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**RURAL ELECTRIFICATION PROJECTS  
INDONESIA**



**NATIONAL RURAL ELECTRIC COOPERATIVE ASSOCIATION  
JAKARTA, INDONESIA**

NRECA TEAM REPORT

PDO

INDONESIA

(OCTOBER - DECEMBER 1982)

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.

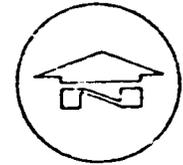
The three outer island projects are located on Central Lampung (South Sumatra), East Lombok, and Luwu (South Sulawesi) and are to be constructed and developed

by the member-consumers themselves through the organization of rural electric cooperatives. Each cooperative will construct, own 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 personnel which NRECA is furnishing for the performance of this contract are as follows :

<u>NAME</u>	<u>TITLE</u>	<u>ADDRESS</u>
Ray Shoff	Team Leader/ Administrative/ Finance Officer	Ratu Plaza Apartment #1002 Jl. Jenderal Sudirman PH : 712209 ext. 2015
Louie Sansing	RE Project Advisor & PDO/Cooperative Training Coordinator	Jl. Galuh I/4A Kebayoran Baru PH : 735478
Sam Adkins	PLN Project Advisor, Central Java, and REC Project Advisor	c/o C.T. Main Inc. Box. 26 Semarang PH : 024-312701
John DeFoor	REC Project Advisor, Luwu	KLP Samabotuna Desa Minna - Bone Bone Kabupaten Luwu South Sulawesi

# RURAL ELECTRIFICATION COOPERATIVE PROJECT SITES



NRECA TEAM ACTIVITIES (OCTOBER-DECEMBER 1982)

I - GENERAL

--- Team Assignments --- Team member Shoff divided his work schedule between Project Development Office for Rural Electrification (PDO-RE), the Rural Electric Cooperatives (REC), and PLN-RE activities. Team member Sansing worked full-time on PDO-RE and REC activities.

Team member DeFoor served full-time with the Samabotuna REC, Luwu. The fourth team member, Adkins, spent the majority of his time with PLN-RE, with some assistance given to the Sinar Rinjani REC, Lombok.

--- Team Travel --- The team-leader made a project visit to assist the full-time advisor in Luwu. One trip was made by a team member to assist the Lombok REC. Three trips were made by team members to the Lampung REC.

In addition, the team-leader spent one week in Dacca, Bangladesh, as a member of the Indonesian delegation at a workshop on productive use of electricity.

--- Home-Office Support --- The Administrator of the NRECA International Programs Division, Mr. Sam Bunker, and NRECA/IPD Regional Administrator, Mr. Ed Gaither provided direct project assistance this period. They were in Indonesia November 21st - 30th.

II. COORDINATION WITH CO-CONSULTANTS

--- C.T. MAIN INC. --- The NRECA team assisted MAIN's engineering-staff in a re-evaluation of house-wiring material-orders, and a determination of additional needs.

Recommendations were forwarded to MAIN on material/equipment items to be included in a "catch-all" IFB now being processed.

Assistance was rendered in the formulation of an IFB for contract-labor for constructing the electrical distribution systems at the three REC's. MAIN and NRECA staff coordinated on assignment of work order numbers (construction-cost control numbers) for this construction.

--- SANDWELL/CIDA --- NRECA participated in discussions relating to load-forecasts and generation requirements at the REC's. Agreement was reached on the number of gen-sets to be installed at each site.

In addition, coordination continued on planning for training of REC personnel for manning the permanent power plants.

### III. NRECA ACTIVITIES AT PDO-RE

--- Considerable time was spent in November preparing Status Reports and case studies, to be presented by PDO-RE representatives at a workshop on "Productive uses of Electricity", held in Dacca Bangladesh November 15th through the 19th. Travel arrangements, ticketing, was coordinated by NRECA/J staff for the seven-member Indonesian delegation to this workshop.

--- Coordination was established with the newly-hired power plant specialist on the PDO-RE staff. Manuals on the operation and maintenance of the generating sets, in use at the three REC's, were obtained, reviewed, key-sections identified, and distributed to the REC's.

--- During this reporting period, a seminar on RE was conducted by representatives of the German Government.

NRECA assisted PDO-RE staff in the preparation of status-reports and handouts for this seminar. In addition, a separate report was prepared on the Lombok REC, the RE project visited by the seminar participants.

--- The "Uniform System of Accounts", the accounting system used by the REC's, was updated and re-printed. Alterations and additions, determined necessary as a result of REC growth and expansion, were incorporated in the revised accounting-manual.

--- PDO-RE accounting staff, and NRECA staff, revised the reporting format for monthly reporting to the GOI, Department of Finance. This report-requirement, relating to cash-flow from GOI loans to the REC's, gained significance as the REC's began constructing Headquarters Facilities, and sizeable cash expenditures were required to meet construction-contract obligations.

--- Retail-rate (tarif) studies were completed for the Lombok REC. A preliminary long-range financial forecast was made for the Luwu REC. Both of these RECs must increase their retail rates at the earliest possible date to maintain project viability. (Financial reports are on pages #15 - 16 - 17 of this report).

--- NRECA staff assisted PDO-RE in the preparation of format for advertising for permanent manager at the REC's. At the end of this reporting period, the ad was ready for insertion in daily newspapers in the Lamung, Lombok, Luwu, and Jakarta areas.

--- Provisions in the REC By-Laws were reviewed by PDO-RE/NRECA in an effort to more adequately define Board members' authority and responsibility. The REC program has been plagued with difficulties relating to Board-manager assignments and relationships. Therefore, a special guideline will be prepared to expand on by-law provisions which relate to this subject.

--- NRECA spent considerable time this reporting period updating existing "PDO-RE Guidelines", and preparing additional guidelines, which are issued by PDO-RE as INSTRUCTIONS to the REC's. A list of completed guidelines may be found on pages #13 and #14 of this report.

#### IV. NRECA ACTIVITIES AT THE REC'S

--- Assistance was provided in screening and selection of applicants for various accounting positions at the Lombok and Luwu REC's. The selectees were sent to Jakarta for an extensive training-course, held in December and conducted by PDO-RE/NRECA.

