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RURAL ELECTRIFICATION PROJECTS

INDONESIA



NATIONAL RURAL ELECTRIC COOPERATIVE ASSOCIATION

JAKARTA, INDONESIA

NRECA TEAM REPORT

PDO

INDONESIA

(OCTOBER 1981)

MONTHLY REPORT

NRECA INDONESIAN TEAM REPORT

UNITED STATES AGENCY FOR
INTERNATIONAL DEVELOPMENT

Contract No. AID/ASIA CI347
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

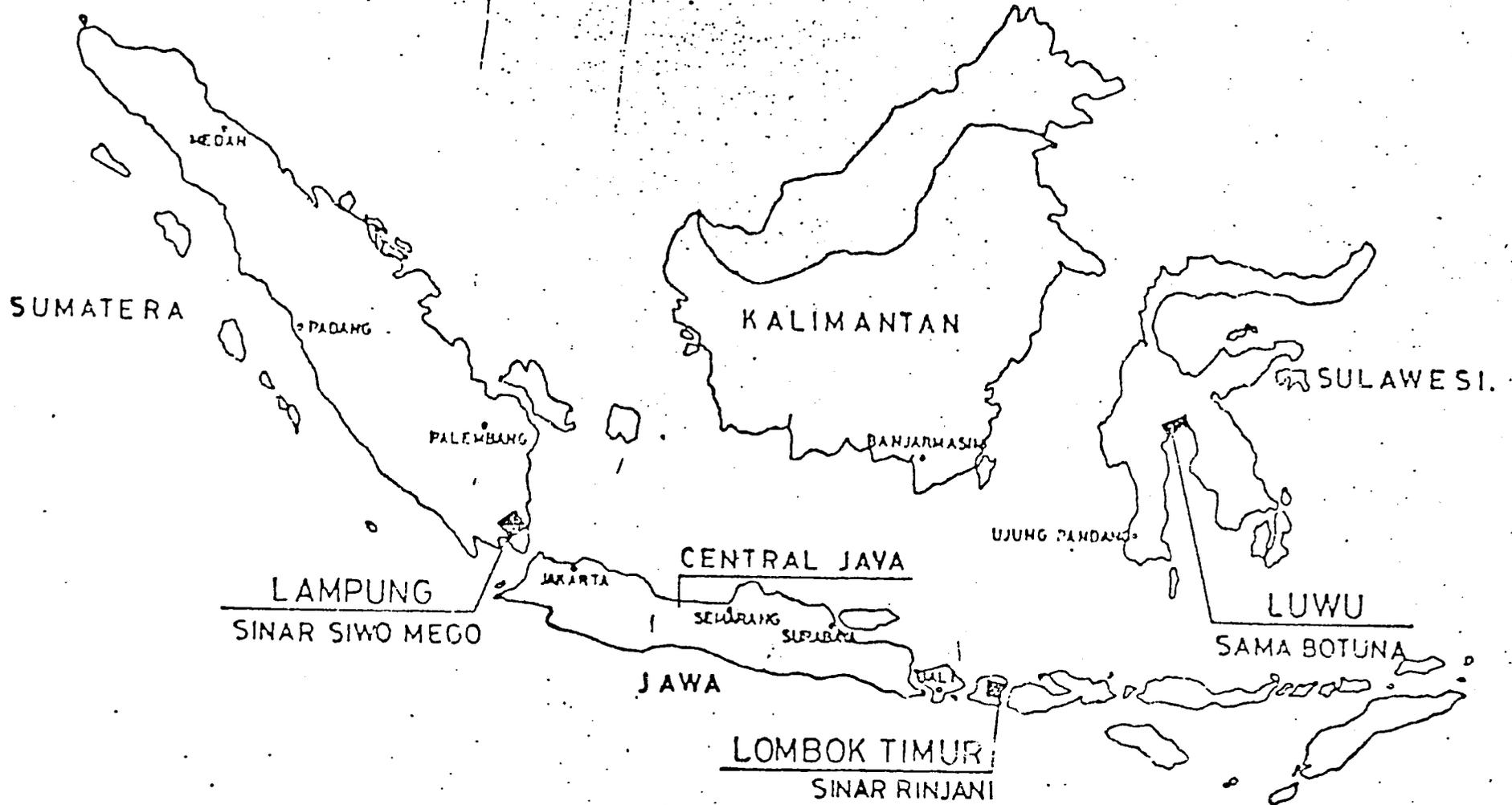
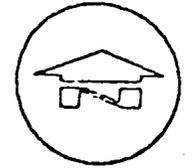
by the member-consumers themselves through the organization of rural electric cooperatives. Each cooperative will construct, own and operate a diesel generating plant to provide power for the distribution system. (The Canadian Government is assisting with the generating project.) A special agency known 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: 713850 |
| *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: 712034 |
| Claude Franke | RE Specialist | P.O. Box 88 Tanjungkarang Lampung PH: 0721-52058 |

* PLN Advisor

RURAL ELECTRIFICATION COOPERATIVE PROJECT SITES



NRECA Jakarta Team Activities

I. General

--- The NRECA team leader and the team administrative/finance officer were both in-country throughout this reporting period. Most of their working hours were spent at the Director General of Cooperatives (DGC) Project Development Office for Rural Electrification (PDO-RE), Sarinah Building. Only one field trip was made, a trip to the Lampung Cooperative by the administrative/finance officer.

--- The team leader coordinated with representatives of USAID-PTE and DGC on the subject of mini-hydro. Forty-one (41) sites have been identified for study of which, DGC has gathered data on thirty-two (32). USAID-PTE has presented a proposal for USAID-assistance in pre-feasibility study site-selection.

--- The USAID-PTE RE project manager and NRECA staff met to review the consumer connections at the Lampung and Lombok RE demonstration projects. A study was made of existing connections, potential connections, and related to connection-rates and load-growth. Information from this study is being used to evaluate transformer-sizing on the electrical distribution systems.

II. PDO-RE Activities

--- A major activity for NRECA this month was conducting a series of workshops for PDO-RE personnel. The workshops, held for eight PDO-RE accounting and technical department personnel, consisted of forty hours (40) of classroom presentations in a ten-day period. Subject matter and other information on the workshops may be found on pages 16 and 17 of this report. (Pictures on page 26)

--- NRECA-Jakarta staff revived efforts to utilize the 50 kw genset at the Lombok project which was furnished by USAID. Technical problems relating to connecting the genset have been under review for several months. As a result

of recent joint meetings, PDO-RE, C.T. Main and NRECA, solutions have been found and the genset should be providing day-time power at the Lombok project by 1981 year-end.

