RURAL ELECTRIFICATION POLICY (1993)

POLICY DOCUMENT

I N D E X

RURAL ELECTRIFICATION POLICY (1993)

POLICY DOCUMENT - INTRODUCTION

1.0 THE OBJECTIVE

The objective of the Rural Electrification Policy (1993) is to provide 24 hour continuous electricity to all potential consumers in Fiji. The Rural Electrification Unit is the organisation created to implement the policy.

2.0 THE POLICY DOCUMENT

This document is provided for the guidance and instruction of the staff of the Rural Electrification Unit to facilitate the implementation of the Rural Electrification Policy (1993). It has been made particularly detailed with a view to being able to provide information on as many aspects of the policy as possible. In this respect you are encouraged to read it fully and if necessary read it again. Familiarity with its contents will enhance the effectiveness of your work with the REU.

Part A of the Policy Document informs you about the general aspects of the policy. **Part B** informs you about procedures designed to implement the policy.

The document must be regularly reviewed to ensure the activities of the Rural Electrification Unit are complying with its contents. There may be problems with that compliance such that either the document or the procedures need to be reviewed and changed. Whatever results from that review, a change must be made for the sake of conformity. REU staff at all levels are encouraged to make that review and to discuss such problems with their superiors. In any case a formal full review of the document must be made at least every six months particularly during the early stages of implementing the 1993 policy.

THIS DOCUMENT IS THE PROPERTY OF THE CABINET

C.P. (93) 7th Meeting

Date Tuesday 23rd March
PM 905

CABINET DECISION

Extract from Minutes held on 23:03:93

121. **Rural Electrification Policy** - CP (93) 103
ER. 7/1

Cabinet agreed -

(1) to the specific statements of policy as at paragraph 2 of the Memorandum.

(2) in principle to the implementation programme for the electrification of rural areas as at paragraph 3 of the Memorandum.

(3) that funding for the rural electrification programme as outlined at paragraph 3 of the Memorandum be provided for in the 1994 Budget.

(4) to the creation of a rural electrification unit within the Ministry of Energy and Rural Electrification to administer and control the rural electrification programme, utilizing the funds allocated in 1993 to both the Ministry of Energy and Rural Electrification and the Ministry for Infrastructure, Public Works & Maritime; the latter to assist in every way possible to ensure the early commencement of the rural electrification programme.

(5) that the Ministry of Energy and Rural Electrification and the Ministry of Infrastructure, Public Works and Maritime should liaise with the relevant authorities and agree on a changeover date for the commencement of rural electrification programme based on the policies and implementation strategy outlined in the Memorandum.

signed

(L.B. Ah Koy)
Secretary to the Cabinet
30/3/93

reu\010.017

CP (93) 103
13 March 1993

Cabinet Memorandum

RURAL ELECTRIFICATION POLICY

(for discussion)

(Memorandum by the Minister for Energy & Rural Electrification)

1.0 INTRODUCTION

1.1 Cabinet considered a detailed paper on rural electrification policy at its meeting on 23 February 1993. It decided that the memorandum be withdrawn to enable the Minister for Energy and Rural Electrification to include :

(a) Specific Statements of policy, and,

(b) a suggested programme for the implementation of that programme for the electrification of the rural areas.

1.2 Accordingly, this revised paper is being submitted for consideration by Cabinet.

2.0 SPECIFIC STATEMENTS OF POLICY

2.1 About 60% of Fiji's population of three quarters of a million live in the rural areas. Of this rural population about 70% do not have electricity. There is thus a need to provide electricity to this population. To do so, the following specific statements of policy are proposed :

(a) The Ministry of Energy and Rural Electrification would like to electrify all rural villages within a period of approximately eleven years.

(b) The number of villages to be electrified each year should be at least 90.

(c) The annual programme of electrification based on (a) and (b) above would be approximately $6.0 million per annum.

(d) Rural electrification will be developed primarily for social development, but economic development will also be promoted wherever possible.

(e) All existing types of electrification and new types of electrification will be examined in the various areas of Fiji, to find out their applicability.

(f) Areas close to the Fiji Electricity Authority grid will be grouped into schemes and electrified through the extension of the grid.

(g) The total capital cost of installation of an electrification project will be met as follows :-

(i) 10% of the capital cost of the project will be contributed by the consumer,

(ii) 90% of the capital cost of the project will be contributed by the government.

(h) The long term aim is to develop a user pay system, as rural areas begin to appreciate the use of electricity. A grace period of three years from the date of completion of the project will be allowed, after which the village would become fully responsible for the maintenance, repair and replacement costs.

(i) During the grace period, consumers will be required to make an appropriate contribution toward the maintenance and repair cost and replacement cost of the electrification scheme.

(j) A Rural Electrification unit, which would be fully accountable, will be established in the Ministry of Energy and Rural Electrification to administer and control the rural electrification programme.

(k) Subsidy for house wiring should be provided by Government for the three villages, which are to be connected to the Bukuya mini hydro scheme. With respect to the surplus electricity that is available in the Bukuya scheme, every effort would be made to supply this electricity to other villages in the area so that the 100 kilowatts of electricity is fully utilised.

3.0 SUGGESTED PROGRAMME FOR IMPLEMENTATION OF PROGRAMME FOR THE ELECTRIFICATION OF RURAL AREAS

3.1 The status of rural electrification at present is as follows :

There are 1170 proclaimed villages in Fiji. Out of these it is estimated that there are about 1,000 villages which are not electrified.

There are also many settlements predominantly covering the agricultural areas, which are not electrified. A proper survey will be necessary to establish the number of such settlements, and electrification of these will be determined by their locations.

3.2 Based on a budget of $6.0 million per annum, a programme as follows could be pursued :

90 villages per year at $50,000 each (mostly diesel schemes with some FEA grid extensions & other options)	=	$4.5 million
Electrification of Settlements	=	$1.5 million

3.3 The implementation of the above programme would mean that in a 11 year programme, most of the villages would be electrified.