--- At all three REC's, NRECA spent considerable time assisting in construction-material receipt, documentation and identification. This was a busy period for Warehouseman and Stock Record Clerks as materials and equipment, procured through the USAID loan, arrived in large quantities.

LAMPUNG --- This REC expanded their electrical distribution-system during the last months of 1982, in the original RE demonstration area near Metro, South Lampung, Sumatra. The goal of two thousand consumer-connections in this area may soon be realized.

Membership solicitation and housewiring activities began in a separate location in the REC's service-area, referred to as the "REH-140" area. It is planned that about one thousand five hundred (1,500) consumer-connections will be completed by June, 1983, in this area, which will be the site of an International Agriculture exposition during that month.

--- Construction activities continued at the headquarters-site near Kotagajah, Lampung. Site preparation, warehouse and office facilities approached the 50% completion work (pictures on page #18-19)

LOMBOK --- Distribution-system construction was minimal this period, however, headquarters-facility construction kept pace with similar construction at the Lampung REC. Operation and maintenance of the existing power plant and distribution system was this REC's major activity.

--- Distribution-system route maps were received from the A & E consultant. A study began to determine the potential consumer-connections that can be made from the 155 KM distribution-system routing. Membership solicitation will begin in the first months of 1983, with distribution-system expansion planned to begin by May, 1983.

LUWU --- PDO-RE appointed Mr. Bidullah Hassan, the DGC project coordinator, to serve as acting manager of this REC. He replaced Mr. Waluyan, PDO-RE employee, who returned to Jakarta during this period.

--- A wood-pole inspection program was conducted in the distribution-system in Bone Bone. The wood-poles installed therein are untreated, and ground-line decay is becoming a major problem. A program for treatment with a wood preservative began, and will be completed by the end of January 1983.

--- Arrival of full-length treated wood poles is expected in the May-June period of 1983. Distribution system expansion is scheduled to begin in July.

## V. TRAINING

Two (2) formal training courses were conducted during this reporting period.

-- The PDO-RE and NRECA Training Officers assisted the Sinar Sivo Mego Cooperative staff in planning and providing source/handout materials for the Electricians training course on housewiring, detailed later in this report under Lampung activities.

-- The entire NRECA Advisory Team Staff, and the Training and Accounting Sections of PDO-RE were involved in planning, scheduling, preparing source material/handouts and presenting topics in the Training Seminar on Accounting-Reporting.

The seminar was held in the PDO-RE conference room in Jakarta. There were twenty one (21) participants from the three (3) outer island cooperatives and PDO-RE staff, as follows:

Lampung	-	3
Lombok	-	4
Luwu	-	4
PDO-RE	-	10

The participants from the cooperatives were newly employed Accounting Personnel, Key Staff, Coop Managers and the Project Coordinators.

The PDO- participants were from the accounting, technical, materials, administration and training departments/sections.

The accounting course topics were presented by one (1) of the PDO-RE Accounting Section Staff Members and the Chief of the Accounting Section of Sinar Sivo Mego cooperative in Lampung. The NRECA Team Advisors presented topics, provided training materials, and assisted the local instructors during the course.

The training course was held for twelve (12) days, December 13 through the 24th. Nine (9) days were in classroom training in Jakarta, and three (3) days in an observation tour, and further training, on the inside and outside operations of the Sinar Siwo Mego Cooperative in Metro, Lampung.

Luwu --- No formal training courses were held during this reporting period. However, the resident NRECA advisor provided daily assistance and on-the-job training (OJT).

Samabotuna Cooperative sent four (4) participants to the training course on Accounting-Reporting held in Jakarta.

Participants were :

- 2 - Newly-employed Accounting Personnel
- 1 - Accounting Staff Member, employed in January 1982
- 1 - Project Coordinator/Acting Manager

Lombok --- No formal training courses were held during this reporting period. However, Sinar Rinjani Cooperative sent four (4) participants to the training course on Accounting-Reporting held in Jakarta.

Participants were :

- 2 - Newly-employed Accounting Personnel
- 1 - Newly-elected Supervisory/Audit Committee Member
- 1 - Project Coordinator

Continuing assistance, on-the-job training (OJT) was conducted during each visit of NRECA Advisors.

Lampung --- One (1) training course was held during this reporting period in Sinar Siwo Mego.

Also three (3) employees were sent to Jakarta to attend the Accounting-Reporting training course.

--- From October 11th through the 15th, 1982, a training course was conducted for Electricians on housewiring. The course was conducted by the Member Services Department (MSD) chief (who has been trained as an Electrical-Trainer) and was assisted by the MSD housewiring staff. The ten (10) participants who received this training as Contract Electricians are all from the REC's service area.

--- The Chief of the REC Accounting Section assisted in the training by presenting topics on housewiring material withdrawal, and the labor payment procedure for the Electricians. The PDO-RE training Officer, and one (1) Electrician Trainer from PDO-RE, were observers during the course.

--- Three (3) employees from Sinar Siwo Mego were participants in the training course on Accounting-Reporting held in Jakarta. They assisted in the observation and training tour, conducted in Lampung, December 22 - 24 for the participants from the other REC's.

During the observation and training tour, each SSM Department/Section Head explained the work and/or accounting procedures of their particular Department/Section. The field-tour included the distribution system construction, service drop, service entrance and meter installations, housewiring, power plant, construction of the head-quarters buildings, and the storage area for distribution system materials.

--- Continuing assistance, on-the-job training (OJT), was conducted during each visit of an NRECA Advisor.

## V. PROBLEM AREAS

A - PDO-RE --- additional strength is needed in the Accounting Department. PDO-RE has only one employee who is capable of assisting the REC's with accounting-reporting problems. It is impossible to provide adequate assistance to the REC's, and to perform report analysis at PDO-RE, with only one employee.

This weakness became quite evident this period when BRI (the loan-fund bank) refused to advance funds to pay Headquarters-Facility contractors at the REC's. Proper documentation of previous expenditures was the problem that prompted slow-up of construction.