--- At the request of PDO-RE, NRECA completed a cost-study on wood poles, treated versus untreated, for use at the Luwu project. Results of the study, which indicate that treated poles are the best long-range investment, were supplied to the chief of PDO-RE in October.

--- Responding to a PDO-RE request, NRECA team members assisted in interviews for an accountant to join the PDO-RE. An applicant, recommended by NRECA after testing basic-accounting knowledge and comprehension, was selected and added to the PDO-RE payroll at months-end. After training (in the workshop referred to earlier in this report), the accountant will begin short-term field-assignments with each of the three RE cooperatives.

--- NRECA team members assisted PDO-RE in upgrading their communication-information media. Contents of recent PDO-RE in-house publications, named "Currents", were reviewed with PDO-RE staff and suggestions made for improvements. Assistance was given in the production of a documentary film of activities at the Lombok RE cooperative.

III. Problem Areas

--- A search continues for methods of improving the effectiveness of the NRECA team in assisting PDO-RE. During this reporting period, the chief of PDO-RE selected a coordinating committee consisting of three key PDO-RE staff members. It was planned that the committee and NRECA team members would meet on a weekly basis to define problem areas and established priorities for PDO-RE/NRECA action. Unfortunately, at months-end, joint meetings had not been held due to conflicts in PDO-employee schedules.

Meeting dates and times must be established and adhered to for maximum benefits from this committee-approach.

OUTER ISLAND PROJECTS

LAMPUNG - Sinar Siwomego Electric Cooperative

I. General

--- USAID finalized contract arrangements for another residence in the city of Tanjungkarang this month and the NRECA advisor and family completed their transfer. First reports indicate that the new location is quite satisfactory and USAID assistance sincerely appreciated.

--- At the cooperative, the new NRECA advisor has become familiar with the various activities during his daily trips to Metro. Coordination has been established with the acting manager, key staff members and the A&E consultant.

--- During October, operations and maintenance of completed distribution and generation facilities was the major activity since construction of the RE demonstration project is basically completed. The stock of construction materials, housewiring materials and tools and work equipment was moved from a temporary warehouse to a space in the cooperative's Metro headquarters.

II. Organization/Management

--- The Board of Directors remain in a "semi-inactive" status after PDO-RE limited their jurisdiction during September. The presence of individual directors at the office is noted periodically, however, regular Board-meetings (with planned agendas and the acting manager and advisor in attendance) have been suspended.

It is apparent that the required daily activities of the cooperative have not been impaired since the Board of Directors began playing a minor role. The acting manager, in coordination with the DGC project coordinator, has maintained control and is providing necessary leadership.

--- The NRECA advisor worked closely with the acting manager on policy formation and organizational structure. Requirements for employment positions

were viewed and job-performance evaluations of key employees conducted.

--- The internal operation improved during this period as staff-level was reduced to an acceptable level (51 employees including 12 assigned to C.T. Main). Remaining employees were motivated by the mass-layoff instituted by the acting manager and individual productivity has increased.

--- Assistance was given to warehouse personnel in conducting a physical inventory of material and equipment items. The NRECA advisor suggested improvements in the inventory system and cross-check procedures. The advisor, and the NRECA administrative/finance officer, worked with the cooperative's accounting staff in pricing inventory items on Stock Record Cards.

--- With NRECA assistance, accountants transferred costs of Special Equipment (transformers, meters and meter sockets) from inventory accounts to Electric Utility Plant accounts. Identification of demonstration-project construction costs continued in preparation for transferring all construction costs to utility accounts.

III. Operations

--- The cooperative started 24-hour service on a trial basis this month. After three days, it was determined that twelve-hour night service was the best approach at present since day-time load measured at the power plant consisted almost entirely of transformer losses.

The NRECA advisor, acting manager and member-services department staff are exerting all efforts to locate and negotiate with potential users of daytime electric service. Connection of an ice-plant, rice-mill or tapioca plant, all three located adjacent to existing cooperative-owned distribution lines, could justify resumption of 24-hour service. Studies and negotiations are in progress.

--- In the operating statistics shown on page 23 of this report, it may be noted that slightly less than one thousand (1000) consumers were billed

during October. However, the actual number connected approached one thousand four hundred and fifty (1450) consumers, the difference relating to recent consumer-connections not included in this billing.

The billing-versus-connection situation, referred to above, resulted in an unrealistic system loss percentage of less than 1%. When billing/connection stabilize, monthly reports may show losses in excess of 12%.

--- NRECA assisted the cooperative's personnel in correcting 3-phase kWh meter connections. To verify accuracy, 1-phase meters were installed, one on each phase of power-plant output, to cross-check readings on the 3-phase master-meter. The maximum demand of 160 kw is reflected on the load graph included on page 18 of this report.

As a note of interest, and as a tribute to the C.T. Main project supervisor who conducted the load-balance activity, an unbelievably high-degree of balance has been achieved. kWh consumption as recorded on the three single-phase meters varies less than 3%, phase to phase.

IV. Problem Areas

Organization --- Referred to earlier in this report, the Board of Director are "semi-inactive" as a result of PDO-RE action. Evidence documented during 1980-81 indicates that certain Board-members, and the Board as a unit, may have exceeded the limits of their authority on some occasions.

The present Board-status must be deemed as temporary. Finding a solution to the problem has not been accomplished, only delayed. It is essential, in the best interests of the RE cooperative as an organization, that the problem be resolved at, or before, the 1982 annual meeting of members.

Operations --- The possible addition of large-power loads to justify 24-hour service of the power plant was referred to earlier in this report. Also, several hundred members are awaiting connection to distribution lines constructed in the demonstration project. However --- before either load

addition begins --- generating capability of the 5 genset (4 - 100 kw and 1 - 75 kw) power plant must be determined.

Three or more gensets are being used to carry a peak load of 160kws. Engine operating hours and fuel consumption are excessive. In addition, electrical problems prevent synchronization of all five gensets.

CIDA-furnished interim generation may not be received until early 1983. Therefore, the existing gensets may be the only source of power for the demonstration project area for an extended period. In view thereof, it behoves all parties concerned to coordinate efforts to prevent a serious power supply problem.

LOMBOK - Sinar Rinjani Rural Electric Cooperative

I. General

--- The cooperative continues to provide 24-hour electric service to the desa of Aikmel, Lennek, Anjani and Kalijaga in east Lombok. One thousand seven hundred eighty-three (1783) consumers were billed in September. (Statistics on page 23.)

--- Additional consumer-connections in the four desa are being made as requests are received and materials become available. Expansion of distribution lines to the desa of Suralaga may be approved by PDO-RE and construction started in the near future.

