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RURAL ELECTRIFICATION PROJECTS

INDONESIA



NATIONAL RURAL ELECTRIC COOPERATIVE ASSOCIATION

JAKARTA, INDONESIA

NRECA TEAM REPORT

PDO

INDONESIA

(DECEMBER 1981)

MONTHLY REPORT

NRECA INDONESIAN TEAM REPORT

UNITED STATES AGENCY FOR
INTERNATIONAL DEVELOPMENT

Contract No. AID/ASIA C1347
Loan No. 497-T-052

IMPLEMENTING AGENCIES:

DIREKTORAT JENDERAL KOPERASI
Directorate General of Cooperatives

PERUSAHAAN UMUM LISTRIK NEGARA
National Electric Power Agency

CONSULTANTS:

National Rural Electric Cooperative Association
Management, Organization and Training

C.T. Main International, Inc.
Architect and Engineering

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DESCRIPTION AND OBJECTIVES OF PROJECT (DGC)

The Government of Indonesia (GOI) has initiated a demonstration rural electrification program which is planned to provide areawide electric power distribution in ten specified areas within the next four or five years. The objective of this program is to demonstrate conclusively that reliable electric service and the social and economic benefits that accrue therefrom can be made available to the very poor people at a price they are able to pay.

Three of the electrical distribution systems will be located on separate islands outside of Java and will be implemented through rural electric cooperatives organized by the Directorate General of Cooperatives (DGC). The National Electric Power Agency (PLN) operates an extensive electric system in Central Java, and is responsible for constructing, operating and maintaining the seven systems located on that island.

The U.S. Agency for International Development (USAID) is assisting the GOI in this demonstration by making available AID grant funds to provide organizational, management and technical advisory services. The National Rural Electric Cooperative Association (NRECA), through its International Programs Division, was contracted by AID to provide these services because of its demonstrated capability and experience in assisting rural electric cooperatives in developing nations throughout the world.

NRECA is working with the two separate agencies charged with implementing the project. Because of the different organization, management, training and experience of these two agencies, the services provided by NRECA differ in scope and location. The services for DGC include complete assistance in the organization of the individual cooperatives; including staffing patterns, job descriptions, cost accounting, O&M methods, training, planning, policies and procedures, housewiring and etc. The NRECA services and progress to date for the seven systems in Central Java are the subject of a separate report.

The three outer island projects are located on Central Lampung (South Sumatra), East Lombok, and Luwu (South Sulawesi) and are to be constructed and developed

by the member-consumers themselves through the organization of rural electric cooperatives. Each cooperative will construct, own and operate a diesel generating plant to provide power for the distribution system. (The Canadian Government is assisting with the generating project.) A special agency known as the Project Development Office (PDO) under the Directorate General for Cooperatives (DGC) is the GOI implementing agency for the Cooperatives.

The key personnel which NRECA has agreed to furnish for the performance of this contract are as follows:

<u>NAME</u>	<u>TITLE</u>	<u>ADDRESS</u>
Peter McNeill	Team Leader	Pondok Indah Bukit Hijau VIII/31 PH: 761132
Louie Sansing	Sr. RE Specialist	Ratu Plaza Apartment #1103 Jl. Jenderal Sudirman PH: 712209 ext. 2020
*Sam Adkins	Sr. RE Specialist	c/o C.T. Main Inc. Box 26 Semarang PH: 024-311832
Paul Swanson	Sr. RE Specialist	Kotak Pos 43 Ampenan, Lombok PH: 0364-23517
John DeFoor	RE Specialist	c/o Bina Marga Office Jl. Imam Bonjol 8 Palopo. S. Sulawesi
Ray Shoff	Administrative/Finance Officer	Ratu Plaza Apartment #1002 Jl. Jenderal Sudirman PH: 712209 ext. 2015
Claude Franke	RE Specialist	P.O. Box 88 Tanjungkarang Lampung PH: 0721-53701

PLN Advisor

RURAL ELECTRIFICATION COOPERATIVE PROJECT SITES



NRECA Jakarta Team Activities

I. General

--- The NRECA team leader and the training officer were in-country throughout this reporting period. The third member of the Jakarta-based NRECA team, the administrative-finance officer, was on R&R during mid-December. With the exception of one trip to the Lombok Project by the team leader and one visitation to the Lampung project by the other two team members, activities centered at the Project Development Office for Rural Electrification (DPO-RE), Sarinah Building.

--- The NRECA team held their bi-monthly meeting in Jakarta this reporting period. Representatives of USAID/PTE, PDO-RE, and co-consultant firm, C.T. Main, were in attendance. Discussions centered on project status, problem areas and possible solutions, and consultant in-put to R.E. project implementation in the months that follow.

II. PDO-RE Activities

--- A meeting was held with PDO-RE, C.T. Main and NRECA representatives in attendance to review plans for receiving material and equipment procured through the USAID loan. Transformers and distribution-system protective devices are now in transit to the Luwu R.E. Cooperative and covered-conductors and protective devices are port-side in Lampung. Responsibilities for receipt, documentation, and financial accounting for shipments were identified.

--- NRECA team members completed the publication of "construction-material code numbering" system. Final approvals were received from PDO-RE and C.T. Main personnel and the coding system is being forwarded to the cooperatives through PDO-RE.