A - Lampung --- pole-supply is the greatest problem facing this REC. At the end of December 1982, this problem remained un-solved. This is very unfortunate since this REC has a strong employee-organization, a productive service-area, and the potential to become a first-class REC.

C - Lombok --- Internally, the greatest problem relates to record-keeping for inventory items. (Construction Materials and equipment) This is being overcome with staff additions, and training course participation.

Externally, power-supply for the two thousand member (2,000) RE demonstration area remains the biggest problem. The USAID-furnished excess-property generators are being taxed to their limit to meet the peak-load. This REC (as well as the other two RECs) needs prompt assistance from PDO-RE's power-plant specialists to help solve their power supply problems.

PDO-RE GUIDELINE (WORK PROCEDURES)

New and revised Guidelines prepared by NRECA and presented to PDO-RE, October - December, 1982.

ACCOUNTING SUBJECTS

1. GENERAL ACCOUNTING PRACTICES
2. CASH-DEPOSITORIES, DEPOSITS/TRANSFERS
3. CONSTRUCTION WORK IN PROGRESS
4. CONTRIBUTIONS
5. CONTRACT-CONSTRUCTION
6. DEPRECIATION
7. ELECTRIC ENERGY SALES
8. FINANCIAL REPORTING
9. HOUSEWIRING
10. INTEREST ACCRUALS
11. INVENTORY CONTROL
12. MEMBERSHIP FEES
13. ORGANIZATION-EXPENSES
14. PETTY CASH ACCOUNT
15. RETIREMENT, GENERAL PLANT
16. SPECIAL EQUIPMENT
17. TOOLS AND WORK EQUIPMENT
18. UNCOLLECTABLE ACCOUNTS
19. WORK ORDER SYSTEM (DISTRIBUTION SYSTEM)
20. CONSTRUCTION AND RETIREMENT
21. LABOR TIME-KEEPING
22. PROCUREMENT/SALE OF MINOR ITEMS

NON-ACCOUNTING SUBJECTS (WORK PROCEDURES)

1. RE-LOCATION OF DISTRIBUTION LINES, SERVICES
2. STUBBING WOOD-POLES
3. HOUSEWIRING LOAN-CONTRACT (REVISION)
4. REC ORGANIZATIONAL CHART/POSITIONS (REVISION)
5. KWH-METER SERVICE ENTRANCES, DRAWINGS

