reimbursement Authorization issued for the Luwu REIL Project.
5. The Dollar value estimated by MAIN as necessary to purchase conductor for the three project areas was reduced by 8.5 percent from \$ 2,350,000 to \$ 2,150,000. MAIN had estimated the \$ 2,350,000 based upon the lowest bids received eighteen months ago with a 30 percent adder for monetary inflation. It has been noted that recently received bids on other projects have not reflected such a high increase in cost as had been projected by MAIN.

Short review covering Pole and Communication Equipment procurement and a field trip undertaken by the Material Coordinator are at the end of this section of the Monthly Project Report.

DISTRIBUTION AND STATUS OF PROJECT DOLLAR FUNDS FOR PROCUREMENT OF MATERIAL,
EQUIPMENT AND HEADQUARTERS COMPLEX CONSTRUCTION

DOLLAR EXPENDITURES AS CONTRACTED AND ESTIMATED, FOR :	\$ FUNDS UNDER CONTRACT FOR THE LAMPUNG PROJECT	\$ FUNDS UNDER CONTRACT FOR THE LOMBOK PROJECT	\$ FUNDS UNDER CONTRACT FOR THE LUWU PROJECT	TOTAL \$ FUNDS UNDER CONTRACT TO DATE
LINE MATERIAL AND EQUIPMENT	1,879,160.48	721,034.07	907,139.42	3,507,333.97
HOUSEWIRING AND METERING MATERIAL AND EQUIPMENT	744,471.32	512,312.41	524,667.41	1,781,451.14
TOOLS, EQUIPMENT AND VEHICLES	58,866.22	45,644.20	45,644.20	150,154.62
HEADQUARTERS COMPLEX	0	0	0	0
REIL PROJECT	267,425.00	0	211,180.00	478,605.00
ESTIMATED AMOUNT OF DOLLAR FUNDS YET TO BE PUT UNDER CONTRACT	LAMPUNG	LOMBOK	LUWU	TOTAL PROJECT
LINE MATERIAL AND EQUIPMENT	1,210,000.00	407,000.00	827,000.00	2,444,000.00
HOUSEWIRING AND METERING MATERIAL AND EQUIPMENT	300,000.00	300,000.00	300,000.00	900,000.00
TOOLS, EQUIPMENT AND VEHICLES	140,000.00	55,000.00	55,000.00	250,000.00
HEADQUARTERS COMPLEX w/FURNITURE	525,000.00	535,000.00	540,000.00	1,600,000.00
REIL PROJECT	0	0	- 174,643.17	- 174,643.17
DOLLAR VALUE OF MATERIAL UNDER CONTRACT	2,949,923.02	1,278,990.68	1,688,631.03	5,917,544.73
ESTIMATED DOLLAR VALUE OF MATERIAL YET TO BE CONTRACTED	2,175,000.00	1,297,000.00	1,547,356.83	5,019,356.83
ESTIMATED TOTAL FUNDS REQUIRED FOR COMPLETION	5,124,923.02	2,575,990.68	3,235,987.85	10,936,901.55
ORIGINAL DOLLAR FUNDS COMMITTED FOR PROJECT	316,000.00 GOI 4,000,000.00 USAID	315,000.00 3,400,000.00	315,000.00 2,600,000.00	946,000.00 10,000,000.00
DIFFERENCE BETWEEN COMMITTED AND REQUIRED FUNDS	- 808,923.02	+1,139,009.32	- 320,987.85	+ 9,098.45

PROCUREMENT STATUS REPORT
FOR LAMPUNG

LAMPUNG SERVICE AREA

<u>BID CATEGORY</u>	<u>UP-TO-DATE STATUS</u>
1. Line Hardware	- Submitted to BAPPENAS.
2. Steel Strand	- Shipped.
3. Conductor Bare	- To be Advertised with new IFB.
4. Conductor, Insulated	- Received at warehouse.
5. Conductor, Bare (Special)	- Quantity change amendment prepared.
6. Conductor, Insulated (Special)	- Received at warehouse.
7. Conductor Accessories	- Submitted to BAPPENAS.
8. Connectors	- Submitted to BAPPENAS.
9. Insulators	- Shipped.
10. Protective Devices	- Received at warehouse.
11. Transformers	- Quantity change amendment signed.
12. Reclosers	- Amendment submitted to BAPPENAS.
13. Street Lighting Equipment	- Submitted to BAPPENAS.
14. Wood Products (less poles)	- Delivery started.
15. T and M Equipment	- Submitted to BAPPENAS.