--- Assistance was given to co-consultants in estimating the cost to furnish the Headquarters buildings at the three R.E. sites. Requirements for office equipment and furnitures were determined, procurement costs estimated and related to loan-funds available.

--- Coordination continued with PDO-RE personnel on budgeting PDO-RE operational expenses for fiscal year 1982-83. The possible re-organization of the PDO-RE office was taken into consideration. It was generally agreed that thirty-seven (37) positions must be retained (not including drivers) and budgeting was based thereon.

--- PDO-RE accounting department personnel and NRECA staff met regularly to discuss financial and statistical reports received from the cooperatives and to review reporting procedures. Impetus was placed on organizing PDO-RE accounting staff for improvement of report, analysis and processing.

III. Training

--- The NRECA and PDO-RE training officers completed their schedule for training courses to be held in 1982. The proposed schedule was circulated to PDO-RE management officials and NRECA team members for review and comments.

--- During December, NRECA team members began preparations for a training course to be held next month at the Lombok R.E. Cooperative. This course, on the subject of construction-cost accounting, was previously given for Lombok-Cooperative personnel in March of 1980. Due to numerous personnel changes at the cooperative, PDO-RE requested that the course be repeated with expansion of the subject matter.

OUTER ISLAND PROJECTS

LAMPUNG - Sinar Siwomego Rural Electric Cooperative

I. General

The major activity at this cooperative during December was operation and maintenance of the demonstration of the R.E. Project generation and distribution facilities. Construction activities were limited to minor service-line extensions.

--- First shipments of materials for the basic distribution system arrived at the dock in Tanjungkarang and were being hauled to the cooperative's Headquarters site at the end of this reporting period. It is expected that materials will continue to arrive during 1982 and that construction of the basic distribution system will begin in late 1982 or early 1983.

--- With the exception of a trip to Jakarta for participation in a team meeting, the NRECA advisor was in Lampung this period, assisting the cooperative in O & M activities. Two Jakarta-based team members visited the project to assist the advisor in training functions.

II. Organization/Management

--- The PDO-RE appointed manager of the cooperative and the NRECA advisor continued exploration of the possibilities of inter-connecting the electrical distribution lines owned by the cooperative with the PLN distribution system in Metro. A written communication was received this month from PLN-Metro management which confirmed PLN's interest in this subject. Technical and administrative aspects of the inter-connection are now being studied.

--- The DGC project coordinator called a meeting of the Board of Directors of the cooperative which was attended by the regional DGC chief, C.T. Main project supervisor and the NRECA advisor. Major topic for discussion

included, Board of Directors status, Board-manager relations, and the PLN inter-connection proposal, referred to above.

--- In the meter-reading/billing procedure followed by the cooperative during the first six months of operation of the R.E. demonstration project, collections were made at the members' homes. This proved to be a time-consuming activity for employees of the cooperative since, on many occasions, two or more trips were required. (Members were not at home at the time the collector arrived.)

During December, members were advised that two collection points will be used hereafter; the cooperative's office on the outskirts of Metro; and the temporary power-plant location in the demonstration project service area. Energy payments will be received at the office during all working hours and at the power-plant on specified dates and time.

This collection procedure will begin in January, 1982. After a trial period, effectiveness of this procedure will be evaluated.

--- NRECA staff members continued assistance to the accounting staff at the cooperative. Financial and statistical reporting procedures were reviewed and improvements made. Monthly expense items were analyzed and assigned to the proper general ledger account to reflect as an "operations" expense, or to be capitalized as overhead to construction.

III. Training

--- A workshop was conducted on December 2, 3 at the cooperative's temporary office. NRECA staff members reviewed material controls and material-item costing for the benefit of a newly-hired Stock Record Clerk and the warehouse personnel.

During this workshop, the recently completed material-item coding system was explained. Handouts provided to the participants listed code numbers by

item description.

--- In addition to the workshop, the NRECA project advisor continued on-the-job training for employees in the member-services department of the cooperative.

IV. Operations

Financial

--- Operating statistics for the Lampung Cooperative may be found on page 14 of this report. It will be noted that the number of consumers billed dropped slightly from November to December. This is a result of enforcement of the collection policy as sixty-five consumers were disconnected for failure to pay their electric-service billing by the established cut-off date. It is expected that the majority of these consumers will make payment and be reconnected.

--- It should also be noted that dates for reading consumers kwh meters do not correspond with calendar month kwh generation computation. Therefore, during early months of operation, system loss computations are not realistic as kwh generation is less than kwh billing. After two or three months of normal operation, monthly reports will reflect meaningful data.

--- Based on information derived from six months of initial operation, it is expected that kwh consumption will level-off at about 24 kwh per member per month. When 24-hour service begins (rather than the present 12-hour daily power-plant operation) the average usage will rise as day-time electric loads are connected.

--- On page 15 of this report, the Lampung Cooperatives' assets are listed for each of the last four months of 1981. The rupiah totals are worthy of comment, and clarification, as follows:

- (A) "Construction work in progress" rupiah total for September reflects the investment in generation and distribution system at the end of the

construction of the demonstration project. In the November column for "power production", it may be noted that all costs for generation facilities have been identified and capitalized. (This cost includes the sub-station transformer which raises the generation voltage to distribution voltage level.)