3.4 The maintenance and repair cost of the schemes would be met from the above budget figures.

4.0 PRACTICAL IMPLICATIONS OF THE PROPOSED POLICY AND IMPLEMENTATION OF THE PROGRAMME

4.1 Budget

The Ministry of Finance and Economic Planning was approached on a suggestion made in the Cabinet meeting of 23.2.93 that a part of the Lome IV funds could be used to fund the rural electrification programme. The Ministry of Finance has however commented that Lome IV funds are already committed. They would like to consider rural electrification project along with all other priorities of government in so far as provision of funding is concerned and not in isolation. It is possible that other means of funding would need to be found from government's own fund rather than aid funding.

The proposal to establish such a Unit within the Ministry of Energy and Rural Electrification was referred to the Public Service Commission for comments. The Secretary for the Public Service has advised that to create any new posts for the proposed unit would be inconsistent with Cabinet's policy of reducing the size of the Public Service, which the Commission is trying to achieve. The suggested alternative is to create a Statutory body, but government funding would still be necessary for its operation.

4.2 Local Capacity to Undertake the Programme

(a) PWD Diesel Scheme

The PWD diesel electrification unit of the Ministry of Infrastructure, Public Works and Maritime have been undertaking an annual programme of $1.0 million for diesel schemes. They would however be able to undertake a slightly larger programme of $1.5 million per annum provided the funding is available very early in January, i.e. at the very beginning of the year.

(b) Fiji Electricity Authority

The Fiji Electricity Authority is in a position to undertake a programme of about $1.5 million for rural electrification with its existing manpower and other resources. Any larger programme will need additional manpower and other resources.

(c) Contracting of Electrification Services

It is proposed that some of the electrification projects be contracted out to private companies. This would have the advantage of speeding up the electrification programme in view of the limited capacity available in Public Works Department and Fiji Electricity Authority.

(d) The present capacity is not sufficient to implement government's commitment to rural electrification. If government wishes to maintain its strong commitment to it then the present capacity has to be increased.

4.3 **Rural Electrification Unit**

It is proposed to set up a Rural Electrification Unit within the Ministry of Energy and Rural Electrification to administer and control the electrification programme. The Unit would require appropriately qualified persons.

4.4 **Cost of Maintenance and Repairs**

Once a diesel scheme is in operation, it would cost about twelve hundred dollars per annum per scheme for maintenance and repairs. Under the current

policy, each village contributes $100 per annum for maintenance and Public Works Department meets the rest. On repairs, Public Works Department meets up to six hundred dollars per scheme per annum and any excess is met by the village.

In the new policy, a similar arrangement with updated contributions should be applicable, during the grace period. Upon expiration of the grace period the village would become fully responsible for the maintenance and repair costs.

4.5 **Replacement of Diesel Schemes**

A replacement policy at the end of the life of the diesel set, also needs to be considered. At present day costs, about $15,000 per scheme would be necessary. Some of the existing schemes would soon come up for replacement, hence the need for a policy.

It is proposed that the village should collect an annual levy to meet the replacement cost in due course.

5.0 RECOMMENDATION

Cabinet is invited to approve the following :-

(1) Specific Statements of policy as in paragraph 2.

(2) Implementation programme for the electrification of rural areas as in paragraph 3.

(3) Funding of the rural electrification programme as outlined in paragraph 3.

(4) Creation of a rural electrification unit within the Ministry of Energy and Rural Electrification to administer and control the rural electrification programme.

(5) Ministry of Energy and Rural Electrification and Ministry of Infrastructure, Public Works and Maritime should consult and agree on a change over date for the commencement of rural electrification programme based on the policies and implementation strategy outlined in this paper.

MN

Ministry of Energy and Rural Electrification
6th Floor Ratu Sukuna House
Suva
File No. ER 7/1

RURAL ELECTRIFICATION POLICY (1993)

OBJECTIVES AND PRINCIPLES

1. LONG TERM OBJECTIVE OF GOVERNMENT ELECTRIFICATION POLICY

The long term objective of the Government is to provide 24 hour continuous electricity to all potential consumers in Fiji.

Within this context, the Rural Electrification Policy (1993) must be developed.

2. OBJECTIVE OF RURAL ELECTRIFICATION POLICY (1993)

The overall objective of the Rural Electrification Policy (1993) is to provide electricity primarily for social benefit to all rural residents in Fiji and develop loan centres which are necessary for the viable expansion of the 24 hour continuous electricity supply.

The detailed objectives of the Rural Electrification Policy (1993) are :

(a) address the electricity requirements of consumers in the rural areas primarily for social development but economic development will also be taken into consideration;

A rural area is defined as any area outside of gazetted towns and cities in Fiji.

A consumer is any premises in Fiji villages and settlements as well as isolated households, schools, farms and small commercial premises.

(b) ensure the provision of social benefit electricity to rural consumers while clearly defining and limiting the overall level of Government subsidy;

(c) incorporate the Government stations within the rural electrification network and rationalise Government expenditure within the Government stations;

(d) the policy will be consistent with other Government policies.

3. PRINCIPLES OF THE POLICY

To achieve the objectives of the Rural Electrification Policy (1993), the policy must adhere to the following principles :

Consistency - all applicants will be treated equitably. They will be offered the same opportunities and the same levels of subsidy.

Choice - rural consumers will choose the form of the electricity supply. The choice must be based on full and clear information on all costs and benefits associated with each form of electricity.

Sustainability

- electricity supply will be permanent.

User Pays - the costs of ensuring sustainability will be met by the consumers. Financial investment, collection and accountancy facilities will be provided to facilitate sustainability.

Minimise Cost to Consumer

- assistance will be given int he provision of maintenance and repair facilities to encourage consumers to care for their electricity system.