LAMPUNG

IFB HOUSEWIRING MATERIAL AND METERING EQUIPMENT

CATEGORY	CATEGORY DESCRIPTION	CONTRACT AWARDED TO	STAMP TAX PAID	CONTRACT SIGNED BY CONTRACTOR AND PDO	PERFORMANCE BOND DELIVERED	SUBMITTED TO BAPPENAS	BAPPENAS APPROVAL	TO BANK INDO. TO NAME BANK	BANK NAMED	LETTER OF COMMITMENT REQUESTED AND CONDITIONAL LETTER OF CREDIT	L/COM ISSUED	L/C OPENED	DELIVERY PERIOD FINALIZED	MAIN TELLS CONTRACTOR QUANTITIES TO BE SHIPPED	DELIVERY COMMENCES	DELIVERY COMPLETED	REPLACE MENT MATERIAL REQUESTED	CONTRACT CLOSED
		FOR \$ AMOUNT																
1	R & C METERS	GENERAL ELECTRIC CO. \$ 590,440.10	X	X	X	X	X	X										
				CONTRACT NUMBER						01H/KLP/LA/81								
2	CABLES	NEW IFB																
3	WIRING DEVICES-1	NEW IFB																
4	WIRING DEVICES-2	NEW IFB																
5	PROTECTIVE DEVICES	GENERAL ELECTRIC CO. \$ 25,440.00	X	X	X	X	X	X										
										01H/KLP/LA/81								
6	LAMPS	P.T. INTRA SAPTA/TITAN \$ 15,750.00	X	X	X													
										02H/KLP/LA/81								
7	MISC. MATERIAL - 1	P.T. INTRA SAPTA/TITAN \$ 65,657.70	X	X	X													
										02H/KLP/LA/81								
8	MISC. MATERIAL-2	NEW IFB																
9	MISC. MATERIAL-3	P.T. INTRA SAPTA/TITAN \$ 21,411.52	X	X	X													
										02H/KLP/LA/81								
10	GROUNDING EQUIPMENT	P.T. INTRA SAPTA/TITAN \$ 25,772.00	X	X	X													
										02H/KLP/LA/81								

LAMPUNG

IFB TOOLS, EQUIPMENT AND VEHICLES

CATEGORY	CATEGORY DESCRIPTION	CONTRACT AWARDED TO	STAMP TAX PAID	CONTRACT SIGNED BY CONTRACTOR AND PDO	PERFORMANCE BOND DELIVERED	SUBMITTED TO BAPPENAS	BAPPENAS APPROVAL	TO BANK INDO. TO NAME BANK	BANK NAMED	LETTER OF COMMITMENT REQUESTED AND CONDITIONAL LETTER OF CREDIT	L/COM ISSUED	L/C OPENED	DELIVERY PERIOD FINALIZED	MAIN TELLS CONTRACTOR QUANTITIES TO BE SHIPPED	DELIVERY COMMENCES	DELIVERY COMPLETED	REPLACEMENT MATERIAL REQUESTED	CONTRACT CLOSED
		FOR # AMOUNT																
1	PERSONNEL EQUIPMENT	PT. INTRA SAPTA / TITAN \$ 5,479.76	X	X	X					02T/KLP/LA/81								
2	HAND TOOLS	PT. INTRA SAPTA / TITAN \$ 3,654.56	X	X	X					02T/KLP/LA/81								
3	CONSTRUCTION TOOLS & EQUIPMENT	C.V. GLORIA TRADING CO. \$ 16,822.54	X	X	X	X		N/A		X 01T/KLP/LA/81								
4	COMPRESSION TOOLS	C.V. GLORIA TRADING CO. \$ 8,622.38	X	X	X	X		N/A		X 01T/KLP/LA/81								
5	SHOP TOOLS	C.V. GLORIA TRADING CO. \$ 12,660.50	X	X	X	X		N/A		X 01T/KLP/LA/81								
6	TEST EQUIPMENT	C.V. GLORIA TRADING CO. \$ 9,045.73	X	X	X	X		N/A		X 01T/KLP/LA/81								
7	SAFETY GROUNDING EQUIPMENT	C.V. GLORIA TRADING CO. \$ 2,580.75	X	X	X	X		N/A		X 01T/KLP/LA/81								
8	VEHICLES																	