## SINAR SIWO MEGO ELECTRIC COOPERATIVE, LAMPUNG

LINE #	OPERATIONS	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST
	<b>PENDAPATAN/REVENUE</b>								
1.	Pendapatan Tenaga Listrik (Operating revenue)	3.107.890,-	3.036.215,-	3.125.130,-	3.065.455,-	3.438.925,-	3.301.190,-	3.332.165,-	3.421.555,-
2.	Pendapatan Lain-Lain (Miscellaneous Revenue)	6.500,-	3.250,-	1.000,-	4.000,-	15.225,-	14.000,-	20.000,-	80.000,-
3.	<b>JUNJAH PENDAPATAN (TOTAL REVENUE)</b>	<b>3.114.390,-</b>	<b>3.039.465,-</b>	<b>3.126.130,-</b>	<b>3.069.455,-</b>	<b>3.454.150,-</b>	<b>3.315.190,-</b>	<b>3.352.165,-</b>	<b>3.501.555,-</b>
	<b>PEMBAYARAN/EXPENSES</b>								
4.	Fembangkit (Power Plant) - Bahan bakar (fuel)	770.990,-	924.095,-	1.078.991,-	1.326.902,-	1.410.071,-	1.200.141,-	1.452.800,-	1.000.576,-
5.	- Operational (Operations)	437.645,-	358.705,-	352.104,-	431.855,-	468.010,-	425.000,-	519.779,-	576.236,-
6.	- Pemeliharaan (Maintenance)	2.500,-	-	57.347,-	-	-	-	6.000,-	3.894,-
7.	<b>JUNJAH BIAYA PRODUKSI (TOTAL PRODUCTION EXPENSES)</b>	<b>1.211.135,-</b>	<b>1.282.801,-</b>	<b>1.438.512,-</b>	<b>1.758.757,-</b>	<b>1.878.081,-</b>	<b>1.625.141,-</b>	<b>1.978.579,-</b>	<b>1.580.706,-</b>
8.	Jaringan Distribusi (Distribution)-Operasional(Operations)	20.282,-	11.355,-	6.311,-	24.856,-	98.878,-	134.238,-	40.584,-	58.233,-
9.	-Pemeliharaan(Maintenance)	49.225,-	22.355,-	233.566,-	116.211,-	50.644,-	73.619,-	89.824,-	44.527,-
10.	<b>JUNJAH BIAYA JARINGAN DISTRIBUSI(TOTAL DISTRIBUTION EXPENSES)</b>	<b>69.507,-</b>	<b>33.710,-</b>	<b>239.877,-</b>	<b>141.067,-</b>	<b>149.522,-</b>	<b>207.857,-</b>	<b>130.408,-</b>	<b>102.760,-</b>
11.	Perkiraan Langganan (Consumer-accounts expense)	267.552,-	255.716,-	248.277,-	512.451,-	365.337,-	313.816,-	320.152,-	373.837,-
12.	Biaya Umum (General and Administrative)	278.458,-	178.679,-	552.100,-	501.500,-	609.005,-	379.177,-	389.440,-	455.122,-
13.	Biaya Penjualan (Sales expense)	-	-	-	-	-	-	-	-
14.	<b>JUNJAH BIAYA OPERASIONAL (TOTAL OPERATING EXPENSES)</b>	<b>1.826.662,-</b>	<b>1.751.939,-</b>	<b>2.438.766,-</b>	<b>2.958.565,-</b>	<b>2.902.005,-</b>	<b>2.525.956,-</b>	<b>2.837.761,-</b>	<b>2.550.725,-</b>
15.	Margin Brutto (Gross Operating Margin) (3 minus 14)	1.287.728,-	1.287.526,-	627.364,-	100.870,-	551.145,-	789.244,-	522.384,-	950.830,-
16.	Bunga Pinjaman (Interest expense)	-	687.628,-	-	-	1.096.390,-	704.219,-	704.219,-	1.096.390,-
17.	Margin Tunai (Cash Operating Margin) (15 minus 16)	1.287.728,-	599.898,-	627.364,-	100.870,-	( 545.245,-)	80.025,-	218.165,-	( 145.560,-)
18.	Depresiasi (Depreciation/Amortization)	-	-	-	566.158,-	2.263.744,-	1.096.390,-	1.096.390,-	704.219,-
19.	Margin netto (Net Operating Margin) (17 minus 18)	1.287.728,-	599.898,-	627.364,-	( 465.288,-)	( 3.808.989,-)	( 1.016.365,-)	111.775,-	( 849.779,-)
	<b>PENDAPATAN NON OPERASIONAL (NON-OPERATING REVENUES)</b>								
20.	Pendapatan Housewiring (Housewiring income)	166.207,-	25.250,-	172.901,-	115.240,-	255.253,-	468.142,-	100.500,-	100.000,-
21.	Pendapatan Lain-lain (Other income)	-	200.000,-	315.529,-	-	115.001,-	258.086,-	274.000,-	2.800.000,-
22.	<b>JUNJAH PENDAPATAN NON OPERASIONAL (TOTAL NON OPERATING REVENUE)</b>	<b>166.207,-</b>	<b>225.250,-</b>	<b>288.430,-</b>	<b>115.240,-</b>	<b>370.254,-</b>	<b>726.228,-</b>	<b>374.500,-</b>	<b>2.900.000,-</b>
	<b>PEMBAYARAN NON OPERASIONAL (NON OPERATING EXPENSE)</b>								
23.	Biaya Housewiring (Housewiring expense)-Material (Material)	142.185,-	-	59.275,-	32.385,-	117.553,-	192.144,-	145.535,-	102.082,-
24.	-Upah Buruh (Labor)	17.400,-	-	11.425,-	19.400,-	19.650,-	37.876,-	27.550,-	22.521,-
25.	-Lain lain (Other)	1.400,-	2.500,-	13.850,-	125.762,-	118.691,-	101.140,-	70.825,-	37.572,-
26.	<b>JUNJAH BIAYA NON OPERASIONAL (TOTAL NON OPERATING EXPENSE)</b>	<b>158.985,-</b>	<b>2.500,-</b>	<b>84.550,-</b>	<b>237.547,-</b>	<b>255.894,-</b>	<b>331.160,-</b>	<b>243.910,-</b>	<b>162.175,-</b>
27.	Margin non operasi (Non Operating Margin) (22 minus 26)	7.221,-	222.750,-	203.877,-	( 122.307,-)	114.360,-	395.068,-	130.590,-	2.737.825,-
28.	<b>JUNJAH MARGIN (TOTAL MARGIN) (19 plus 27)</b>	<b>1.294.949,-</b>	<b>822.648,-</b>	<b>831.241,-</b>	<b>( 57.437,-)</b>	<b>( 3.694.629,-)</b>	<b>( 620.291,-)</b>	<b>448.185,-</b>	<b>( 847.054,-)</b>
29.	Sumbangan Pemerintah/DIP (Contribution from DIP fund)	1.697.173,-	1.569.673,-	3.322.263,-	2.114.157,-	2.774.460,-	2.474.554,-	2.472.510,-	1.446.581,-
30.	<b>JUNJAH MARGIN/DIP (TOTAL MARGIN INCLUDING DIP) (28 plus 29)</b>	<b>2.992.122,-</b>	<b>2.392.321,-</b>	<b>4.153.504,-</b>	<b>1.542.820,-</b>	<b>( 1.920.169,-)</b>	<b>( 1.145.737,-)</b>	<b>490.695,-</b>	<b>( 400.473,-)</b>
	Jumlah Langganan (Number receiving service)	1.346	1.325	1.317	1.303	1.319	1.348	1.315	1.301
	Jumlah kWh (KWh Billed)	28.475	27.333	30.427	28.309	28.871	24.750	40.150	24.221
	Pendapatan rata2 setiap bulan (Average revenue per consumer)	2.308	2.291	2.324	2.312	2.568	2.445	2.515	2.651
	Pendapatan rata2 setiap rekening kWh (Average revenue per kWh billed)	109.1	111.1	108.7	108.3	88.5	94.5	62.5	109.4
	Konsumsi kWh rata setiap bulan (Average kwh consumption per consumer).	21.2	20.6	23.1	21.4	28.6	25.7	30.8	23.2