Capitalization of distribution system facilities was completed in December and are reflected in the "Distribution System" column, December report. (This cost includes the total quantity of line-transformers and kwh meters. These are considered as "special equipment" and are capitalized upon receipt.)

The remaining balance in "Construction Work In Progress", December, is chargeable as overhead to the basic distribution system and generating plant after these facilities are completed. (Engineering design, staking costs, etc.)

- (B) The success of the housewiring program can be seen by viewing "cash, housewiring" and "receivables, housewiring", in the December column. The receivables, short-term loans, are very small in relation to the cash collected and deposited.

Other important comparisons may be made from the totals in the four columns, such as general fund (energy sales) growth, loan fund depletion, etc.

--- On page 16 of this report, monthly "operating reports" are listed in comparison form. The results of the initial operating period are encouraging as a net margin existed (balance of revenue after paying cash expenses).

The energy rate at the Lampung Cooperative produces almost Rp 100 per kwh sold. It may be computed from year-end totals that expenses per kwh sold by categories are: power production, Rp 46; distribution system O & M, Rp 2; consumer meter-reading and collecting, Rp 12; administrative and general expense, Rp 33; sales expense, Rp 1, resulting in a net cash margin per kwh sold of Rp 6.

Distribution system O & M expenses will rise in the months ahead as line-patrol programs begin and preventive maintenance is required. Sales expense will also increase as a result of productive-use promotional expense. Other than these two expense categories, year-end operating statistics appear realistic to NRECA staff. By the end of the first quarter of 1982, reliable statistics should be available for use in long-range financial forecasting.

V. Problem Areas

Power production --- Firm power capabilities of the five gen-set, 475 kw, power plant is still a question. Seldom are all five units in operating condition at a given time. As a result, the cooperative cannot rapidly expand their consumer-base to reach the goal of 2000 connections.

USAID engineers, PCO-RE and NRECA staff, are assisting the cooperative in their efforts to improve power production capabilities. This action, coupled with the possibility of inter-connection with PLN facilities, should produce favorable results in the new year.

LOMBOK - Sinar Rinjani Rural Electric Cooperative

I. General

--- The NRECA team leader accompanied eight members of the parliament of Indonesia on a fact finding mission in Lombok this reporting period. An important part of their mission was to visit the R.E. Cooperative in East Lombok. After a briefing held at the governor's office in Mataram, the group proceeded to Aikmel, East Lombok, for a two-day R.E. Project visitation.

During this period, NRECA staff accompanied the group as they met with members of the Board of Directors of the cooperative and were briefed by the manager. Observation tours of the cooperative's generation, distribution and general plant facilities were conducted. Visitations were made to locations where electric energy is used for productive-uses, and interviews were held with individual consumer-members.

II. Organization/Management

--- The NRECA project advisor continued his daily contact with the acting manager of the cooperative, working together at the office of the cooperative in Aikmel. Major activities this month related to operation and maintenance functions, R.E. Demonstration Project, and planning for construction to another desa.

--- Assistance was given to Member Services Department personnel in developing a slide presentation. A script was drafted and, when slides and script are complete, presentations will be made at selected locations in the service area to enlighten present and future members of the cooperative's purpose and functions.

--- The manager and NRECA advisor developed a plan for retiring unused service-lines, kwh meter-entrances, and housewiring installations, at locations where electric service has been disconnected. Approximately six percent (6%) of the consumer-connections made during the 1980 "rush" task-force construction program (R.E. Demonstration Project) are now idle. The materials retired from these installations will be used to extend service to members who are on the waiting-list for service.

--- The C.T. Main project supervisor for this cooperative and the NRECA advisor continued coordination this month. The requirements from engineering personnel to facilitate construction close-out accounting was the major

area of coordination. Connection of a 50 kw gen-set to serve the daytime electric load on the cooperative's distribution system was another key area of coordination.

III. Operations

--- A graph on page 17 of this report depicts power-plant peak load for the month of November 1981. It may be seen that evening peak averages about 225 kw with the highest kw indication at 240 kw.

Daytime load has increased slightly each month. When 24-hour service began in the first quarter of 1981, the daytime demand was in the 20 kw range. In November, the daytime load averaged about 28 kws.

--- A comparison of operating statistics, Lombok and Lampung Cooperatives, may be found on page 14 of this report. (Unfortunately, the data for Lombok is incomplete for the month of December). It is expected that the Lombok Cooperative will be serving two thousand consumers by the end of February 1982. The addition thereafter in 1982 may be limited to a 10% increase in consumer-connections, the major limiting factor being firm-power supply.

--- It is an accepted fact that the retail rate for energy at the Lombok Cooperative is below the rate-level required to produce sufficient revenues to meet all cash operating expenses. On pages 18 and 19 of this report, graphs are used to display financial conditions and retail rate comparisons. These are a part of the data being prepared by the NRECA project advisor to support a recommendation for electric rate adjustment.

LWU - Sama Botuna Rural Electric Cooperative

I. General

--- The NRECA project advisor was on R&R during the last three weeks of December. Due to his absence, and communication difficulties between Jakarta and the office of the cooperative in Bone Bone, activities to be reported this month are minimal.