Accountability

- an agency is solely responsible and accountable to Government for the implementation of the policy.

Maximising Coverage

- electricity is provided to as many people as possible in a given fiscal year after an agreed level of any budget allocation has been set aside for commercial/income generating development.

Transition Policy

- a transition policy will ensure that all existing schemes implemented under the old policy can be integrated into the rural electrification framework of the new policy and be consistent with the principles of the policy.

RURAL ELECTRIFICATION POLICY (1993)

EXPLANATORY NOTES ON PRINCIPLES OF THE POLICY

1. CONSISTENCY

Consumers will be given the same choices. Any benefits will be shared on an equal basis. One of the implications of this principle is that all aid will be incorporated into the resources for capital works controlled by the agency. The agency would utilise such resources consistent with all the principles of the policy.

2. CHOICE

A range of electricity schemes is available, each with its own features for lighting and power. The capital and maintenance costs vary according to the features offered. **Consumers must be fully informed of these features as well as the respective costs of each type of electricity scheme so that the most appropriate selection may be made by the consumer.**

3. SUSTAINABILITY

Electricity supply will be permanent not temporary. It is hoped and expected all schemes will evolve into 24 hours continuous supplies.

4. USER PAYS

The principle of **`user pays'** will apply. The consumer takes responsibility for the scheme and Government involvement is finite. The Government subsidises only the capital cost of the scheme. Except for any grace period deemed appropriate, Government facilitates, but does not fund in any way, the operation, maintenance, repair or replacement of the schemes.

It is hoped the principle of user pays will encourage the development of income generating enterprises in the rural areas.

5. MINIMISE COSTS TO CONSUMER

In order to minimise the costs of the schemes to consumers, it is intended to train consumers to undertake simple routine tasks associated with the scheme. This will minimise what consumers pay others to do such tasks for them. It is hoped any payment that has to be made will be made to trained rural dwellers rather than to centralised agency services.

6. ACCOUNTABILITY

The accountability would be manifested in the form of rigorous reporting procedures such as annual, accounting, audit and performance assessment reports, all to be submitted to Government for approval. It necessarily follows that the agency must comply with the directions of Government. It will also be responsible for reacting positively to requests, comments and criticisms from consumers concerning rural electrification.

7. MAXIMISING COVERAGE

It is the intention of Government that social benefit electricity is made available to all rural areas in the shortest time possible.

This means that social benefit electricity is provided to as many Fiji villages and settlements as possible within the bounds of funds allocated annually by Government and/or aid.

Additionally part of the funds will be applied to regional development needs as directed by Government.

This implies that a given level of funds will be allocated to income generating projects and the remaining funds to those social benefit schemes which maximise the number of new consumers receiving electricity.

8. TRANSITION POLICY

Some of the principles of the Rural Electrification Policy (1993) differ from those implied in the original policy. It is a principle of the 1993 policy that consumers who are or have been receiving benefits in terms of the original policy will have those benefits adjusted so that they conform with the new policy. This adjustment will be implemented over an appropriate period of time to minimise any hardship that may result.

June 1, 1994
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RURAL ELECTRIFICATION POLICY (1993)

PART A - CHAPTER 3

RURAL ELECTRIFICATION UNIT

1.0 GENERAL

This chapter provides information about the Rural Electrification Unit. It includes a statement of its activities, duties and responsibilities. The chapter also includes a copy of its current organisation chart together with duty statements of the posts in the organisation.

Reference is also made to staff training and to the training duties of staff for villages/settlements.

2.0 STATEMENT OF ACTIVITIES, DUTIES AND RESPONSIBILITIES

This statement is attached as Addendum 1 to this chapter. The statement was originally formulated from Item 4 in the Cabinet Decision of Tuesday 23rd March 1993 and the Cabinet Memorandum dated 18 March 1993 which accompanied the Cabinet Decision (refer to Part A, Chapter 1). Particular reference is made to Section 4.3 in the Cabinet Memorandum.

3.0 ORGANISATION

A chart of the organisation of the REU is attached as Addendum 2 to this chapter and is accompanied by duty statements of the posts shown on the chart.

The original organisation of the REU is that of a subsidiary unit within the Department of Energy of the Ministry of Lands, Mineral Resources and Energy. It is thereby a Government body and is thus bound by General Orders and all the other relevant rules and regulations. The Section 4.3 of the Cabinet Memorandum indicated the REU could be a Statutory Body and in fact application was made to the Ministry of Finance during the planning for the creation of the REU to make the unit a Statutory Body. The protracted legislative procedures of this would have incurred an unacceptable delay and the REU thus became a Government unit. However for future reference, it must always be borne in mind that the activities of the REU will probably be more effectively undertaken if it is a Statutory Body.

4.0 TRAINING

There are two aspect of training associated with the activities of the REU. One is the training of the REU staff to enable them to undertake their duties efficiently. The other aspect is the training commitment to villages/settlement to enable them to operate and maintain their electricity schemes safely and effectively. Within the REU, the Senior Projects Engineer will be responsible for defining the technical engineering training policy and identifying the training needs of staff. A training manual should be developed and published.

The training of REU staff will be in compliance with the policies of Government at least while the REU is directly part of Government. These policies are usually directed to meeting managerial, administrative, accounting and clerical training needs. They do not usually meet the technical and engineering training needs of organisations such as the REU. It is therefore incumbent upon the REU to develop its own training programmes to meet the needs of its engineering and technical staff. These needs can only be identified after staff are appointed. Additionally it must be understood that there will always staff changes and thereby the need to review regularly the training needs of all staff.