PROCUREMENT STATUS REPORT

FOR LOMBOX

LOMBOK SERVICE AREA

<u>BID CATEGORY</u>	<u>UP-TO-DATE STATUS</u>
1. Line Hardware	- Submitted to BAPPENAS.
2. Steel Strand	- To be advertised with new IFB.
3. Conductor, Bare	- To be advertised with new IFB.
4. Conductor, Insulated	- Letter of Credit opened.
5. Conductor, Bare (Special)	- To be advertised with new IFB.
6. Conductor, Insulated (Special)	- To be advertised with new IFB.
7. Conductor Accessories	- Contract signed.
8. Connectors	- Submitted to BAPPENAS.
9. Insulators	- To be advertised with new IFB.
10. Protective Devices	- Submitted to BAPPENAS.
11. Transformers	- To be transferred from Lampung Project.
12. Reclosers	- Letter of Credit opened.
13. Street Lighting Equipment	- Submitted to BAPPENAS.
14. Wood Products (less poles)	- To be advertised with new IFB.
15. T and M Equipment	- Submitted to BAPPENAS.

LOMBOK

MATERIAL AND EQUIPMENT INFORMATION

CONTRACT NUMBER IN FORCE	CATEGORY NUMBER	DESCRIPTION OF MATERIAL IN CATEGORY	NAME OF CONTRACTOR	LETTER OF COMMITMENT OR DRA NO. 497-T-052xx	DOLLAR AMOUNT UNDER CONTRACT PER CATEGORY
03/KLP/LO/81	12	RECLOSERS	McGRAW-EDISON CO.	24	45,588.47
05/KLP/LO/81	4	CONDUCTOR-INSULATED	NEW WORLD RESEARCH	24	194,800.00
07/KLP/LO/81	10	PROTECTIVE DEVICES	McGRAW-EDISON		55,420.90
08/KLP/LO/81	7	CONDUCTOR ACCESSORIES	IRBY CONSTRUCTION CO		41,350.50
09/KLP/LO/81	8	CONNECTORS	IRBY CONSTRUCTION CO.		44,659.29
- " -	13	S.L. EQUIPMENT	" "		11,185.35
- " -	15	T & M EQUIPMENT	" "		21,190.06
10/KLP/LO/81	1	LINE HARDWARE	JOSLYN CO.		140,618.20
	2	STEEL STRAND			EST 10,000.00
	5	CONDUCTOR, B (SPECIAL)			EST 12,500.00
	6	CONDUCTOR, I (SPECIAL)			EST 1,000.00
	14	WOOD PRODUCTS			EST 35,000.00
	3	CONDUCTOR-BARE			EST 270,000.00
	9	INSULATORS			EST 50,000.00
	()	MISC. ITEMS			EST 28,000.00
06/KLP/LA/81	11	TRANSFORMERS	META EPSI ENGINEERING	21	166,221.30
TOTAL DOLLARS OBLIGATED ON LINE M & E FOR THE LOMBOK PROJECT					406,609.77
TOTAL DOLLARS CONTRACTED TO DATE FOR LOMBOK PROJECT - LINE M and E					721,034.07
ADDITIONAL DOLLAR AMOUNT REQUIRED FOR LOMBOK PROJECT - LINE M and E					EST 407,000.00
TOTAL DOLLAR AMOUNT REQUIRED FOR LOMBOK PROJECT - LINE M and E					EST 1,128,034.07