II. Organization/Management

--- The NRECA project advisor coordinated with the C.T. Main project supervisor on procedures for close-out of construction costs. An initial requirement is "as-built" staking sheets for completed distribution-line installations. C.T. Main staff members are presently finalizing staking-sheets and construction-costs will soon be assigned to the proper utility plant-accounts.

--- The acting manager of the cooperative and the NRECA advisor studied staffing requirements for constructing lines to the desa of Suralaga and for operating the expanded distribution system. It is estimated that three to four hundred additional consumers will be added, an increase of 20% from the existing level. Meter reading/collecting functions and man-power requirements were reviewed.

--- The NRECA advisor reviewed statistics on service-disconnects, temporary disconnects for delinquent bills and permanent disconnects. Approximately seventy (70) services are now idle, a number which represents about 4% of the total services installed. NRECA recommended that members be advised

of a specific date when service-line, meter-entrance and housewiring materials will be removed if delinquent bills are not paid. This action is necessary in compliance with Board-approved policy. Retired-materials will be used to connect other applicants awaiting service.

--- After long delays caused by adjustment in interest-rate charges, housewiring-loan collections were resumed. It is expected that receivables for housewiring, which totaled Rp 11 million in September, will be reduced substantially by 1981 year-end.

--- The cooperative completed a physical inventory of all material and equipment items in-stock as of October 1st. NRECA assistance was provided in determining average unit-prices to be used in pricing the total inventory.

III. Operations

--- Operating statistics for calendar year 1981 were reviewed and a comparison made, month by month. On the graph on page 20 of this report, it can be noted that kWh generation from the cooperative's power plant in Aikmel increased sharply when 24-hour service began in March, 1981. kWh sales, however, increased gradually. It is apparent that a large part of generation is used to supply system-losses. (Percentages are on page 23 of this report.)

--- The NRECA advisor also prepared bar graphs of operating revenues and expenses for selected months and year-to-date totals. This information is being studied and related to retail electric rate levels which would enable the cooperatives to meet cash-expenses. (GOI-DIP funds are now being used to meet deficits.)

The graph on page 21 indicates that power production costs represent nearly 50% of all operating expenses; operations and maintenances expenses represent 14%. These percentages are understandable and expected. However, the "administrative and general" expense is extremely high, 37% of total operating expenses.

The NRECA team is studying the validity of several expense items included in the administrative and general expenses. It is believed that many expenses, such as Board of Directors per diem and travel, office salaries etc. should not be charged in-total to operations. Expenses that relate to building the cooperative-organization in preparation for a large-scale construction program should not be chargeable to operating expenses. (For a relatively small demonstration-electrification project.)

The graph on page 21 shows that total revenue represents only 82% of the amount needed to meet all cash expenses. If administrative and general expense is reduced, operating revenue should almost meet cash expenses.

--- On page 22 , expenses are depicted per kWh sold. A comparison is made of results using the existing retail rate versus the retail rate in use at Lampung.

In the months ahead, reliable operating data will be available from all three R.E. projects. Financial forecasts can be updated for the interum period of demonstration-project operation. Long-range projections will also be possible.

LUWU - Samabotuna Rural Electric Cooperative

I. General

--- The demonstration R.E. project, energized in August of this year, was serving two hundred eighty-three (283) consumers in Bone Bone at the end of October. Electric service is made available from the cooperative-owned generating plant from darkness to daylight. During this reporting month, the NRECA advisor's assistance related primarily to the management, operation and maintenance of this demo project.

II. Organization/Management

--- Coordination between the NRECA advisor and the PDO-RE acting manager continued in efforts to trim the number of employees to match demo-project O&M needs. Several of the DGC-Palopo employees, who were assigned to the cooperative during the construction of the demo-project, have returned to their previous assignments. At the end of October, the services of only thirty-four (34) employees were being utilized by the cooperative.

--- As a result of turn-over of employees in various key positions, additional training was deemed advisable for accounting-department positions. The NRECA advisor assisted the PDO-RE accountant, who is assigned to this cooperative on a temporary basis, in the presentation of refresher courses. During October, several evening sessions were held with six to nine employees in attendance at each session.

--- Special attention was given to functions of the cashier and billing clerk. Greater internal-control of cash was established and banking procedures improved.

--- The Board of Directors, acting manager and NRECA advisor met with desa officials on the subject of street-lighting. The responsibility for payment of electric service for street lights has been identified as a desa obligation. The problem of the desa camat relates to an equitable method of assessing and

collecting from residents who benefit from the lighting provided by twenty (20) lighting fixtures.

--- A study is underway to determine the benefits of providing electric service to segments of the Bina Marga compound in Bone Bone. Electrical aspects, material/equipment requirements and power requirements, are being reviewed and a policy decision by the Board of Directors will be requested.

--- The cooperative is faced with a storage problem since large quantities of materials and equipment, procured through USAID-loans, will soon be arriving at the project area. Permanent warehouse facilities will not be available when first shipments are received. In view thereof, management and advisors are reviewing various alternatives for temporary storage.

--- The NRECA advisor spent considerable time with the linemen at the cooperative this month. Use of volt meters, amperage meters and other test equipment was demonstrated. Field inspection of kWh meters and spot-test procedures were established.

III. Operations

--- Collections for September kWh energy sales were made during this reporting period. All but fourteen (14) of the connected consumers came to the office to pay their electric-service billing. For collections which required a field trip by the cooperatives' employees, a Rp 500 collection charge was made in accordance with Board-approved policies.

--- The average kWh-use per member exceeded twenty-six (26) kWh during the first billing period. The average payment was nearly two thousand five hundred rupiah (Rp 2500) per member. Usage may decline slightly as the "newness" of electric service wears off and members begin to become cost-conscious.

--- Only one 100 kw generator is in use for power supply at present. A typical load-curve is shown on page 19 of this report.

--- Statistical information shown on page 23 of this report is incomplete. kWh metering equipment has been installed in the power plant and log-sheet preparations improved, therefore, future NRECA reports will contain additional statistics.