The training commitment to villages/settlements is an important part of the duties of the REU. There are many references to this in several chapters of Part B of this document. It is expected the main thrust of this training will be undertaken by the Field Officers. These officers are likely to be graduates of the Centre for Appropriate Technology and Development (CATD) which is an organisation within the Department of Regional Development. As graduates, they have received a broad technical training which may require further specialised training for the duties they will be undertaking within the REU. The CATD is likely to be able to provide this further training and arrangements should be made accordingly. Once these CATD graduates are appropriately trained, it is envisaged they will conduct training programmes for personnel of villages/settlements at regional centres or in the villages/settlements. The training of villager personnel will be directed to enabling them to operate and maintain their schemes themselves. Refer to Part B, Chapter 4, Operation of Schemes and Chapter 5, Maintenance of Schemes.

5.0 POWER STATION OPERATIONS

One of the larger activities of the REU is the operation of Government power stations. Government power stations represent a significant capital investment which provides an important utility service to both the Government and the local community. Hitherto this service has not received the attention it deserves. The service would be enhanced by the preparation of a policy manual with well defined instructions for the efficient operation of these power stations. The Senior Project Engineer is responsible for the preparation of such a manual and instructions.

6.0 FUTURE DEVELOPMENTS

The development of the REU will be guided by the experiences derived from applying the Rural Electrification Policy (1993) and the responses and reactions to the changes

incorporated in it compared with the original policy. The REU staff must be prepared to react positively to these changes. It may be necessary to modify the REU organisation as set out in this document and to change some of the procedures that have been defined. For example, reference has been made to the REU possibly being a statutory body. Operational experience may show this change to be a necessity. In that case arrangements should be made to effect that change.

June 13, 1994
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RURAL ELECTRIFICATION POLICY (1993)

RURAL ELECTRIFICATION UNIT

STATEMENT OF ACTIVITIES, DUTIES AND RESPONSIBILITIES

In order to comply with the Cabinet decision, to achieve the objectives of the Rural Electrification Policy (1993) and to comply with the principles of the Policy - that is, implement the Rural Electrification Policy (1993) - the activities, duties and responsibilities of the REU must include - but are not limited by - the following :

[a] To administer the funds for rural electrification as allocated by the annual budget of the Government;

[b] To fully inform prospective rural consumers of the opportunities for rural electrification which must include all costs and all benefits of each option;

[c] To receive and record applications by the rural consumers for their choice of rural electrification scheme;

[d] To receive deposits for the capital works of rural electrification schemes;

[e] To design, estimate, document and construct the electrification schemes as selected by rural consumers (refer [s] below);

[f] To maintain records - operation, maintenance and accounts of rural electrification schemes;

[g] To provide training for rural consumers to enable them to maintain and repair at the lowest possible cost rural electrification schemes;

[h] To set up a maintenance and repair network throughout rural areas in Fiji;

[i] To collect contributions from rural consumers for replacement of rural

electrification schemes;

[j] To manage, invest, disburse and account for funds received for the contributions stated in [i] above;

[k] To arrange for replacements of rural electrification schemes;

[l] To assess the resources and potential for certain types of rural electrification schemes (e.g. hydro, solar) in given areas of Fiji.

[m] To design, construct, operate, maintain and repair without subsidy, electricity supply schemes including Government stations which are outside the areas of supply by the Fiji Electricity Authority;

[n] To design and apply appropriate cost covering electricity tariffs at Government stations/load growth centres including the collection of monies received for the sale of electricity to consumers connected to schemes referred to in [m] above;

[o] To develop and expand Government station electricity supply systems into load growth centres;

[p] To promulgate information about the activities of the REU to all rural consumers, to advise them about any Government policies which may affect rural electrification and to respond positively to requests, comments and enquiries from rural consumers;

[q] To comply with the requirements of the Electricity Act, Cap 180, and its Regulations;

[r] To be solely accountable for all rural electrification activities to the Minister responsible for the Energy portfolio of the Government - this will include amongst other things, the submission of annual, accounting, audit and performance assessment reports;

[s] To arrange for the execution of the duties of the REU by the most cost effective means either by its own staff or by means of private sector accountants, consultants, contractors or other such organisations.

June 1, 1994
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DUTY STATEMENT FORM

GP Form 196

Department	Designation	Grade
ENERGY	SENIOR TECHNICAL ASSISTANT ELECTRICAL	ME06

Section	Departmental Designation	Post Code
RURAL ELECTRIFICATION UNIT	ASSISTANT SURVEYOR/ESTIMATOR	

Location	Immediate Superior	Date
SUVA	SURVEYOR/ESTIMATOR	DEC. 1993

Main Contacts **Phone Nos.**

SURVEYOR/ESTIMATOR

RURAL CONSUMERS

REGIONAL MANAGER

SUPPLIERS

CONTRACTORS

Staff directly controlled (Grades and Numbers) **Grades** **Nos**

NONE

Objectives of the Section

IMPLEMENTATION OF RURAL ELECTRIFICATION POLICY (1993)

Duties of the Post

- Assist the Surveyor/Estimator to survey, design and document rural electrification schemes including diesel generator, solar and other forms of electricity generation.
- Assist the Surveyor/Estimator to develop designs and prepare estimates for standard procedures and installations for rural electrification schemes.
- Instruct the Record Clerk to maintain engineering records.
- Undertake any other duties assigned by the Surveyor/Estimator.

Typical Tasks Performed

- Visit rural consumers to assist with undertaking surveys and recording field data.
- Assist with the evaluation of FEA's proposals for systems extensions for rural consumers.
- Prepare engineering drawings.
- Assist other members of the engineering group to reduce their work overload as directed by the Surveyor/Estimator.

Qualifications of the Post

- Minimum qualification requirements PSC Reference 29/130/3, 28/9/88 Occupational Group 6-2 Grade ME06 Senior Technical Assistant Electrical.
- Ability to prepare Engineering Drawings.
- Demonstrably high standard of initiative, drive and determination.