COOPERATIVE OPERATING REPORT 1982

SINAR BINCANG, LOMBOK

NO	OPERATION	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST
<b>PENDAPATAN</b>									
1	Pendapatan tenaga listrik (Operating revenue)	3.017.815,-	3.194.923,-	3.102.470,-	3.189.150,-	3.204.643,-	3.070.283,-	3.556.882,-	3.637.450,-
2	Pendapatan lain-lain (Miscellaneous revenue)	23.700,-	37.639,-	80.274,-	20.938,-	1.111.094,-	50.500,-	4.900,-	50.200,-
3	<b>Jumlah Pendapatan (TOTAL REVENUES)</b>	<b>3.041.515,-</b>	<b>3.232.564,-</b>	<b>3.182.744,-</b>	<b>3.210.088,-</b>	<b>4.315.737,-</b>	<b>3.120.783,-</b>	<b>3.561.782,-</b>	<b>3.687.650,-</b>
<b>PENGOPERASIKAN</b>									
4	Pembelian tenaga listrik - Bahan bakar (Fuel)	1.861.780,-	1.807.984,-	2.067.517,-	2.156.508,-	2.403.944,-	2.340.713,-	2.336.244,-	2.460.074,-
5	- Operasional (Operations)	331.975,-	338.710,-	265.125,-	621.428,-	788.048,-	324.542,-	324.277,-	214.811,-
6	- Pemeliharaan (Maintenance)	294.575,-	2.507.112,-	343.715,-	1.401.184,-	1.316.283,-	1.325.993,-	1.684.307,-	364.790,-
7	<b>Jumlah Biaya Produksi (TOTAL PRODUCTION EXPENSES)</b>	<b>2.488.330,-</b>	<b>4.653.806,-</b>	<b>2.676.357,-</b>	<b>4.179.120,-</b>	<b>4.508.275,-</b>	<b>4.001.248,-</b>	<b>4.344.828,-</b>	<b>3.039.674,-</b>
8	Jaringan Distribusi (Distribution)-Operasional(Operations)	166.935,-	99.736,-	75.729,-	47.310,-	94.367,-	143.160,-	124.876,-	134.440,-
9	-Pemeliharaan(Maintenance)	61.016,-	92.517,-	59.424,-	53.442,-	70.757,-	67.663,-	154.780,-	172.460,-
10	<b>Jumlah Biaya Jaringan Distribusi(TOTAL DISTRIBUTION EXPENSES)</b>	<b>227.951,-</b>	<b>192.253,-</b>	<b>135.153,-</b>	<b>100.752,-</b>	<b>165.124,-</b>	<b>210.823,-</b>	<b>284.219,-</b>	<b>306.900,-</b>
11	Perawatan pelanggan (Consumer-accounts expense)	517.908,-	162.246,-	359.220,-	298.752,-	722.136,-	384.429,-	240.204,-	240.794,-
12	Biaya Umum (General and Administrative)	817.061,-	1.005.644,-	982.221,-	886.627,-	697.271,-	692.744,-	1.244.510,-	700.443,-
13	Biaya Operasional (Leases expense)	35.000,-	35.000,-	35.000,-	35.000,-	35.000,-	35.000,-	35.000,-	35.000,-
14	<b>Jumlah Biaya Operasional (TOTAL OPERATING EXPENSES)</b>	<b>4.086.230,-</b>	<b>6.048.949,-</b>	<b>4.187.971,-</b>	<b>5.450.011,-</b>	<b>6.333.849,-</b>	<b>5.053.355,-</b>	<b>6.654.347,-</b>	<b>5.262.611,-</b>
15	Marginal profit before (operating margin) (3 minus 14)	( 1.044.715,- )	( 2.816.385,- )	( 1.085.227,- )	( 2.239.963,- )	( 3.018.112,- )	( 1.932.572,- )	( 3.092.565,- )	( 1.575.161,- )
16	Biaya Umum (General and Administrative)	1.040.857,-	1.137.089,-	1.137.089,-	1.137.089,-	1.137.089,-	1.137.089,-	1.137.089,-	1.137.089,-
17	Marginal profit after (operating margin) (15 minus 16)	( 2.085.572,- )	( 3.953.474,- )	( 2.242.296,- )	( 3.377.052,- )	( 4.155.201,- )	( 3.069.661,- )	( 4.229.654,- )	( 2.712.250,- )
18	Amortisasi (Depreciation/amortization)	1.346.422,-	914.001,-	939.251,-	943.459,-	1.221.265,-	1.334.849,-	1.334.849,-	1.334.849,-
19	Profit before (After Operating Margin) (17 minus 18)	( 3.432.014,- )	( 4.867.475,- )	( 3.081.547,- )	( 4.320.511,- )	( 5.376.466,- )	( 4.404.510,- )	( 5.564.503,- )	( 4.047.099,- )
<b>PENDAPATAN NON OPERASIONAL (NON-OPERATING REVENUES)</b>									
20	Pendapatan Sewa-lain (lease other than)	2.556.700,-	-	410.077,-	732.187,-	2.010,-	-	-	72.041,-
21	Pendapatan Lain-lain (Lease etc)	15.197,-	44.094,-	16.506,-	16.829,-	16.829,-	-	-	60.376,-
22	<b>Jumlah Pendapatan Non Operasional (TOTAL NON-OPERATING REVENUES)</b>	<b>2.571.897,-</b>	<b>44.094,-</b>	<b>426.583,-</b>	<b>749.016,-</b>	<b>16.829,-</b>	<b>-</b>	<b>-</b>	<b>132.417,-</b>
<b>TRIBUTASI (TAXES AND CONTRIBUTIONS AND OTHER DEDUCTIONS)</b>									
23	Biaya Operasional (Leases expense)-General & Admin(1)	1.924.940,-	-	308.539,-	556.444,-	1.581,-	-	-	13.072,-
24	-Lain-lain (Lease)	356.500,-	-	57.500,-	96.500,-	-	-	-	3.000,-
25	-Lain-lain (Lease)	106.386,-	230,-	98.849,-	198.950,-	19.287,-	6.445,-	-	274,-
26	<b>Jumlah Biaya Non Operasional (TOTAL NON-OPERATING EXPENSES)</b>	<b>2.387.826,-</b>	<b>230,-</b>	<b>464.888,-</b>	<b>851.894,-</b>	<b>177.868,-</b>	<b>6.445,-</b>	<b>-</b>	<b>16.346,-</b>
27	Marginal profit after (operating margin) (19 minus 26)	( 182.071,- )	( 43.864,- )	( 38.303,- )	( 102.047,- )	( 3.645,- )	( 6.445,- )	( 6.445,- )	( 13.072,- )
28	Jumlah Biaya Non Operasional (19 minus 27)	( 3.247.943,- )	( 4.823.591,- )	( 3.119.852,- )	( 4.422.558,- )	( 5.380.111,- )	( 4.411.000,- )	( 5.570.948,- )	( 4.060.171,- )
29	SURPLUS/DEFISIT (18) (including from DIP (19))	3.513.093,-	5.958.426,-	4.175.442,-	1.856.330,-	1.581.656,-	1.681.270,-	5.227.245,-	2.408.851,-
30	Jumlah Pendapatan (TOTAL REVENUES) (including DIP) (23 plus 29)	( 265.150,- )	( 1.134.835,- )	( 1.055.590,- )	( 2.712.248,- )	( 3.794.137,- )	( 3.189.450,- )	( 3.554.324,- )	( 2.658.240,- )
31	Jumlah Biaya (TOTAL NON-OPERATING EXPENSES)	1.876	1.862	1.860	2.078	2.038	2.038	2.038	1.554
32	Jumlah Biaya (TOTAL NON-OPERATING EXPENSES) (19 minus 31)	39.952	65.742	42.922	38.466	38.692	38.692	38.692	51.48
33	Profit after (including from DIP) (29 minus 32)	Rp. 1.605,-	Rp. 1.712,-	Rp. 1.664,-	Rp. 1.531,-	Rp. 1.543,-	Rp. 1.543,-	Rp. 1.543,-	Rp. 1.664,-
34	Profit after (including from DIP) (29 minus 32) (Rp. 1.605,-)	Rp. 73.125	Rp. 68,-	Rp. 69,-	Rp. 78,45	Rp. 72,3	Rp. 81,-	Rp. 65,-	Rp. 63,8
35	Profit after (including from DIP) (29 minus 32) (Rp. 1.605,-)	22	25	25	20,25	20,25	20,25	22,62	22