PDO-RE Training Course/Workshop

- LOCATION : PDO-RE Office, Oct. 19th - Nov. 17th 1981
- PURPOSE : To familiarize participants with the PDO-approved accounting manual and procedures in use at the R.E. Cooperatives, to train PDO-RE accountants in accounting practices and procedures, report preparation and analysis, to prepare PDO-RE accountants for; their duties in assisting the Cooperative personnel in accounting-system installation and use; their duties in monitoring the Cooperatives accounting, reporting procedures; and their duties in analyzing financial and statistical reports and processing these reports at PDO-RE.
- PARTICIPANTS : Three accountants, staff members of the PDO-RE Administrative Department, participation in all training sessions.
- Five PDO-RE Technical Department employees, participation in training sessions wherein the subject matter relates to their particular duties.
- DURATION : Eighty hours for the three accountants.
Thirty-one hours for technicians.
Including: (Workshop and Examination)
- SUBJECT MATTER : PART I GENERAL - The Uniform System of Accounts
- BALANCE SHEET ACCOUNTS
- Utility plant accounts
 - Construction accounts
 - Cash accounts
 - Receivables accounts
 - Loan fund accounts
 - Inventory accounts
 - Membership accounts

- Long-term debt accounts
- Payables accounts
- Consumer-deposit accounts
- Contribution accounts

PART II HOUSEWIRING

- Accounting for inventory
- Accounting for income
- Accounting for expenses
- Report preparation
- Report analysis

PART III CONSTRUCTION

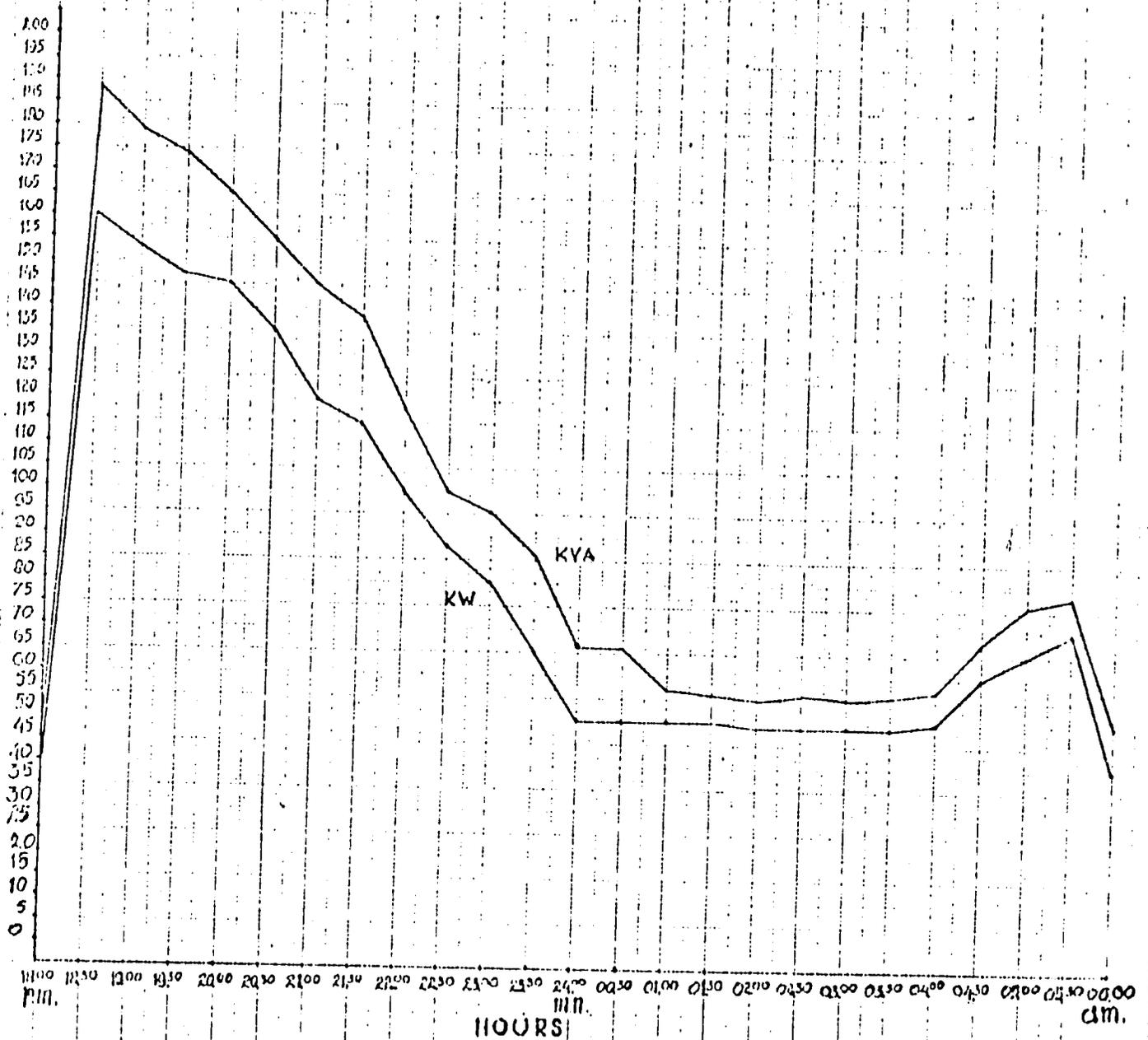
- Construction materials
- Construction assembly units
- Staking sheets
- Accounting for materials
- Accounting for direct labor
- Accounting for overhead
- Construction close-out
- Permanent records
- Report preparation
- Report analysis