LOMBOK

IFB HOUSEWIRING MATERIAL AND METERING EQUIPMENT

CATEGORY	CATEGORY DESCRIPTION	CONTRACT AWARDED TO	STAMP TAX PAID	CONTRACT SIGNED BY CONTRACTOR AND PDO	PERFORMANCE BOND DELIVERED	SUBMITTED TO BAPPENAS	BAPPENAS APPROVAL	TO BANK INDO. TO NAME BANK	BANK NAMED	LETTER OF COMMITMENT REQUESTED AND CONDITIONAL LETTER OF CREDIT	L/COM ISSUED	L/C OPENED	DELIVERY PERIOD FINALIZED	MAIN TELLS CONTRACTOR QUANTITIES TO BE SHIPPED	DELIVERY COMMENCES	DELIVERY COMPLETED	REPLACEMENT MATERIAL REQUESTED	CONTRACT CLOSED
		FOR \$ AMOUNT																
1	R & C METERS	GENERAL ELECTRIC CO. \$ 358,342.25	X	/	/	X	X	X										
						CONTRACT NUMBER			01H/KLP/LO/81									
2	CABLES	NEW IFB																
3	WIRING DEVICES -1	NEW IFB																
4	WIRING DEVICES -2	NEW IFB																
5	PROTECTIVE DEVICES	GENERAL ELECTRIC CO. \$ 25,440.00	X	/	/	X	X	X										
						CONTRACT NUMBER			01H/KLP/LO/81									
6	LAMPS	P.T. FANATRI UTAMA \$ 12,677.20	X	/	/	X		N/A	N/A	N/A								
						CONTRACT NUMBER			03H/KLP/LO/81									
7	MISC. MATERIAL - 1	P.T. INTRA SAPTA / TITAN \$ 67,483.20	X															
						CONTRACT NUMBER			02H/KLP/LO/81									
8	MISC. MATERIAL - 2	NEW IFB																
9	MISC. MATERIAL - 3	P.T. INTRA SAPTA/TITAN \$ 21,934.76	X															
						CONTRACT NUMBER			02H/KLP/LO/81									
10	GROUNDING EQUIPMENT	P.T. INTRA SAPTA/TITAN \$ 26,435.00	X															
						CONTRACT NUMBER			02H/KLP/LO/81									

LOMBOK

IFB TOOLS, EQUIPMENT, AND VEHICLES

CATEGORY	CATEGORY DESCRIPTION	CONTRACT AWARDED TO	STAMP TAX PAID	CONTRACT SIGNED BY CONTRACTOR AND PDO	PERFORMANCE BOND DELIVERED	SUBMITTED TO BAPPENAS	BAPPENAS APPROVAL	TO BANK INDO. TO NAME BANK	BANK NAMED	LETTER OF COMMITMENT REQUESTED AND CONDITIONAL LETTER OF CREDIT	L/COM ISSUED	L/C OPENED	DELIVERY PERIOD FINALIZED	MAIN TELLS CONTRACTOR QUANTITIES TO BE SHIPPED	DELIVERY COMMENCES	DELIVERY COMPLETED	REPLACEMENT MATERIAL REQUESTED	CONTRACT CLOSED
		FOR \$ AMOUNT																
1	PERSONNEL EQUIPMENT	C.V. GLORIA TRADING CO. \$ 3,473.38	X	X	X	X		N/A		X 01T/KLP/LO/81								
2	HAND TOOLS	P.T. INTRA SAPTA / TITAN \$ 2,631.92	X	X	X					02T/KLP/LO/81								
3	CONSTRUCTION TOOLS & EQUIPMENT	C.V. GLORIA TRADING CO. \$ 10,299.16	X	X	X	X		N/A		X 01T/KLP/LO/81								
4	COMPRESSION TOOLS	C.V. GLORIA TRADING CO. \$ 6,219.38	X	X	X	X		N/A		X 01T/KLP/LO/81								
5	SHOP TOOLS	C.V. GLORIA TRADING CO. \$ 12,297.50	X	X	X	X		N/A		X 01T/KLP/LO/81								
6	TEST EQUIPMENT	C.V. GLORIA TRADING CO. \$ 9,031.61	X	X	X	X		N/A		X 01T/KLP/LO/81								
7	SAFETY GROUNDING EQUIPMENT	C.V. GLORIA TRADING CO. \$ 1,691.25	X	X	X	X		N/A		X 01T/KLP/LO/81								
8	VEHICLES																	