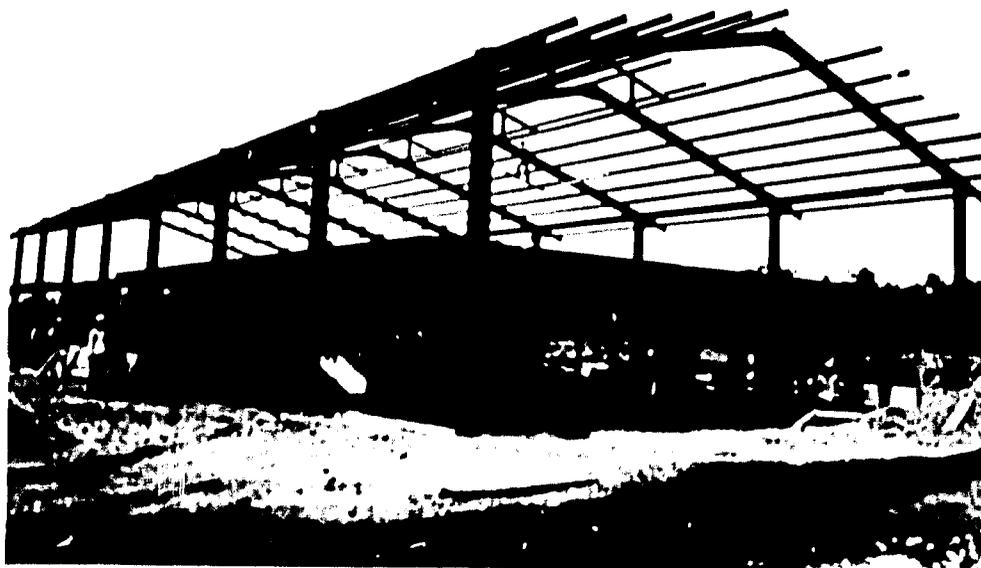
SAHABOTUNA ELECTRIC COOPERATIVE, L.M.