II. Organization/Management

--- PDO-RE changed acting managers of the cooperative during December. A member of the accounting department of PDO-RE, Mr. Waluyan, is now in charge of management functions and residing near the cooperative's temporary office in Bone Bone.

The new acting manager has been with PDO-RE since its formation in 1978 and has attended all major training courses conducted by NRECA, 1979 through 1981. For the past ten months, he has been assigned to assist this cooperative in financial and office functions.

III. Operations

--- During December, three hundred and eighty-three (383) members were billed for electric service. New connections made during the month brings the connection total to the target of four hundred (400) in the R.E. Demonstration Project area in Bone Bone.

--- Average kwh consumption for the last quarter of 1981 was 24 kwhs per member per month, slightly above the usage level in the other two R.E. Demonstration Projects (Lampung and Lombok). Energy consumption in two stores in Bone Bone is in excess of 200 kwhs per month, which results in an increase in the "average consumption" per member.

--- Peak demand recorded at the temporary power plant during 12-hour service periods was 65 kilowatts. This computes at approximately 150 watts per connection, after deduction for street light kwh consumption.

COMPARATIVE OPERATING STATISTICS
Two Outer-island Cooperatives

	LOMBOK November 1981	LOMBOK December 1981	LAMPUNG November 1981	LAMPUNG December 1981
Number consumers billed	1829		1382	1363
Total revenue	Rp 2,919,100		Rp 3,624,124	Rp 3,202,755
Total kwh billed	38820*		42120	30498
Average revenue per consumer	Rp 1,596		Rp 2,622	Rp 2,349
Average number kwh per consumer	21.2		30.5	22.4
kwh generated	53246	54050	29264	28174
Liters diesel fuel consumed	21546	20034	11747	12020
kWh's generated per liter	2.47	2.7	2.49	2.34
Fuel and lube oil cost	Rp 1,243,339	Rp 1,145,802	Rp 709,942	Rp 734,875
Fuel cost per kwh generated	Rp 23.4	Rp 21.2	Rp 24.25	Rp 26
% system losses	23.2	-	-	-
Peak kw demand	248	239	145	145

* Coop kwh consumption not included in billing.

LAMPUNG COOP FINANCIAL STATISTICS (1981)

		SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
1.	Organizational expense	600,000	600,000	896,913	4,077,744
2.	Power production	2,635,950	2,635,950	32,311,962	32,311,962
3.	Distribution system	-	49,506,343	55,422,762	252,520,406
4.	General plant	36,278,845	36,283,345	37,704,170	37,707,670
5.	Total utility plant	39,514,795	89,025,638	126,335,807	326,617,782
6.	Construction work in progress	281,985,958	239,595,825	209,773,512	41,843,564
7.	Depreciation	3,212,098	3,478,275	3,478,275	8,904,620
8.	Cash, member fees	1,714,676	1,722,247	1,723,247	1,727,006
9.	Cash, general fund	4,532,015	6,861,465	10,275,345	13,345,695
10.	Cash, loan	3,977,306	2,878,886	1,650,671	567,021
11.	Cash, housewiring	15,319,993	15,732,012	15,946,512	16,111,477
12.	Receivables, electric energy	3,679,025	4,150,895	5,234,239	5,997,544
13.	Receivables, housewiring	92,337	826,727	608,297	546,811
14.	Fuel, inventory	569,136	697,801	870,548	1,076,616
15.	Mat., supplies elect. inventory	77,557,240	73,131,841	75,758,629	60,677,574
16.	H.W. mat., inventory	12,440,902	12,381,900	13,175,095	13,175,095
17.	Office supplies, inventory	43,750	43,750	-	-
18.	Other mat. & supplies	-	0	-	-
19.	Stores expenses	2,075,087	1,841,002	2,241,740	689,618
20.	BRI loan funds available	2,112,135,340	2,112,135,340	2,112,135,340	2,112,135,340
21.	U.S. Dollar loan fund available	2,338,500,675	2,333,420,181	2,338,580,675	1,928,320,770
22.	Canadian Dollar loan fund avail.	5,000,000,000	5,000,000,000	5,000,000,000	5,000,000,000

LAMPUNG COOPERATIVE OPERATING REPORT 1981
(Cash basis excluding interest and depreciation)