DUTY STATEMENT FORM

GP Form 196

Department	Designation	Grade
ENERGY	TECHNICAL OFFICER ELECTRICAL	ME05

Section	Departmental Designation	Post Code
RURAL ELECTRIFICATION UNIT	CONTRACTS OFFICER	

Location	Immediate Superior	Date
SUVA	SENIOR PROJECT ENGINEER	DEC. 1993

Main Contacts **Phone Nos.**

SENIOR PROJECT ENGINEER

FINANCIAL OFFICER

CONTRACTORS

FIJI ELECTRICITY AUTHORITY

CONSULTANTS

Staff directly controlled (Grades and Numbers) **Grades** **Nos**

NONE

Objectives of the Section

IMPLEMENTATION OF RURAL ELECTRIFICATION POLICY (1993)

Duties of the Post

- Prepare tender and contract documentation.

- Issue invitation to tender.
- Evaluate tenders and prepare recommendations.
- Engage contractors into contracts.
- Monitor contract payments.
- Finalise contracts.
- Assist Senior Project Engineer in the execution of his duties.
- Co-ordinate with FEA on their connection to rural consumers.
- Undertake any other duties assigned by the Senior Project Engineer

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Typical Tasks Performed

- Draft specifications and contract agreements.
- Inspect contract works.
- Review contract progress schedules.
- Certify contract progress claims for payment.
- Issue contract instructions.
- Assist other members of the engineering group to reduce their work overload as directed by the Senior Project Engineer.

Qualifications of the Post

- Minimum qualification requirement PSC Ref. 29/190/3, 28/9/1988 Occupational Group 6.2 Mechanical and Electrical Technical Officers
  Grade ME05 Technical Officer Electrical.
- Demonstrably high standard of initiative, drive and determination.

DUTY STATEMENT FORM

GP Form 196

Department	Designation	Grade
ENERGY	SENIOR TECHNICAL ASSISTANT ELECTRICAL	ME06

Section	Departmental Designation	Post Code
RURAL ELECTRIFICATION UNIT	ASSISTANT SURVEYOR/ESTIMATOR	

Location	Immediate Superior	Date
SUVA	SURVEYOR/ESTIMATOR	DEC. 1993

Main Contacts **Phone Nos.**

SURVEYOR/ESTIMATOR

RURAL CONSUMERS

REGIONAL MANAGER

SUPPLIERS

CONTRACTORS

Staff directly controlled (Grades and Numbers) **Grades** **Nos**

NONE

Objectives of the Section

IMPLEMENTATION OF RURAL ELECTRIFICATION POLICY (1993)

Duties of the Post

- Assist the Surveyor/Estimator to survey, design and document rural electrification schemes including diesel generator, solar and other forms of electricity generation.

- Assist the Surveyor/Estimator to develop designs and prepare estimates for standard procedures and installations for rural electrification schemes.

- Instruct the Record Clerk to maintain engineering records.

- Undertake any other duties assigned by the Surveyor/Estimator.

Typical Tasks Performed

- Visit rural consumers to assist with undertaking surveys and recording field data.

- Assist with the evaluation of FEA's proposals for systems extensions for rural consumers.

- Prepare engineering drawings.

- Assist other members of the engineering group to reduce their work overload as directed by the Surveyor/Estimator.

Qualifications of the Post

- Minimum qualification requirements PSC Reference 29/130/3, 28/9/88 Occupational Group 6-2 Grade ME06 Senior Technical Assistant Electrical.

- Ability to prepare Engineering Drawings.

- Demonstrably high standard of initiative, drive and determination.

DUTY STATEMENT FORM

GP Form 196

Department	Designation	Grade
ENERGY	SUPERVISOR ELECTRICAL	ME05

Section	Departmental Designation	Post Code
RURAL ELECTRIFICATION UNIT	REGIONAL MANAGER - VITI LEVU	

Location	Immediate Superior	Date
SUVA	MANAGER OF THE REU	DEC. 1993

Main Contacts **Phone Nos.**

MANAGER OF THE REU

REGIONAL DEVELOPMENT OFFICERS

RURAL CONSUMERS

CONTRACTORS

FIELD OFFICERS

DISTRICT OFFICERS

Staff directly controlled (Grades and Numbers)	Grades	Nos
FIELD OFFICERS	UNESTAB.	4

Objectives of the Section

IMPLEMENTATION OF RURAL ELECTRIFICATION POLICY (1993)

Duties of the Post

* Assist in the promotion and execution of the duties, activities and responsibilities of the REU.

* Assist rural consumers to make an appropriate choice of a rural electrification scheme.

* Supervise, inspect and report on the contract works for rural electrification schemes.

* Arrange for the training of rural consumers to maintain rural electrification schemes.

* Direct the activities of the Field Officers.

* Act as regional co-ordinator for all REU activities such as information dissemination, regional development, repair and replacement works.

* Report all activities to the Manager of the REU on a regular basis.

* Undertake other duties as required by the Manager of the REU.

* Co-ordinate REU activities with District Officers.

Typical Tasks Performed

* Finalise applications for schemes by rural consumers, accept the applications and submit them for listing and processing to REU Head Office.

* Co-ordinate REU activities with rural consumers, such as commerce, government and domestic who are connected to government power stations.

* Prepare and submit reports on rural electrification construction, repair and replacement works. Issue certifications in accordance with contracts.

* Conduct regional training seminars for rural consumers.

Qualifications of the Post

* Licensed as a Wireman by FEA or has qualifications to enable him to be licensed.

* Minimum qualification requirements PSC Ref: 29/190/3, 28/9/88, Occupational Group 6.2 ME-05 Supervisor or Technical Officer Electrical.

* Demonstrably high standards of initiative, drive and determination.

* Licensed to drive a motor vehicle.