PROCUREMENT STATUS REPORT

FOR LUWU

LUWU SERVICE AREA

<u>BID CATEGORY</u>	<u>UP-TO-DATE STATUS</u>
1. Line Hardware	- Letter of Commitment requested by USAID.
2. Steel Strand	- Delivery started.
3. Conductor, Bare	- To be advertised with new IFB.
4. Conductor, Insulated	- Letter of Credit opened.
5. Conductor, Bare (Special)	- Delivery started.
6. Conductor, Insulated (Special)	- Received at warehouse.
7. Conductor Accessories	- Delivered to the port of entry.
8. Connectors	- Letter of Commitment requested.
9. Insulators	- Submitted to BAPPENAS.
10. Protective Devices	- Delivery started.
11. Transformers	- Received at port of entry.
12. Reclosers	- Delivery started.
13. Street Lighting Equipment	- Submitted to BAPPENAS.
14. Wood Products (less poles)	- Delivery started.
15. T and M Equipment	- Submitted to BAPPENAS.

L U W U

MATERIAL AND EQUIPMENT INFORMATION

CONTRACT NUMBER IN FORCE	CATEGORY NUMBER	DESCRIPTION OF MATERIAL IN CATEGORY	NAME OF CONTRACTOR	LETTER OF COMMITMENT OR DRA NO. 497-T-052xx	DOLLAR AMOUNT UNDER CONTRACT PER CATEGORY
02/KLP/LW/81	2	STEEL STRAND	COPPERWELD IND.	16	44,032.20
-- // --	5	CONDUCTOR-B-(SPECIAL)	INTERNATIONAL INC	16	18,298.00
04/KLP/LW/81	4	CONDUCTOR - INSUL.	WALSIN LIHWA	28	115,929.10
05/KLP/LW/81	6	CONDUCTOR-I- (SPECIAL)	KABELINDO MURNI	18	886.36
06/KLP/LW/81	7	CONDUCTOR ACCESSORIES	P.L.P. CO. (BRAZIL)	16	38,207.90
07/KLP/LW/81	8	CONNECTORS	IRBY CONSTRUCTION CO		35,467.25
-- // --	13	S.L. EQUIPMENT	-- " --		11,185.35
09/KLP/LW/81	10	PROTECTIVE DEVICES	NEW WORLD RESEARCH	19	51,177.00
-- // --	14	WOOD PRODUCTS	CORP.	19	31,040.00
10/KLP/LW/81	11	TRANSFORMERS	DAEWOO IND. INT'L	20	138,433.00
11/KLP/LW/81	12	RECLOSERS	McGRAW-EDISON CO.	16	40,884.96
13/KLP/LW/81	9	INSULATORS	NEW WORLD RESEARCH		88,988.40
	15	T & M EQUIPMENT	CORP.		14,060.00
01/KLP/LW/81	1	LINE HARDWARE	HIJASON IND. LTD		278,549.90
	3	CONDUCTOR-BARE			EST 780,000.00
	()	MISC. ITEMS			EST 47,000.00
TOTAL DOLLARS OBLIGATED ON LINE M & E FOR THE LUWU PROJECT					478,888.52
TOTAL DOLLARS CONTRACTED TO DATE FOR LUWU PROJECT LINE M & E					907,139.42
ADDITIONAL DOLLAR AMOUNT REQUIRED FOR LUWU PROJECT LINE M & E					EST 827,000.00
TOTAL DOLLAR AMOUNT REQUIRED FOR LUWU PROJECT LINE M AND E					EST 1,734,139.42