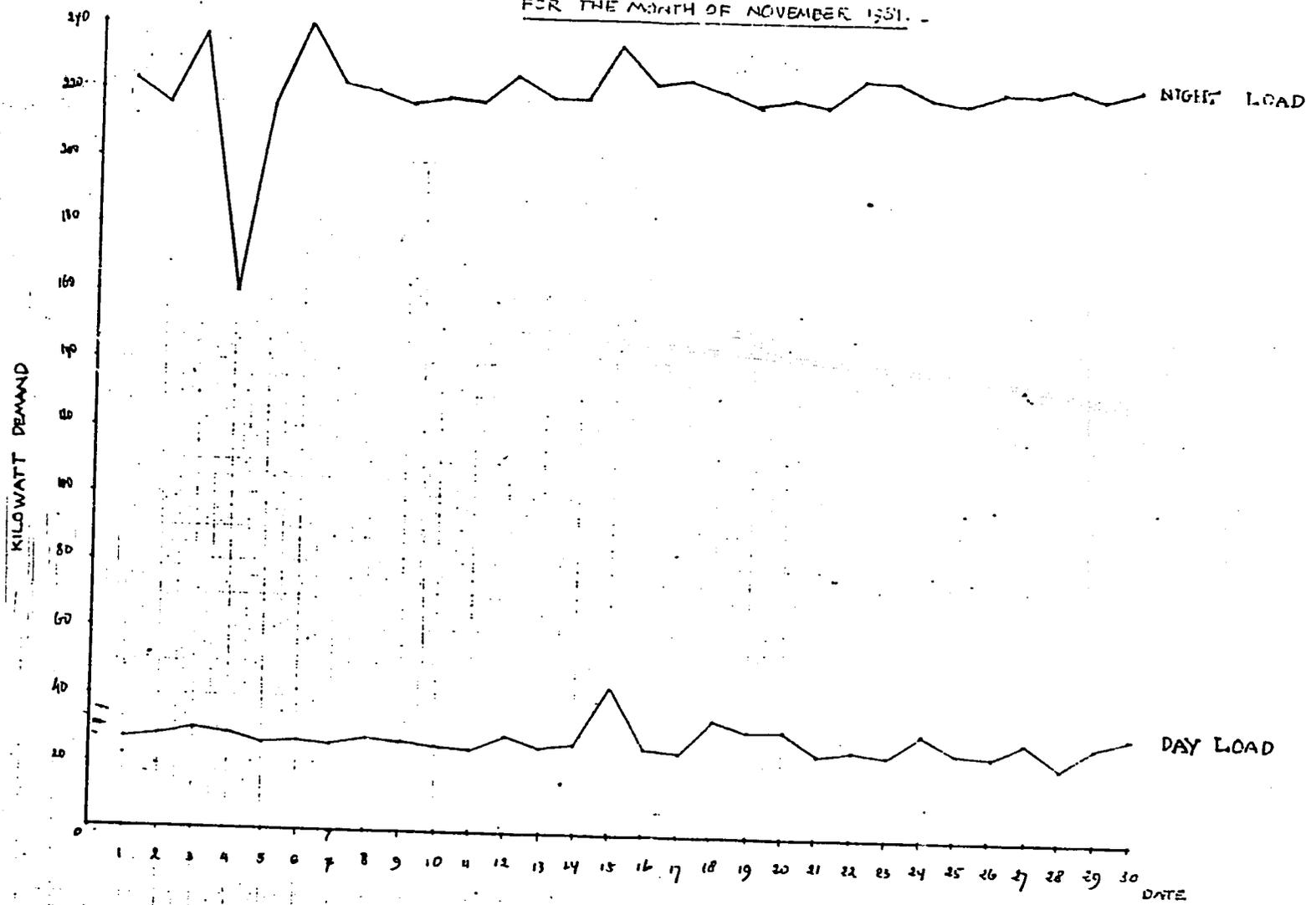
OPERATIONS	June-August	September	October	November	December	1981 year ending
INCOME - Electric energy revenue	4,113,820	1,796,425	2,398,120	3,624,124	3,202,755	15,135,244
Other income	-	-	-	-	-	-
Total income	4,113,820	1,796,425	2,398,120	3,624,124	3,202,755	15,135,244
EXPENSES						
- fuel, power plant	1,678,398	614,516	666,710	622,628	589,307	4,171,559
- operation, power plant	1,040,402	489,495	431,615	480,143	396,500	2,838,155
- maintenance, power plant	-	-	35,000	-	-	35,000
Total power plant expenses	2,718,800	1,104,011	1,133,325	1,102,771	985,807	7,044,714
Distribution expense, operation	-	124,025	45,000	-	14,613	319,541
Distribution expense, maintenance	-	-	*145,000	10,200	250	*15,250
Total distribution expense	(4,297)*	124,025	*190,000	10,200	14,863	*334,791
Consumer accounts	485,433	376,730	346,870	306,813	271,031	1,786,877
General and administrative	721,467	**1,634,440	**1,631,495	519,876	504,766	5,012,044
Sales expense	-	-	99,600	5,000	-	104,600
Total EXPENSES	3,921,403	3,239,206	3,401,290	1,941,660	1,775,467	14,283,026
Net gain or loss	192,417	(1,442,781)	1,003,170	1,679,464	1,426,288	852,218
NON-OPERATIONS						
Housewiring income	***15,777,172	24,267	1,146,409	(3,930)	110,454	17,054,372
Housewiring expense, material	12,160,591	-	-	-	-	12,160,591
Housewiring expense, labor	2,312,535	-	6,300	(550)	6,000	2,324,335
Housewiring expense, other	1,050,294	27,500	-	460,000	2,800	1,550,594
Total HOUSEWIRING EXPENSE	***15,533,420	27,500	6,300	459,450	3,800	16,035,520
Net gain or loss	***243,752	(3,233)	1,140,109	(463,380)	101,604	1,018,852

* Error in recording, maintenance expense which was adjusted by year-end.

** Expenses were entered in G and A accounts in SEPTEMBER, OCTOBER which should have been construction overhead and/or organizational expense.

*** The basic H.W. program was completed by August. Later entries are closing-adjustments.

NIIGHT AND DAY LOADS
FOR THE MONTH OF NOVEMBER 1951.