DUTY STATEMENT FORM

GP Form 196

Department	Designation	Grade
ENERGY	SUPERVISOR ELECTRICAL	ME05

Section	Departmental Designation	Post Code
RURAL ELECTRIFICATION UNIT	REGIONAL MANAGER - KADAVU	

Location	Immediate Superior	Date
VUNISEA	MANAGER OF THE REU	DEC. 1993

Main Contacts **Phone Nos.**

MANAGER OF THE REU

REGIONAL DEVELOPMENT OFFICERS

RURAL CONSUMERS

CONTRACTORS

POWER STATION OPERATORS

FIELD OFFICERS

DISTRICT OFFICERS

Staff directly controlled (Grades and Numbers)	Grades	Nos
FIELD OFFICERS	UNESTAB.	2
POWER STATION OPERATORS	UNESTAB.	4

Objectives of the Section

IMPLEMENTATION OF RURAL ELECTRIFICATION POLICY (1993)

Duties of the Post

* Assist in the promotion and execution of the duties, activities and responsibilities of the REU.
* Assist rural consumers to make an appropriate choice of a rural electrification scheme.
* Supervise, inspect and report on the contract works for rural electrification schemes.
* Arrange for the training of rural consumers to maintain rural electrification schemes.
* Direct the activities of the Field Officers.
* Act as regional co-ordinator for all REU activities such as information dissemination, regional development, repair and replacement works.
* Manage and control the operation of the power station at Vunisea.
* Report all activities to the Manager of the REU on a regular basis.
* Undertake other duties as required by the Manager of the REU.
* Co-ordinate REU activities with District Officers.

Typical Tasks Performed

* Finalise applications for schemes by rural consumers, accept the applications and submit them for listing and processing to REU Head Office.
* Co-ordinate REU activities with rural consumers, such as commerce, government and domestic who are connected to government power stations.
* Prepare and submit reports on rural electrification construction, repair and replacement works. Issue certifications in accordance with contracts.
* Conduct regional training seminars for rural consumers.
* Prepare and issue instructions and duty rosters for power station staff.

Qualifications of the Post

* Licensed as a Wireman by FEA or has qualifications to enable him to be licensed.
* Minimum qualification requirements PSC Ref: 29/190/3, 28/9/88, Occupational Group 6.2 ME-05 Supervisor or Technical Officer Electrical.
* Demonstrably high standards of initiative, drive and determination.
- Licensed to drive a motor vehicle.

DUTY STATEMENT FORM GP Form 196

Department	Designation	Grade
ENERGY	SUPERVISOR ELECTRICAL	ME05

Section	Departmental Designation	Post Code
RURAL ELECTRIFICATION UNIT	REGIONAL MANAGER - VANUA LEVU WEST	

Location	Immediate Superior	Date
NABOUWALU	MANAGER OF THE REU	DEC. 1993

Main Contacts **Phone Nos.**

MANAGER OF THE REU

REGIONAL DEVELOPMENT OFFICERS

RURAL CONSUMERS

CONTRACTORS

POWER STATION OPERATORS

FIELD OFFICERS

DISTRICT OFFICERS

Staff directly controlled (Grades and Numbers)	Grades	Nos
FIELD OFFICERS	UNESTAB.	2
POWER STATION OPERATORS	UNESTAB.	4

Objectives of the Section

IMPLEMENTATION OF RURAL ELECTRIFICATION POLICY (1993)

Duties of the Post

* Assist in the promotion and execution of the duties, activities and responsibilities of the REU.

* Assist rural consumers to make an appropriate choice of a rural electrification scheme.

* Supervise, inspect and report on the contract works for rural electrification schemes.

* Arrange for the training of rural consumers to maintain rural electrification schemes.

* Direct the activities of the Field Officers.

* Act as regional co-ordinator for all REU activities such as information dissemination, regional development, repair and replacement works.

* Manage and control the operation of the power station at Nabouwalu.

* Report all activities to the Manager of the REU on a regular basis.

* Undertake other duties as required by the Manager of the REU.

* Co-ordinate REU activities with District Officers.

Typical Tasks Performed

* Finalise applications for schemes by rural consumers, accept the applications and submit them for listing and processing to REU Head Office.

* Co-ordinate REU activities with rural consumers, such as commerce, government and domestic who are connected to government power stations.

* Prepare and submit reports on rural electrification construction, repair and replacement works. Issue certifications in accordance with contracts.

* Conduct regional training seminars for rural consumers.

* Prepare and issue instructions and duty rosters for power station staff.

Qualifications of the Post

* Licensed as a Wireman by FEA or has qualifications to enable him to be licensed.

* Minimum qualification requirements PSC Ref: 29/190/3, 28/9/88, Occupational Group 6.2 ME-05 Supervisor or Technical Officer Electrical.

* Demonstrably high standards of initiative, drive and determination.

- Licensed to drive a motor vehicle.

DUTY STATEMENT FORM

GP Form 196

Department	Designation	Grade
ENERGY	SUPERVISOR ELECTRICAL	ME05

Section	Departmental Designation	Post Code
RURAL ELECTRIFICATION UNIT	REGIONAL MANAGER - SAVUSAVU	

Location	Immediate Superior	Date
SAVUSAVU	MANAGER OF THE REU	DEC. 1993

Main Contacts **Phone Nos.**

MANAGER OF THE REU

REGIONAL DEVELOPMENT OFFICERS

RURAL CONSUMERS

CONTRACTORS

POWER STATION OPERATORS

FIELD OFFICERS

DISTRICT OFFICERS

Staff directly controlled (Grades and Numbers)	Grades	Nos
FIELD OFFICERS	UNESTAB.	2
POWER STATION OPERATORS	UNESTAB.	4

Objectives of the Section

IMPLEMENTATION OF RURAL ELECTRIFICATION POLICY (1993)

Duties of the Post

* Assist in the promotion and execution of the duties, activities and responsibilities of the REU.