PART IV OPERATIONS

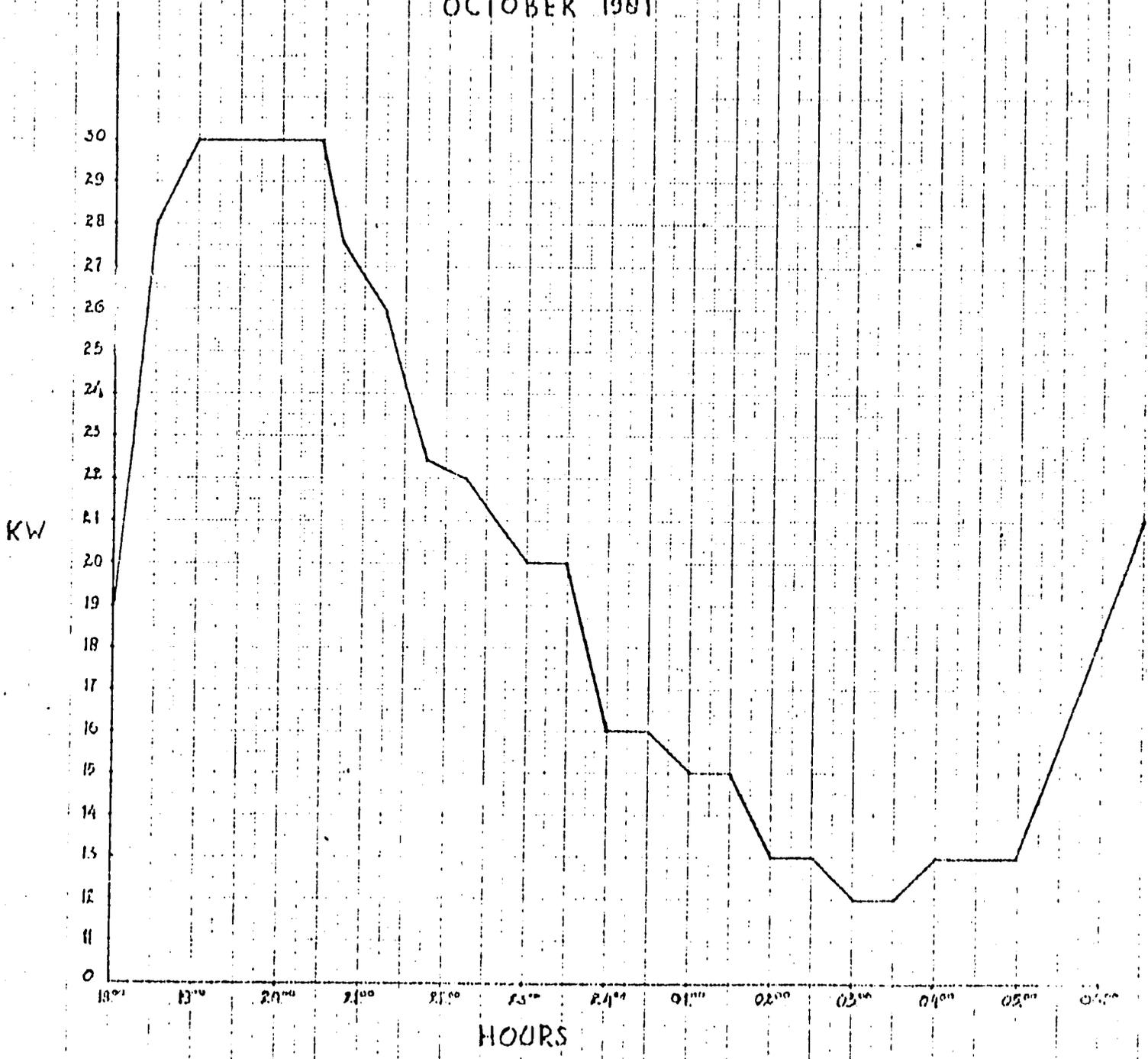
OPERATING PERIOD ACCOUNTS

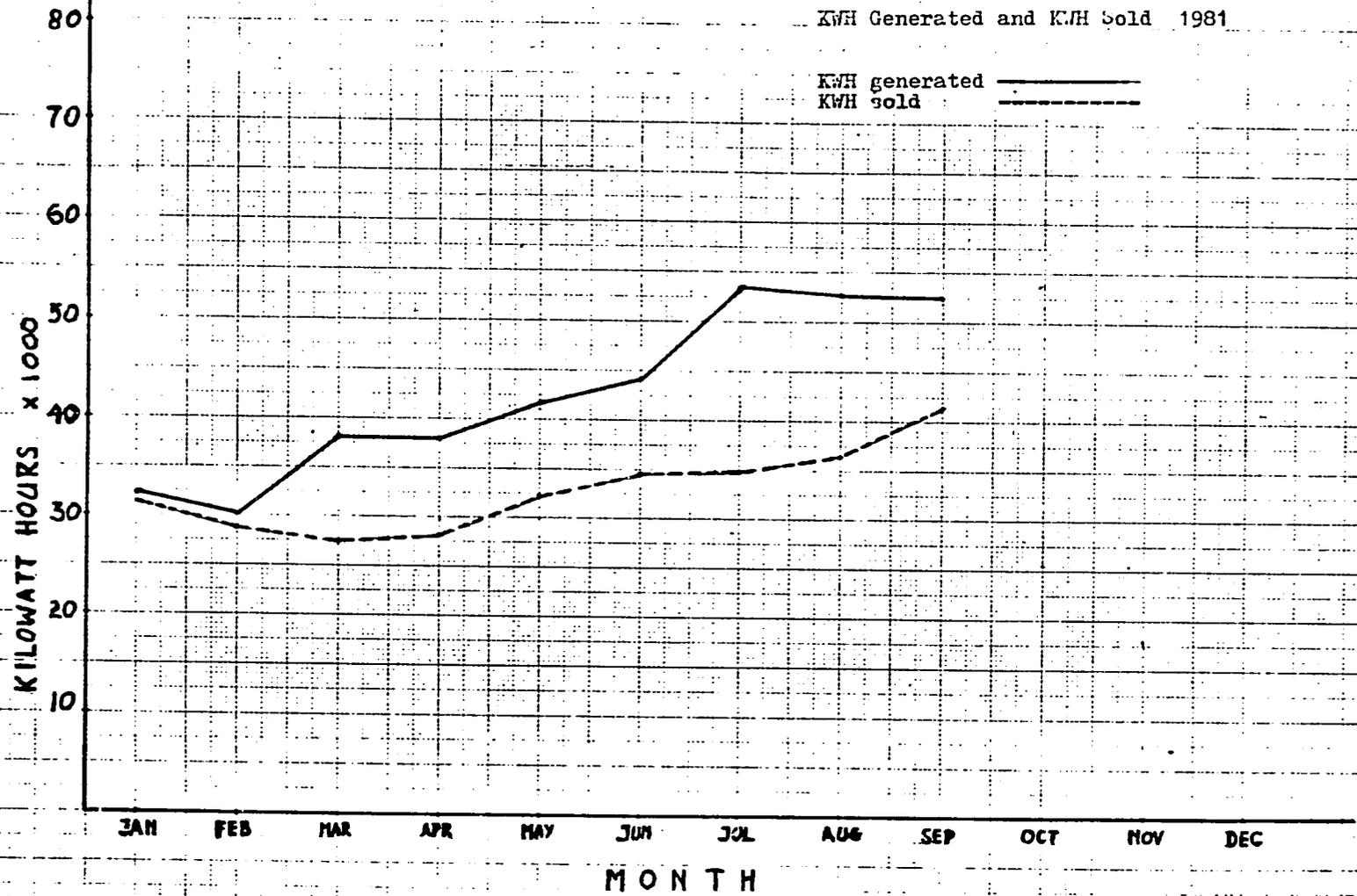
- Consumer-billing accounting
- Expense accounting, power plant
- Expense accounting, distribution system
- Expense accounting, general plant
- Expense accounting, meter reading/billing
- Expense accounting, office services
- Accounting for interest charges, accruals
- Accounting for depreciation
- Report preparation
- Report analysis

TYPICAL LOAD GRAPH
LAMPUNG POWER-PLANT
12 HRS SERVICE
SEPTEMBER 1981.