KLP "SINAR RINJANI"
L. SELINDI

BEST AVAILABLE DOCUMENT

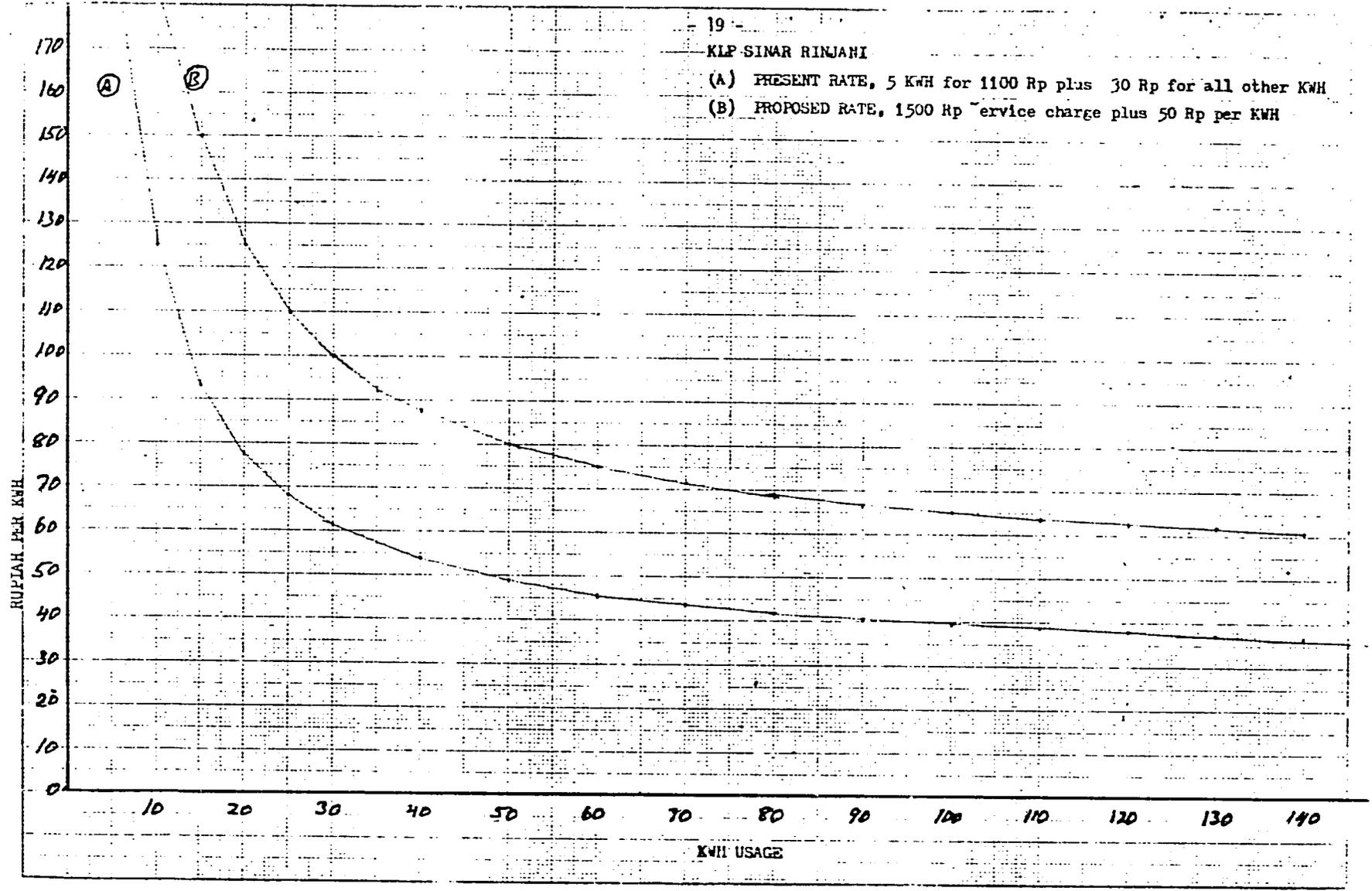
		RUPIAH Per KWH SOLD												
		10	20	30	40	50	60	70	80	90	100	110	120	
SEPT. Report	Generation Expense Fuel Cost @ Rp 52.5/LT.						Other Operating Expense							
												Revenue Per-KWH		
SEPT. Report + Fuel Added Cost.	Generating expense with Fuel Cost @ Rp 85 per LT.						Other OPERATING expenses							
												Rp 27.7 LOSS/KWH		
												LUMPY RATE + Revenue returns		

KLP SINAR HINAKHI
 COMPARISON OF FUEL COSTS AND REVENUE AND TOTAL EXPENSES
 OBTAINING INFORMATION FROM THE SEPT. REPORT
 EXPENSES FOR KWH LESS INTEREST AND DEPRECIATION

KLP SINAR RINJANI

(A) PRESENT RATE, 5 KWH for 1100 Rp plus 30 Rp for all other KWH

(B) PROPOSED RATE, 1500 Rp service charge plus 50 Rp per KWH



PDO - R E OUTER ISLANDS
COOPERATIVE TRAINING COURSE SCHEDULE

NRECA NATIONAL RURAL ELECTRIC COOPERATIVE ASSOCIATION
1800 Massachusetts Avenue, N.W.
Washington, D.C. 20036/202-857-9500