* Assist rural consumers to make an appropriate choice of a rural electrification scheme.

* Supervise, inspect and report on the contract works for rural electrification schemes.

* Arrange for the training of rural consumers to maintain rural electrification schemes.

* Direct the activities of the Field Officers.

* Act as regional co-ordinator for all REU activities such as information dissemination, regional development, repair and replacement works.

* Manage and control the operation of the power station at Waiyevo.

* Report all activities to the Manager of the REU on a regular basis.

* Undertake other duties as required by the Manager of the REU.

* Co-ordinate REU activities with District Officers.

Typical Tasks Performed

* Finalise applications for schemes by rural consumers, accept the applications and submit them for listing and processing to REU Head Office.

* Co-ordinate REU activities with rural consumers, such as commerce, government and domestic who are connected to government power stations.

* Prepare and submit reports on rural electrification construction, repair and replacement works. Issue certifications in accordance with contracts.

* Conduct regional training seminars for rural consumers.

* Prepare and issue instructions and duty rosters for power station staff.

Qualifications of the Post

* Licensed as a Wireman by FEA or has qualifications to enable him to be licensed.

* Minimum qualification requirements PSC Ref: 29/190/3, 28/9/88, Occupational Group 6.2 ME-05 Supervisor or Technical Officer Electrical.

* Demonstrably high standards of initiative, drive and determination.

* Licensed to drive a motor vehicle.

DUTY STATEMENT FORM

GP Form 196

Department	Designation	Grade
ENERGY	SUPERVISOR ELECTRICAL	ME05

Section	Departmental Designation	Post Code
RURAL ELECTRIFICATION UNIT	REGIONAL MANAGER - LAU	

Location	Immediate Superior	Date
TUBOU	MANAGER OF THE REU	DEC. 1993

Main Contacts **Phone Nos.**

MANAGER OF THE REU

REGIONAL DEVELOPMENT OFFICERS

RURAL CONSUMERS

CONTRACTORS

POWER STATION OPERATORS

FIELD OFFICERS

DISTRICT OFFICERS

Staff directly controlled (Grades and Numbers)	Grades	Nos
FIELD OFFICERS	UNESTAB.	2
POWER STATION OPERATORS	UNESTAB.	4

Objectives of the Section

IMPLEMENTATION OF RURAL ELECTRIFICATION POLICY (1993)

Duties of the Post

* Assist in the promotion and execution of the duties, activities and responsibilities of the REU.

* Assist rural consumers to make an appropriate choice of a rural electrification scheme.

* Supervise, inspect and report on the contract works for rural electrification schemes.

* Arrange for the training of rural consumers to maintain rural electrification schemes.

* Direct the activities of the Field Officers.

* Act as regional co-ordinator for all REU activities such as information dissemination, regional development, repair and replacement works.

* Manage and control the operation of the power station at Tubou.

* Report all activities to the Manager of the REU on a regular basis.

* Undertake other duties as required by the Manager of the REU.

* Co-ordinate REU activities with District Officers.

Typical Tasks Performed

* Finalise applications for schemes by rural consumers, accept the applications and submit them for listing and processing to REU Head Office.

* Co-ordinate REU activities with rural consumers, such as commerce, government and domestic who are connected to government power stations.

* Prepare and submit reports on rural electrification construction, repair and replacement works. Issue certifications in accordance with contracts.

* Conduct regional training seminars for rural consumers.

* Prepare and issue instructions and duty rosters for power station staff.

Qualifications of the Post

* Licensed as a Wireman by FEA or has qualifications to enable him to be licensed.

* Minimum qualification requirements PSC Ref: 29/190/3, 28/9/88, Occupational Group 6.2 ME-05 Supervisor or Technical Officer Electrical.

* Demonstrably high standards of initiative, drive and determination.

* Licensed to drive a motor vehicle.

DUTY STATEMENT FORM

GP Form 196

Department	Designation	Grade
ENERGY	ASSISTANT ACCOUNTS OFFICER	AD05

Section	Departmental Designation	Post Code
RURAL ELECTRIFICATION UNIT	FINANCIAL OFFICER	

Location	Immediate Superior	Date
SUVA	MANAGER OF THE REU	DEC. 1993

Main Contacts **Phone Nos.**

HEAD OF RURAL ELECTRIFICATION UNIT

MINISTRY OF FINANCE

PRIVATE CONTRACTORS

PUBLIC SERVICE COMMISSION

SENIOR PROJECT ENGINEER

Staff directly controlled (Grades and Numbers)	Grades	Nos
ACCOUNTS CLERK	AD06	1
STORES OFFICER	SK06	1
TYPIST/RECEPTIONIST	RT06	1
RECORDS CLERK	AD07	1

Objectives of the Section

TO IMPLEMENT THE RURAL ELECTRIFICATION POLICY (1993)

DUTY STATEMENT FORM

GP Form 196

Department	Designation	Grade
ENERGY	STORES OFFICER II	SK06

Section	Departmental Designation	Post Code
RURAL ELECTRIFICATION UNIT	PURCHASING OFFICER	

Location	Immediate Superior	Date
SUVA	FINANCIAL OFFICER	DEC. 1993

Main Contacts **Phone Nos.**

SENIOR PROJECT ENGINEER

FINANCIAL OFFICER

CONTROLLER OF GOVERNMENT SUPPLIES

SUPPLIERS

CONTRACTORS

SUPERVISORS

Staff directly controlled (Grades and Numbers) **Grades** **Nos**

Objectives of the Section

TO IMPLEMENT THE RURAL ELECTRIFICATION POLICY (1993)

Duties of the Post

Responsible for the activities associated with the material resource needs of the REU. These activities will include :

- Preparation of requisitions, LPOs and Indents.
- Receipt, storage and issuing of materials.
- Recording and accounting for materials in store.
- Arranging delivery of materials to contractors and to sites.