LWU

IFB HOUSEWIRING MATERIAL AND METERING EQUIPMENT

CATEGORY	CATEGORY DESCRIPTION	CONTRACT AWARDED TO	STAMP TAX PAID	CONTRACT SIGNED BY CONTRACTOR AND PDO	PERFORMANCE BOND DELIVERED	SUBMITTED TO BAPPENAS	BAPPENAS APPROVAL	TO BANK INDO. TO NAME BANK	BANK NAMED	LETTER OF COMMITMENT REQUESTED AND CONDITIONAL LETTER OF CREDIT	L/COM ISSUED	L/C OPENED	DELIVERY PERIOD FINALIZED	MAIN TELLS CONTRACTOR QUANTITIES TO BE SHIPPED	DELIVERY COMMENCES	DELIVERY COMPLETED	REPLACEMENT MATERIAL REQUESTED	CONTRACT CLOSED	
		FOR \$ AMOUNT																	
1	R & C METERS	GENERAL ELECTRIC CO. \$ 370,707.25	X	X	X	X	X	X											
				CONTRACT NUMBER							01H/KLP/LW/81								
2	CABLES	NEW IFB																	
3	WIRING DEVICES-1	NEW IFB																	
4	WIRING DEVICES-2	NEW IFB																	
5	PROTECTIVE DEVICES	GENERAL ELECTRIC CO. \$ 25,440.00	X	X	X	X	X	X											
				CONTRACT NUMBER							01H/KLP/LW/81								
6	LAMPS	PT. FANATRI UTAMA \$ 12,667.20	X	X	X	N/A	N/A	N/A	N/A	X									
				CONTRACT NUMBER							03H/KLP/LW/81								
7	MISC. MATERIAL-1	PT. INTRA SAPTA / TITAN \$ 67,483.20	X	X	X														
				CONTRACT NUMBER							02H/KLP/LW/81								
8	MISC. MATERIAL-2	NEW IFB																	
9	MISC. MATERIAL-3	PT. INTRA SAPTA / TITAN \$ 21,934.76	X	X	X														
				CONTRACT NUMBER							02H/KLP/LW/81								
10	GROUNDING EQUIPMENT	PT. INTRA SAPTA / TITAN \$ 26,435.00	X	X	X														
				CONTRACT NUMBER							02H/KLP/LW/81								

IFB TOOLS EQUIPMENT AND VEHICLES

CATEGORY	CATEGORY DESCRIPTION	CONTRACT AWARDED TO	STAMP TAX PAID	CONTRACT SIGNED BY CONTRACTOR AND PDO	PERFORMANCE BOND DELIVERED	SUBMITTED TO BAPPENAS	BAPPENAS APPROVAL	TO BANK INDO. TO NAME BANK	BANK NAMED	LETTER OF COMMITMENT REQUESTED AND CONDITIONAL LETTER OF CREDIT	L/COM ISSUED	L/C OPENED	DELIVERY PERIOD FINALIZED	MAIN TELLS CONTRACTOR QUANTITIES TO BE SHIPPED	DELIVERY COMMENCES	DELIVERY COMPLETED	REPLACEMENT MATERIAL REQUESTED	CONTRACT CLOSED
		FOR AMOUNT																
1	PERSONNEL EQUIPMENT	C.V. GLORIA TRADING CO. \$ 3,473.38	X	X	X	X	N/A	N/A	N/A	X 01T/KLP/LW/81								
2	HAND TOOLS	PT. INTRA SAPTA/TITAN \$ 2,631.92	X	X	X					02T/KLP/LW/81								
3	CONSTRUCTION TOOLS & EQUIPMENT	C.V. GLORIA TRADING CO. \$ 10,299.16	X	X	X	X	N/A	N/A	N/A	X 01T/KLP/LW/81								
4	COMPRESSION TOOLS	C.V. GLORIA TRADING CO. \$ 6,219.38	X	X	X	X	N/A	N/A	N/A	X 01T/KLP/LW/81								
5	SHOP TOOLS	C.V. GLORIA TRADING CO. \$ 12,297.50	X	X	X	X	N/A	N/A	N/A	X 01T/KLP/LW/81								
6	TEST EQUIPMENT	C.V. GLORIA TRADING CO. \$ 9,031.61	X	X	X	X	N/A	N/A	N/A	X 01T/KLP/LW/81								
7	SAFETY GROUNDING EQUIPMENT	C.V. GLORIA TRADING CO. \$ 1,691.25	X	X	X	X	N/A	N/A	N/A	X 01T/KLP/LW/81								
8	VEHICLES																	

B. POLES

The IFB for the supply of Treated Wood Poles is yet to be revised. PDO/RE has decided to issue an IFB for the supply of poles for the Luwu and Lombok Areas. The Lampung Area Cooperative will set up a treatment plant to provide the treated wood poles required by them to implement the electrical system construction in that area. MAIN's Project Staff will undertake revisions to the Treated Wood Pole IFB as soon as they have finalized the Line and Housewiring Material and Headquarters Complex Construction IFB's.