NO.	TITLE	TARGET DATE IMPLEMENTATION PLAN	COURSE DURATION	1979				1980				1981				1982				
				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	
200	COOPERATIVE MANAGEMENT	MAY 1979	30 hrs.	6	2	2	1													
205	RMS TRAINING	JUNE 1979	30 hrs.				1													
206	ACCOUNTING - REPORTING	JUNE 1979	40 hrs.																	
210	STAFF ORIENTATION	AUGUST 1979	20 hrs.																	
220	TRAINERS TRAINING (CONSTRUCTION)	OCT/NOV 1979	200 hrs.																	
230	TRAINERS TRAINING (HOUSEWIRING)	NOV/DEC 1979	40 hrs.																	
240	LINEMAN'S TRAINING	JAN/FEB 1980	200 hrs.																	
250	ELECTRICIAN TRAINING	JAN/FEB 1980	40 hrs.																	
260	PRODUCTIVE USE SPECIALIST	MARCH 1980	60 hrs.																	
300	MATERIAL LOGISTICS	JANUARY 1980	40 hrs.																	
310	ACCOUNTING - REPORTING	FEBRUARY 1980	40 hrs.																	
320	ELECTRICAL APPARATUS	MARCH 1980	80 hrs.																	
330	ENGINEERING	MAR/APR 1980	40 hrs.																	
340	METER READING	JULY 1980	40 hrs.																	
350	OPERATIONS MAINTENANCE	SEPTEMBER 1980	60 hrs.																	
360	ACCOUNTING - REPORTING	NOVEMBER 1980	40 hrs.																	
370	WORK ORDER CONTROL	JANUARY 1981	40 hrs.																	
380	SUPERVISORY SKILL	FEBRUARY 1981	15 hrs.																	
390	SAFETY TRAINING	MARCH 1981	15 hrs.																	
400	INFORMATION SEMINAR	MARCH 1981	16 hrs.																	
410	LINE MAINTENANCE	APRIL 1981	16 hrs.																	
	POWER PLANT OPERATORS**																			
	SERVICE DROPS**																			
320*	REPEAT COURSE																			
330*	REPEAT COURSE																			
380*	REPEAT COURSE																			
390*	REPEAT COURSE																			

- * Repeat courses as needed
- ** Course added
- Course completed and number of people trained ○
- Courses scheduled □



BEST AVAILABLE DOCUMENT

- 22 -
LAMPUNG ELECTRIC COOPERATIVE



An employee in the position of Stock Record Clerk/Work Order Clerk (seated in the center) and PDO-RE's accounting department representative, receive on-the-job training from two NRECA staff members at the cooperative's Headquarters in Metro, Lampung.



PDO-RE's Training Officer, Mr. Alfian Numalay, assists in the OJT, serving as interpreter for the NRECA staff, and covers subjects relating to PDO/RE/Cooperative relations.

123 -
LOMBOK ELECTRIC COOPERATIVE

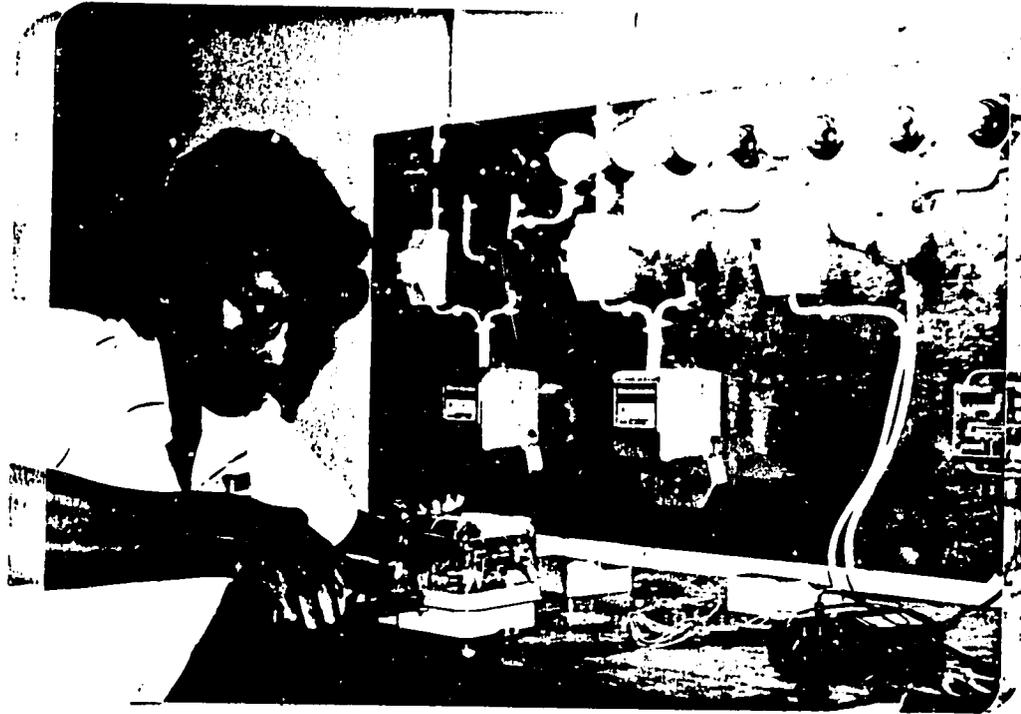


Acting Manager of the Cooperative, Mr. Ridwan, explains the contents of a display-board, which was constructed by employees of the cooperative, to Dr. Ir. Sudjanadi, Director General of Cooperatives. PDO-RE Deputy Chief, Ir. Sudarto (yellow cap) and other officials of DGC are in the background.