LINE #	OPERATIONS	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST
	<b>PENDAPATAN/REVENUE</b>								
1.	Pendapatan Tenaga Listrik (Operating revenue)	848.895,-	831.150,-	872.400,-	88.780,-	1.143.025,-	1.415.365,-	1.635.875,-	2.073
2.	Pendapatan Lain-Lain (Miscellaneous Revenue)	18.000,-	15.500,-	13.000,-	14.500,-	19.500,-	25.500,-	3.500,-	45
3.	JUMLAH PENDAPATAN (TOTAL REVENUE)	866.895,-	846.650,-	885.400,-	89.780,-	1.162.525,-	1.440.865,-	1.639.375,-	2.118
	<b>PENBAYARAN/EXPENSES</b>								
4.	Pembangkit (Power Plant) - Bahan bakar (fuel)	514.975,-	478.623,75	530.235,-	610.607,50	533.535,-	2.160.817,50	1.328.818,-	1.124
5.	- Operational (Operations)	376.805,-	270.650,-	459.240,-	215.459,-	-	278.261,-	377.281,-	320
6.	- Peneliharaan (Maintenance)	60.500,-	45.724,-	53.600,-	145.173,-	34.435,-	107.656,-	157.824,-	134
7.	JUMLAH BIAYA PRODUKSI (TOTAL PRODUCTION EXPENSES)	952.281,-	815.997,75	1.033.075,-	1.001.239,50	567.970,-	2.546.734,50	1.643.923,75	1.578
8.	Jaringan Distribusi (Distribution)-Operasional(Operations)	37.000,-	55.387,-	28.415,-	78.016,-	420.843,-	123.381,-	234.571,-	147
9.	- Peneliharaan(Maintenance)	293.720,-	233.236,-	272.320,-	22.175,-	-	-	174.613,-	129
10.	JUMLAH BIAYA JARINGAN DISTRIBUSI(TOTAL DISTRIBUTION EXPENSES)	330.720,-	288.623,-	300.735,-	100.191,-	420.843,-	123.381,-	311.184,-	276
11.	Parkiran langganan (Consumer-accounts expense)	89.475,-	62.500,-	68.200,-	21.345,-	2.827,-	36.375,-	100.742,-	84
12.	Biaya Umum (General and Administrative)	1.113.790,-	1.422.208,-	1.115.320,-	1.126.376,-	539.025,-	814.523,-	994.575,-	1.424
13.	Biaya Penjualan (Sales expense)	-	-	-	-	-	-	-	-
14.	JUMLAH BIAYA OPERASIONAL (TOTAL OPERATING EXPENSES)	2.485.266,-	2.594.398,75	2.587.840,-	2.748.211,50	1.870.785,-	2.619.117,50	3.078.310,75	3.472
15.	Marginal Brutto (Gross Operating Margin) (3 minus 14)	( 1.618.371,-)	( 1.697.728,75)	( 1.722.440,-)	( 1.348.327,52)	( 708.260,-)	( 1.178.252,50)	( 1.438.935,75)	( 1.404)
16.	Bunga Pinjaman (Interest expense)	595.015,-	595.015,-	595.015,-	601.810,-	601.810,-	591.810,-	581.810,-	580
17.	Marginal Tunai (Cash Operating Margin) (15 minus 16)	( 2.213.386,-)	( 2.292.743,75)	( 2.297.415,-)	( 1.950.137,52)	( 1.309.070,-)	( 1.769.062,50)	( 1.998.745,75)	( 1.984)
18.	Depresiasi (Depreciation/Amortization)	158.795,-	158.795,-	158.795,-	158.795,-	158.795,-	158.795,-	158.795,-	158
19.	Marginal netto (Net Operating Margin) (17 minus 18)	( 2.372.181,-)	( 2.451.538,75)	( 2.456.210,-)	( 2.101.536,52)	( 1.467.865,-)	( 1.927.857,50)	( 2.157.540,75)	( 2.142)
	<b>PENDAPATAN NON OPERASIONAL (NON-OPERATING REVENUES)</b>								
20.	Pendapatan Home-wiring (Home-wiring income)	243.902,50	349.983,50	18.000,-	2.094.457,-	2.113.045,50	100.247,50	67.074,-	18
21.	Pendapatan Lain-lain (Other income)	43.517,50	28.800,-	1.200,-	46.590,-	24.641,-	1.200.582,50	543,-	7
22.	JUMLAH PENDAPATAN NON OPERASIONAL (TOTAL NON-OPERATING REVENUES)	298.420,-	378.783,50	19.200,-	2.141.047,-	2.137.686,50	1.000.830,-	67.617,-	25
	<b>PENYAYARAN NON OPERASIONAL (NON-OPERATING EXPENSES)</b>								
23.	Biaya Home-wiring (Home-wiring expense)-Material (Material)	243.100,-	182.665,-	232.500,-	1.589.506,-	322.185,-	700.250,-	60.490,-	12
24.	-Upah Buruh (Labor)	46.450,-	272.200,-	12.625,-	54.874,-	1.127,-	46.440,-	138.730,-	132
25.	-Lain-lain (Other)	-	-	-	-	-	-	-	-
26.	JUMLAH BIAYA NON OPERASIONAL (TOTAL NON-OPERATING EXPENSE)	289.550,-	454.865,-	251.125,-	1.644.380,-	323.312,-	1.046.690,-	247.220,-	144
27.	Marginal non operasi (Non Operating Margin) (22 minus 26)	9.370,-	( 76.082,50)	( 231.925,-)	596.767,-	( 215.626,-)	( 445.860,-)	( 379.603,-)	( 119)
28.	JUMLAH MARGINAL (TOTAL MARGINAL) (19 plus 27)	( 2.362.811,-)	( 2.527.621,25)	( 2.688.135,-)	( 1.504.769,52)	( 1.683.491,-)	( 1.973.717,50)	( 2.537.143,75)	( 2.261)
29.	Sumbangan Pemerintah/DIP (Contribution from DIP fund)	2.747.891,-	2.199.116,-	2.524.404,-	2.652.258,-	1.272.200,-	1.614.250,-	1.246.871,-	4.114
30.	JUMLAH MARGINAL/DIP (TOTAL MARGINAL INCLUDING DIP) (28 plus 29)	385.080,-	( 328.505,25)	( 163.731,-)	1.057.488,48	( 411.291,-)	( 359.467,50)	( 1.290.272,75)	( 1.147)
	Jumlah Langganan (Number receiving service)	384	381	316	405	403	405	372	391
	Jumlah RM (KWhs Billed)	9.825	9.265	11.315	17.847	17.766	3.951	12.242	12.121
	Pendapatan rata2 setiap bulan (Average revenue per consumer)	Rp. 2.311,-	Rp. 2.311,-	Rp. 2.203,-	Rp. 2.202,-	Rp. 2.416,-	Rp. 3.235,-	Rp. 2.254,-	Rp. 2.002
	Pendapatan rata2 setiap rekening FWH (Average revenue per kWh billed)	85,4	93,2	77,1	81,6	106,3	142,2	142,2	22,3
	Konsumsi FWH rata setiap bulan (Average kWh consumption per consumer)	25,6	25,5	28,6	26,8	25,7	24,8	23,5	27,2

ACTIVITIES : LAMPUNG RURAL ELECTRIC COOPERATIVE (REC)



Construction progress on the Headquarters Building, near Kotagajah, Lampung.



Construction progress on the warehouse facility adjacent to the Headquarters Building.

LAMPUNG R E C



Transformers, furnished through the USAID loan, being unloaded at the RECs Headquarters site.



Training-course participants, touring the Lampung Cooperatives electrical distribution system.

ACTIVITIES : LOMBOK REC

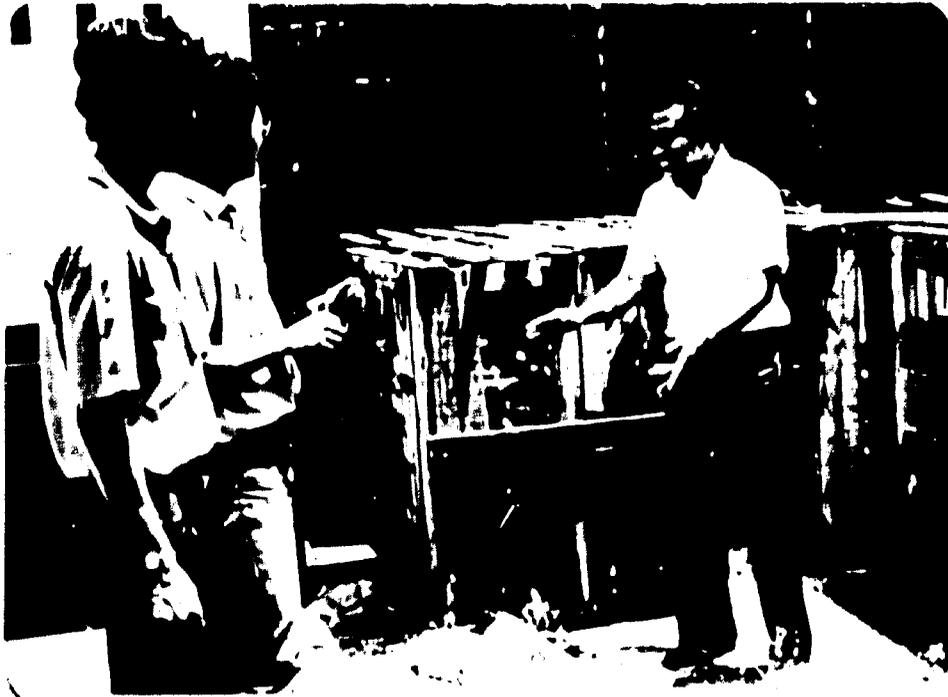


The Headquarters Building being constructed at the REC's headquarters site in Aikmel, East Lombok.