P.T. PADECO (Palembang Timber Development Co., Ltd.) have made many visits to the offices of PDO/RE, NRECA and MAIN to explain the advantages of the wood species Ulin. They indicate that treatment is not required. MAIN contends that the species is untreatable due to its density. MAIN agrees that the wood will probably last indefinitely in water, in the ground or above ground, however, P.T. PADECO has not provided data that proves the species to be long lasting in a situation where the wood is buried and protrudes above the ground. MAIN's concern is in the later situation as it is indisputable that the major problem with the use of wood for overhead electric lines is at the ground line where decay is most likely to occur. A sample that was cut two months previous was brought to MAIN's office. The sample shows an excessive amount of checking. Its density indicates that field drilling would be almost impossible and certainly could not be climbed by linemen wearing hooks.

MAIN will continue to investigate the positive potentials of this species, but it presently appears that it will be impossible to recommend its use on the Project.

C. COMMUNICATION EQUIPMENT

The Single Side Band Communication Equipment has been received at the port of entry. The Installation scheduled for November, has been delayed due to problems encountered in customs clearance.

BAPPENAS and the Department of Trade have issued the necessary documentation to permit duty free import of the equipment. PDO/RE has requested the Port Customs Authority to issue permits necessary for the release of the equipment.

It is anticipated that the communication equipment will be installed and operational one month after clearance of the equipment from the Port Customs Authority.

D. FIELD TRIP BY MATERIAL COORDINATOR

Mr. P.V. Wilson, MAIN's Project Material Coordinator accompanied by PDO/RE's Material Supervisor, Mr. Kutut Swastika travelled to Ujung Pandang to identify material for the Luwu Area Cooperative and to identify what material had been wrongly shipped there that should have been delivered to the Rural Electrification Central Java Project. Twenty-five crates were located in the Port Customs at Ujung Pandang that must be sent to the PLN Central Java Project. A similar number of crates were shipped to PLN that must be re-shipped to Ujung Pandang for the Luwu Area Project.

In February the Material Coordinator will make a trip to the Lampung Area Project to assist the Cooperative Storekeeper with Conductor Reel Storage. An attempt will be made to cover the reels so they will not rot before the conductor is used. The Project construction schedule indicates that the reels will have to be maintained in their present condition for up to two or more years.

MAIN's Project Lead Engineer will proceed in February along with two PDO/RE Section Heads to perform factory inspection of line hardware being supplied by Hijason Ind. (Taiwan) Ltd.

VI. CONSTRUCTION - REIL PROJECTS

A. LAMPUNG

The installations completed during the month and total installations of the Lampung REIL Project are as follows :

	<u>PREVIOUS</u>	<u>JANUARY</u>	<u>TOTAL</u>
Signed Members	1,692	- 1	1,691
Service Drops	1,432	- 29	1,403
Houses Wired	1,444	0	1,444
Members Served	1,413	- 10	1,403
Meters Set	1,413	- 10	1,403
Poles Set	838	0	838
Guys Installed	359	0	359
Transformers Set	43	0	43
Maximum Demand	150 KW	*	150 KW

* No Information

B. LOMBOK

The installations completed during the month and total installations on the Lombok REIL Project are as follows :

	<u>PREVIOUS</u>	<u>JANUARY</u>	<u>TOTAL</u>
Signed Members	2,299	278	2,577
Service Drops	2,018	0	2,018
Houses Wired	2,048	164	2,212
Members Served	2,018	0	2,018
Meters Set	2,018	0	2,018
Poles Set	396	43	439
Guys Installed	187	0	187
Transformers Set	11	0	11
Maximum Demand	250 KW	240 KW	250 KW

C. L U W U

The installations completed during the month and total installations on the Luwu Mini REIL Project are as follows :

	<u>PREVIOUS</u>	<u>JANUARY</u>	<u>TOTAL</u>
Signed Members	415	0	415
Service Drops	383	17	400
Houses Wired	383	17	400
Members Served	357	43	400
Meters Set	357	43	400
Poles Set	96	6	102
Guys Installed	62	0	62
Transformers Set	0	0	0
Maximum Demand	32 KW	65 KW	65 KW

D. OVERALL FIELD SUPERVISION ACTIVITY

Systems are now in operation in each of the three project service areas. MAIN's Field Supervisors are now constantly on call to provide operational help, guidance and supervision for these systems as well as the services they normally provide on system field design, survey and pole staking.