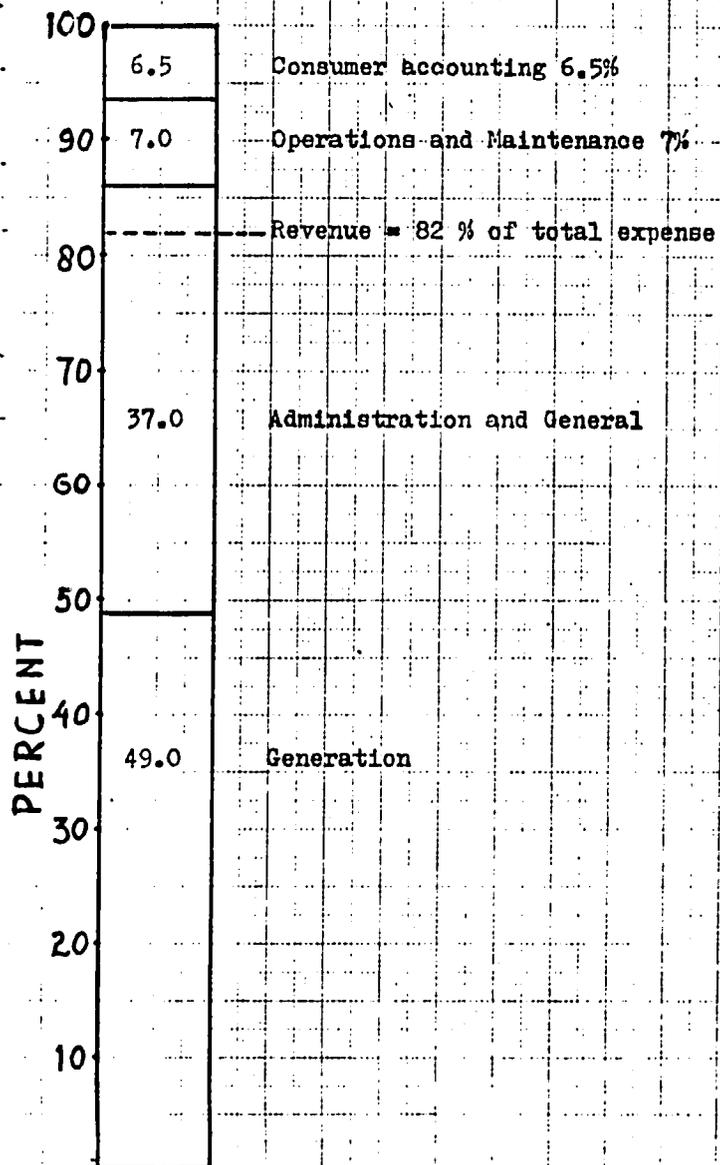


TYPICAL LOAD GRAPH
LOWU POWER PLANT
12 HRS SERVICE
OCTOBER 1981





Distribution of expenses, percentage
(Less depreciation and Interest)

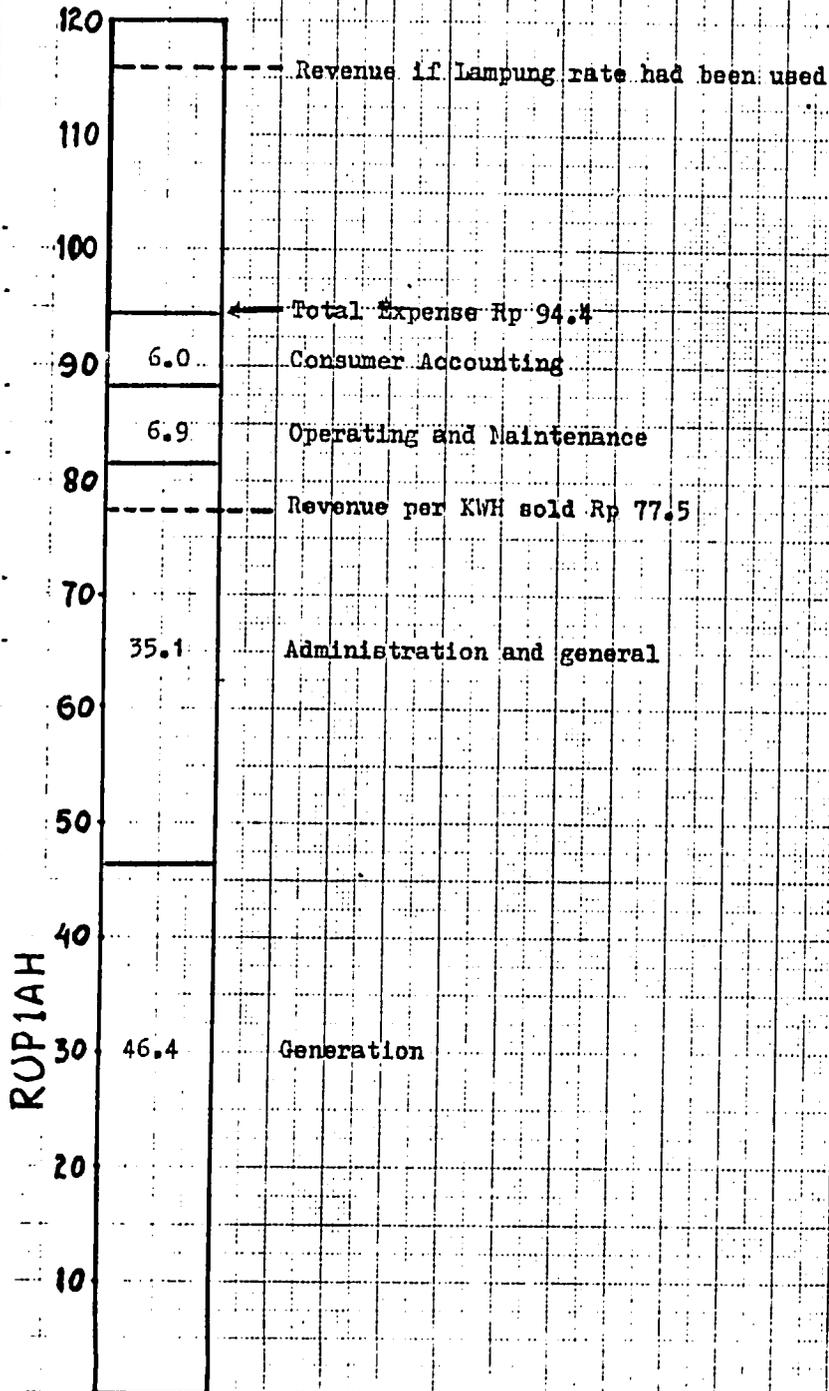


LOMBOK KIP "SINAR RINJANI"