Fleet of service conductors which arrived recently, procured through International Bidding.

## LOMBOK R E C



PDO-RE materials-manager, Ktut Swastika, (center), Lombok REC project coordinator Usman Sidik (right) and the REC's warehouseman, inspecting construction-material shipments.

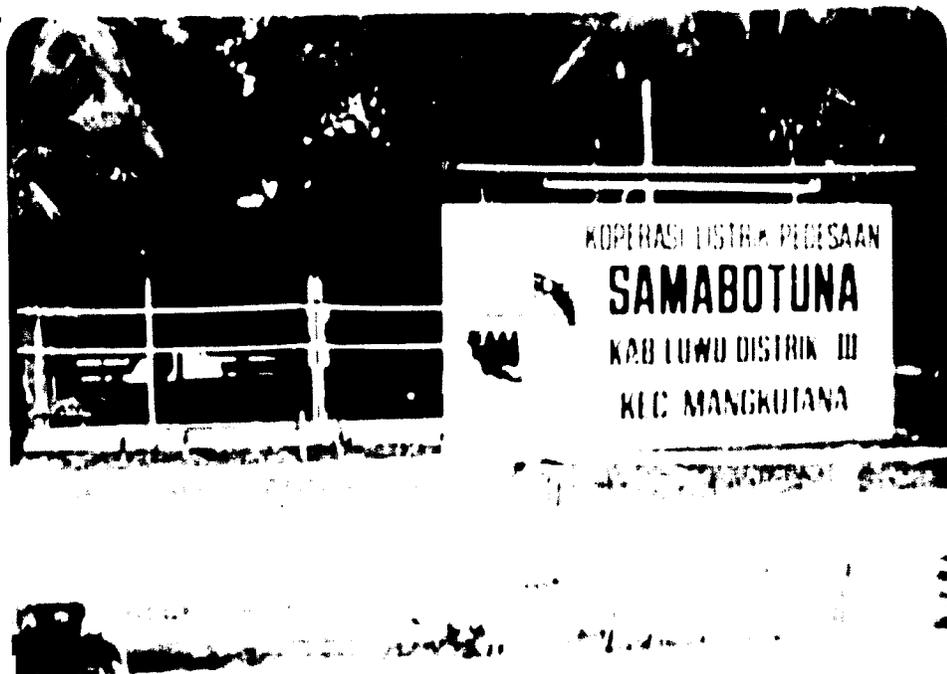


An REC Lineman by-passes a climbing hazard, and proceeds to his pole-top work assignment.

## ACTIVITIES : LUWU REC



NRECA International Program Administrator, Sam Bunker, Assistant Administrator Ed Gaither, NRECA site consultant, John DeFoor, and the REC manager/coordinator, Bidullah Hassan, being briefed on Headquarters site construction-activities by C.T. Mains field-representative, Roman Garcia, (REC headquarters, 7 KM east of Bone Bone, Luwu, South Sulawesi)



The REC's power-plant at Mangkutana, Luwu, which includes USAID excess-property generation,

PERSON-MONTHS BY POSITION, NRECA CONSULTANT TEAM

(Contract as amended September 28, 1982)

POSITION	PRESENTLY FILLED BY	CONTRACT PERSON-MONTHS	EXPENDED THIS PERIOD	EXPENDED THROUGH DEC. 82		PERSON- MONTHS REMAINING	PERCENT OF CONTRACT EXPENDED
				PLN	PDC		
Team Leader (Administrative Finance Officer)	Ray Shoff	68	3	12	39	17	75%
Senior RE Specialist/ Training Officer	Louie Sansing	62	3	7	40	15	76%
Senior RE Specialist/ PLN - Advisor PDC - Advisor	Sam Adkins	53	3	44	2	7	87%
RE Specialist Loan-project Advisor	John DeFeor	49	3	-	46	3	94%
*Administrative Officer	-	33	0	5.5	27.5	-	100%
*Lombard Advisor	-	42	0	-	42	-	100%
*Lemping Advisor	-	46	0	.5	45.5	-	100%
Short Term Advisors	-	19	0	14	3	2	89%
Consultants	-	8	0	7.5	.5	-	100%
* Positions vacated July 31, 1982		380	12	90.5	245.5	44	88%

Summary of Expenditures

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

AID/ASIA - C 1347  
 Date: December 1982  
 Period of contract: 8/25/78 - 3/31/83

	Budget	Total Expense To Date	Prior Billings	Current Billings
Salaries - Field	1,200,000	\$ 1,054,261.44	\$ 1,038,718.16	\$ 15,543.28
Salaries - Home	316,000	178,709.85	167,537.76	11,172.09
Per Diem Benefits	448,000	391,754.83	385,408.17	6,346.71
Consultant Fees	34,700	33,906.25	33,906.25	-
Allowances	418,000	340,069.01	334,883.03	5,184.98
Travel and Transportation	396,400	323,762.56	321,511.47	2,251.09
Other Direct Costs	148,824	98,263.68	96,577.15	1,685.93
Overhead	600,000	523,072.85	511,852.39	11,220.46
Equipment and Materials	30,000	20,901.49	21,173.04	( 271.55)
TOTAL	\$ 3,500,000	\$ 2,964,700.41	\$ 2,911,567.42	\$ 53,132.99