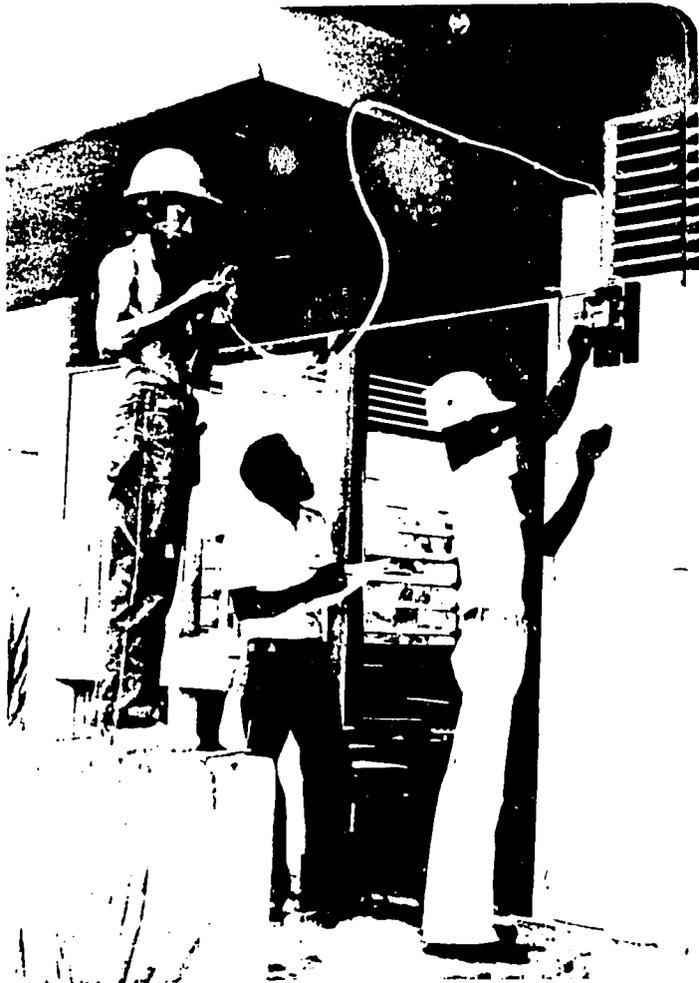


A member of the Electric Cooperative in Aikmel, Lombok, shows one of the electrical tools, used in his furniture-manufacturing enterprise, to Mr. Gatot Suherman, Governor of West Nusat Tenggara.

LUMU ELECTRIC COOPERATIVE



kwh-meter being tested at the temporary warehouse, prior to installation, on a home-made test board designed by employees of the cooperative and the NRECA advisor. A Member Services Department employee "seals" the meter-enclosure after testing.



Employees installing a service-entrance on a home in Bone Bone, and connecting the service-entrance and housewiring conductors to the kwh meter.

Summary of Expenditures

National Rural Electrification Cooperative Association
1800 Massachusetts Ave., N.W.
Washington, D.C. 20036

AID/ASIA - C 1347
Date: October, 1981
Period of contract: 8/25/78 - 8/25/82

	Budget	Total Expense To Date	Prior Billings	Current Billings
Salaries - Field	\$ 1,095,000	\$ 745,272.52	\$ 721,061.02	\$ 24,211.50
Salaries - Home	187,000	118,902.83	116,465.10	2,437.73
Fringe Benefits	416,000	271,789.88	264,754.01	7,035.87
Consultant Fees	34,706	33,906.25	33,906.25	
Allowances	398,000	264,973.34	254,814.46	10,158.88
Travel and Transportation	386,470	258,725.52	250,683.15	8,042.37
Other Direct Costs	140,000	80,978.35	78,956.50	2,021.85
Overhead	292,000	197,949.38	191,819.60	6,129.78
Equipment and Materials	28,000	18,292.46	18,292.46	
TOTAL	\$ 2,977,176	\$ 1,990,790.53	\$1,930,752.55	\$ 60,037.98

PERSON-MONTHS BY POSITION, NRECA CONSULTANT TEAM

POSITION	PRESENTLY FILLED BY	CONTRACT PERSON-MONTHS	EXPENDED THIS PERIOD	EXPENDED		PERCENT OF CONTRACT
				THROUGH PLN	DEC. PDO	
Team Leader	Peter McNeill	54	1	7	32	72
Training Officer	Louie Sansing	45	1	7	28	78
Administrative Officer	Ray Shoff	33	1	4	22	79
PLN Advisor	Sam Adkins	42	1	33.5	.5	81
Lampung Advisor	Claude Franke	54	1	.5	38.5	72
Lombok Advisor	Paul Swanson	50	1	0	35	70
Luwu Advisor	John DeFoor	49	1	0	34	69
Short-term Advisors		19	0	14	3	89
Consultants		8	0	7.5	.5	100
		354	7	73.5	193.5	75