Personnel Assigned to the Project as of 31 December 1981

D.A. Dowling	- Projects Director
E.S. Leffler	- Project Lead Engineer
J.D. Kerr	- Electrical Engineer
R.N. Key	- Business Manager
P.V. Wilson	- Material Coordinator
C.J. Whitby	- Administrator
E.V. Borja	- Distribution Engineer
T.L. Resabal	- Distribution Engineer
G.S. Sanial	- Distribution Engineer
D.K. Hoffer	- Drafting Supervisor
F.P. Cachin	- Field Supervisor
C.T. Nuez	- Field Supervisor
R.M. Garcia	- Field Supervisor
V.H. Sydiongco	- Civil Engineer

Personnel Travel Details

Project Personnel returned from vacation in January 1982 on the dates indicated below.

<u>N A M E</u>	<u>P O S I T I O N</u>	<u>R E T U R N</u>
1. Mr. V.H. Sydiongco	Civil Engineer	7 January 1982
2. Mr. R.M. Garcia	Field Supervisor	11 January 1982
3. Mr. C.T. Nuez	Field Supervisor	11 January 1982
4. Mr. G.S. Sanial	Distr. Engineer	13 January 1982
5. Mr. E.V. Borja	Distr. Engineer	25 January 1982
6. Mr. T.L. Resabal	Distr. Engineer	25 January 1982

Mr. E.S. Leffler - MAIN's Project Lead Engineer will proceed on an R & R trip February 18, 1982 and is expected to return to the Project by the second week in March.

JOB CLASSIFICATIONS & MANMONTHS

Through : 31 December 1981

JOB CLASSIFICATIONS	LOCATION	PLN	DGC	PRESENT PERSONNEL ASSIGNED	MANMONTHS		% CONS.	% REMAIN
					ALLOCATED	CONSUMED		
Projects Director	Jakarta	x	x	D.A. Dowling	40	37.6	94.0	6.0
Business Manager	Semarang	x	x	R.N. Key	39	35.7	89.3	10.7
Administrative Ass't.	Jakarta	x	x	-	24	10.6	44.2	55.8
Area Manager	Semarang	x		H.E. Johnson	24	14.2	59.2	40.8
Lead Elect. Engineer	Semarang	x		-	38	27.7	72.9	27.1
Civil Engineer	Semarang	x		E.M. Downing	24	24.0	100.0	0
Architect		x		-	3	-	-	100.0
Field Supervisor	Semarang	x		H.E. Earl	37	34.6	93.5	6.5
Field Supervisor	Semarang	x		J.J. Bennett	34	29.9	87.9	12.1
Field Supervisor	Semarang	x		J.V. Hardman	35	31.0	88.6	11.4
Lead Electrical Eng.	Jakarta		x	E.S. Leffler	39	36.2	92.8	7.2
Electrical Engineer	Jakarta		x	J.D. Kerr	24	29.1	121.3	(21.3)
Distribution Eng.	Jakarta		x	E.V. Borja	24	16.1	67.1	32.9
Distribution Eng.	Jakarta		x	G.S. Sanial	24	17.4	72.5	27.5
Distribution Eng.	Jakarta		x	T.L. Resabal	24	12.3	51.3	48.7
Civil Engineer	Jakarta		x	V.H. Sydlongco	24	16.5	68.8	31.2
Senior Draftsman	Jakarta		x	D.K. Hoffer	24	21.0	87.5	12.5
Field Supervisor	Lampung		x	F.P. Cachin	35	34.8	99.4	0.6
Field Supervisor	Lombok		x	C.T. Nuez	35	29.3	83.7	16.3
Field Supervisor	Luwu		x	R.M. Garcia	35	35.6	101.1	(1.1)
Material Coordinator	Jakarta		x	P.V. Wilson	12	9.3	77.5	22.5
Administration Manager	Jakarta		x	C.J. Whitby	-	4.4	-	-
Home Office	Boston	x	x	Various	90	62.3	69.2	30.8
TOTALS :					688	569.6	82.8	17.2

AI - 2

CT STATUS

ELECTRIFICATION

GENERAL OF COOPERATIVES

1. Bar Chart revised as of July 31, 1981.
2. Bar Chart revised as of Dec. 31, 1981.
Projected and completed percentages
based upon activity months.

MAIN

REPORTING PERIOD : Jan. 1982