- 22 -

August 1981

Expenses per KWH sold, (less Interest and Depreciation)



COMPARATIVE OPERATING STATISTICS
Three Outer-Island Cooperatives

| | LOMBOK July 1981 | LOMBOK August 1981 | LOMBOK September 1981 | LAMPUNG October 1981 | LUWU September 1981 |
|---------------------------------|---------------------|-----------------------|--------------------------|-------------------------|------------------------|
| Number consumers billed | 1489 | 1786 | 1783 | 967 | 283 |
| Total revenue | Rp 2,440,000 | Rp 2,780,865 | Rp 2,946,535 | Rp 2,388,815 | Rp 730,870 |
| Total kWh billed | *34,743 | *34,725 | *41,414 | 25,094 | 7,477 |
| Average revenue per consumer | Rp 1,638 | Rp 1,661 | Rp 1,653 | Rp 2,470 | Rp 2,487 |
| Average number kWh per consumer | 23.3 | 19.3 | 23.2 | 25.9 | 26.4 |
| kWh generated | 54,050 | 52,966 | 52,611 | 24,987 | - |
| Liters diesel fuel consumed | 18,735 | 20,390 | 20,094 | 12,520 | - |
| kWh's generated per liter | 2.8 | 2.6 | 2.6 | 1.995 | - |
| Fuel and lube oil cost | Rp 998,303 | Rp 1,195,383 | Rp - | Rp 760,466 | Rp - |
| Fuel cost per kWh generated | Rp 18.5 | Rp 22.5 | Rp - | Rp 30.43 | Rp 46.0 |
| % system losses | 35% | 34% | 21% | .0043% | - |
| Peak kw demand | 248 | 253 | 244 | 160 | 30 |

* Numerous consumer-connections were made in the Desa of Kalijaga in July and August but were not billed until September.

PDO - R E OUTER ISLANDS
COOPERATIVE TRAINING COURSE SCHEDULE

NAECP

| NO. | TITLE | TARGET DATE IMPLEMENTATION PLAN | COURSE DURATION | 1 |
|------|----------------------------------|------------------------------------|--------------------|-----|
| 200 | COOPERATIVE MANAGEMENT | MAY 1979 | 30 hrs. | ⓄⓄⓄ |
| 205 | RMSS TRAINING | JUNE 1979 | 30 hrs. | |
| 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

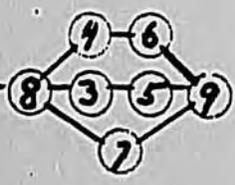
Course completed and number of people trained ○

Courses scheduled ○

ELECTRIC COOPERATIVE ASSOCIATION

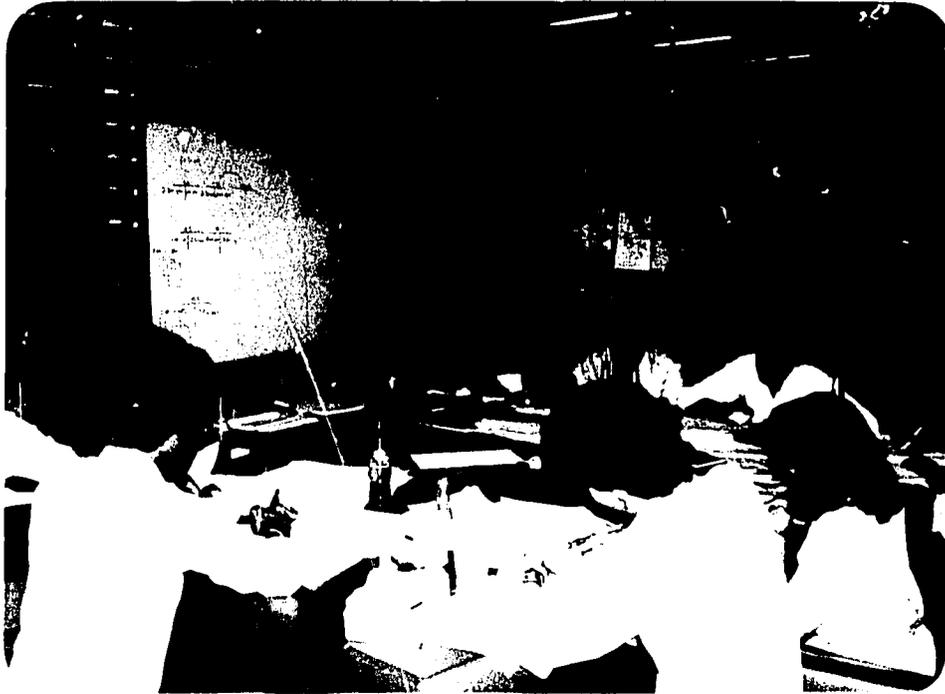
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2-857-9500

| 1982 | | | 1983 | | |
|------|------|---|------|---|--|
| 2 | 3 | 4 | 1 | 2 | |
| | | | | | 1984 |
| | (67) | | (89) | | (10-11) 12,500 |
| | (67) | | (89) | | (10-11) 12,000 |
| | (67) | | (89) | | (10-11) 11,000 |
| | | | | | <ol style="list-style-type: none"> 1. A/E CONTRACT SIGNED 2. A/E STARTS DESIGN WORK 3. CIDA CONSULTANT STARTS DESIGN 4. MAJOR PROCUREMENT & OBLIGATION DOCUMENTS PROCESSED 5. START HEADQUARTERS CONSTRUCTION 6. START SYSTEM CONSTRUCTION 7. COMPLETE HEADQUARTERS CONSTRUCTION 8. INTERIM GENERATORS INSTALLED 9. MEMBER ENERGIZATION 10. CANADIAN GENERATOR INSTALLED 11. CUSTOMER CONNECTIONS |
| | | | | | 1984 |
| | | | | | (11) |
| | | | | | (11) |
| | | | | | (11) |
| | | | | | <ol style="list-style-type: none"> 1. GRANT AGREEMENT SIGNED 2. LOAN AGREEMENT SIGNED 3. NRECA CONTRACT SIGNED 4. CIDA LOAN FOR GENERATORS SIGNED 5. CIDA GRANT SIGNED 6. START ORGANIZING COOPS 7. INTERIM BOARD APPOINTED 8. CONDITIONS PRECEDENT MET 9. INTERIM AREA MEMBERSHIP DRIVE 10. MAJOR MEMBERSHIP DRIVE INITIATED 11. PERMANENT COOPERATIVE BOARD ELECTED |
| | | | | | <ol style="list-style-type: none"> 1. PDO ADMINISTRATION 2. COOPERATIVE MANAGEMENT 3. RURAL MEMBER SERVICE SPECIALIST 4. ACCOUNTING 5. HOUSEWIRING 6. MATERIAL LOGISTICS & CONTROL 7. OPERATIONS - MAINTENANCE - CONSTRUCTION 8. START TRAINING PHASE 9. COMPLETE TRAINING PHASE |
| | | | | | <ol style="list-style-type: none"> 1. DESIGN BEGINS 2. IFB ISSUED 3. CONSTRUCTION BEGINS 4. HOUSEWIRING STARTS 5. GENERATORS INSTALLED 6. PROJECT ENERGIZED 7. CONSTRUCTION ENDS 8. CUSTOMER CONNECTIONS |



"PDO-RE Activities"

"Workshops"



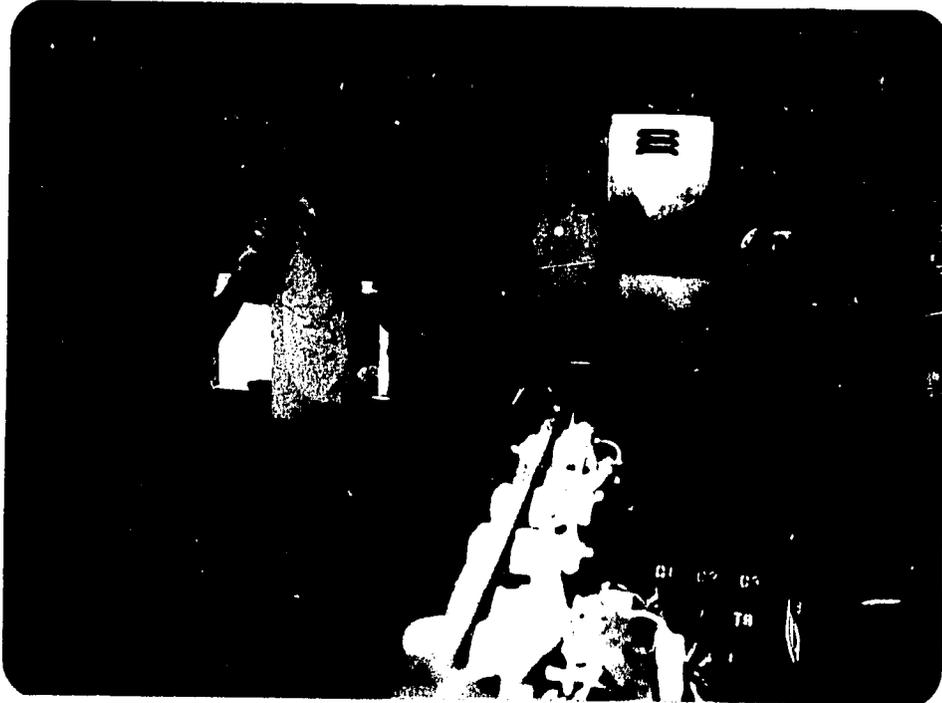
PDO-RE employees performing assignments on the subject of "Construction-cost Accounting" in a workshop held in the PDO-RE office, Sarinah Building, Jakarta.



Eight PDO-RE staff members receiving information from NRECA advisor on functions and procedures followed by personnel at the outer-island cooperatives relating to, membership solicitation, housewiring, cash-receipts, cash disbursements and other general accounting activities.

"Activities"
Outer-island Projects

L O M B O K



Mr. John Sperling, USAID-Washington, being briefed by Mr. Ridwan, Lombok Cooperative Acting Manager, in the cooperative-owned plant, Aikmel, Lombok.

L U W U



The NRECA and C.T. Main advisors demonstrated "pole-top rescue" recently for the linemen who are operating and maintaining the electric distribution system.

Summary of Expenditures

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

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

| | Budget | Total Expense To Date | Prior Billings | Current Billings |
|---------------------------|--------------|-----------------------------|-------------------|---------------------|
| Salaries - Field | \$ 1,095,000 | \$ 721,061.02 | \$ 695,732.16 | \$ 25,328.86 |
| Salaries - Home | 187,000 | 116,465.10 | 113,618.37 | 2,846.73 |
| Fringe Benefits | 416,000 | 264,754.01 | 256,439.76 | 8,314.25 |
| Consultant Fees | 34,706 | 33,906.25 | 33,906.25 | |
| Allowances | 398,000 | 254,814.46 | 258,497.44 | (3,682.98) |
| Travel and Transportation | 386,470 | 250,683.15 | 231,662.54 | 19,020.61 |
| Other Direct Costs | 140,000 | 78,956.50 | 77,183.93 | 1,772.57 |
| Overhead | 292,000 | 191,819.60 | 185,339.70 | 6,479.90 |
| Equipment and Materials | 28,000 | 18,292.46 | 18,292.46 | |
| TOTAL | \$ 2,977,176 | \$ 1,930,752.55 | \$ 870,672.61 | \$ 60,079.94 |

PERSON-MONTHS BY POSITION, NRECA CONSULTANT TEAM
 (Contract as amended September 11, 1981)

| POSITION | PRESENTLY FILLED BY | CONTRACT PERSON-MONTHS | EXPENDED THIS PERIOD | EXPENDED THROUGH OCTOBER | | PERCENT OF CONTRACT |
|------------------------|---------------------|------------------------|----------------------|--------------------------|------|---------------------|
| | | | | PLN | PDO | |
| Team Leader | Peter McNeill | 54 | 1 | 6.5 | 30.5 | 69 |
| Training Officer | Louie Sansing | 45 | 1 | 7 | 26 | 73 |
| Administrative Officer | Ray Shoff | 33 | 1 | 3 | 21 | 73 |
| PLN Advisor | Sam Adkins | 42 | 1 | 31.5 | .5 | 76 |
| Lampung Advisor | Claude Franke | 54 | 1 | .5 | 36.5 | 69 |
| Lombok Advisor | Paul Swanson | 50 | 1 | 0 | 33 | 66 |
| Luwu Advisor | John DeFoor | 49 | 1 | 0 | 32 | 65 |
| Short-term Advisors | | 19 | 0 | 14 | 3 | |
| Consultants | | 8 | 0 | 7.5 | .5 | |
| | | 354 | 7 | 70 | 183 | 71 |