Reports activities on his duties to the Financial Officer.

Seek advice about solving problems associated with his duties from the Financial Officer.

Undertakes any other duties assigned by the Financial Officer.

Supervises any casual or temporary staff assigned to assist him in the execution of his duties.

Typical Tasks Performed

* Receives specifications for materials originating from the Senior Project Engineer. and submit them for listing and processing to REU Head Office.

* Invites quotations and tenders for the supply of local materials, evaluates offers and prepares recommendation for orders.

* Prepare requisitions, LPOs and Indents.

* Expedites orders once placed upon suppliers.

* Maintains records of all materials transactions.

* Uses the computer to facilitate his duties and tasks.

* Responds to queries from inspectors and auditors.

Qualifications of the Post

* Minimum qualification requirements PSC Ref: 29/190/3, 28/9/1988, Occupational Group 15.1 Supplies and Stores Officers Grade SK06.

- Demonstrably high standards of initiative, drive and determination.

DUTY STATEMENT FORM

GP Form 196

Department	Designation	Grade
ENERGY	SENIOR CLERICAL OFFICER	AD06

Section	Departmental Designation	Post Code
RURAL ELECTRIFICATION UNIT	ACCOUNTS CLERK	

Location	Immediate Superior	Date
SUVA	FINANCIAL OFFICER	DEC. 1993

Main Contacts **Phone Nos.**

FINANCIAL OFFICER

CONTRACTORS

Staff directly controlled (Grades and Numbers) **Grades** **Nos**

NONE

Objectives of the Section

TO IMPLEMENT THE RURAL ELECTRIFICATION POLICY (1993)

Duties of the Post

* Assist the Financial Officer in the execution of his duties.

* Maintain accounting records of the REU for :-

  - Unestablished Wages
  - Purchases

- Job Costing
- Allocations
- Accounts for Power Stations
- Transport

* Maintain vehicle logs.

* Reports on his activities to the Financial Officer.

* Seeks advice about solving problems on his duties from the Financial Officer.

* Undertakes any other duties assigned by the Financial Officer.

Typical Tasks Performed

* Making computer entries from vouchers, LPO's, etc.

* Preparing reports from computer data.

* Preparing payment vouchers SOB's, etc.

* Operating Bank Drawing Account.

* Reconciliation of Bank Statements.

* Responding to queries by Inspectors and Auditors.

Qualifications of the Post

The same as Senior Clerical Officer AD06
(Administrative and Clerical Officers.)

Minimum qualification requirements PSC Ref: 29/190/3, 28/9/1988.

Additionally must have demonstrably high standard of initiative, drive and determination.

DUTY STATEMENT FORM

GP Form 196

Department	**Designation**	**Grade**
ENERGY	CLERICAL OFFICER	AD07

Section RURAL ELECTRIFICATION UNIT	**Departmental Designation**	**Post Code**
	RECORDS CLERK	

Location	**Immediate Superior**	**Date**
SUVA	FINANCIAL OFFICER	DEC. 1993

Main Contacts **Phone Nos.**

FINANCIAL OFFICER AND STAFF

SENIOR PROJECT ENGINEER AND STAFF

Staff directly controlled (Grades and Numbers) **Grades** **Nos**

NONE

Objectives of the Section

TO IMPLEMENT THE RURAL ELECTRIFICATION POLICY (1993)

Duties of the Post

* To establish and maintain the engineering, accounting and administrative filing systems of the Rural Electrification Unit.

* Registry Clerk for the REU Head Office.

* Reports to the Surveyor/Estimator or Assistant Surveyor/Estimator while assigned to undertaking tasks for the Engineering Group.

* Reports activities on his duties to the Financial Officer.

* Seeks advice about problem solving on his duties from the Financial Officer.

* Undertakes any other duties assigned by the Financial Officer.

Typical Tasks Performed

* File and retrieve the following documents :

  - Memos, letters, fax messages, forms indents, reports schedules, original and prints of engineering drawings, catalogues as well as engineering data sheets.

* Operate the copying machine.

* Operate the plan printing machine.

* Register and despatch incoming and outgoing correspondence , files, etc.

Qualifications of the Post

* Minimum qualification requirements PSC Ref: 29/190/3, 28/9/1988 Occupational Group 1.1 Administrative and Clerical Officers Grade AD07.

* Demonstrably high standard of initiative, drive and determination.

DUTY STATEMENT FORM

GP Form 196

Department	Designation	Grade
ENERGY	TYPIST	RT06

Section	Departmental Designation	Post Code
RURAL ELECTRIFICATION UNIT	TYPIST RECEPTIONIST	

Location	Immediate Superior	Date
SUVA	FINANCIAL OFFICER	DEC. 1993

Main Contacts **Phone Nos.**

MANAGER OF REU

FINANCIAL OFFICER AND STAFF

SENIOR PROJECT ENGINEER AND STAFF

TELEPHONE CALLERS

VISITORS

Staff directly controlled (Grades and Numbers) **Grades** **Nos**

NONE

Objectives of the Section

TO IMPLEMENT THE RURAL ELECTRIFICATION POLICY (1993)

Duties of the Post

* To provide a typing service for all requirements of the REU Head Office.

* Telephonist for the Head Office of the REU.

* Receptionist for the Head Office of the REU.

Typical Tasks Performed

* Typing letters, memos, forms, indents, fax messages, specifications, reports, schedules, etc., utilising PC operated word processor.

* Operating the calls receiving handset of the Head Office telephone system.

* Transmitting and receiving fax messages.

* Attending to visitors to the Head Office.

Qualifications of the Posts

* Minimum qualification requirements PSC Ref: 29/190/3, 28/9/1988 Occupational Group 14.1 Reporting and Typewriting Officers Grade RT06 except word processor training essential.

* Demonstrably high standard of initiative, drive and determination.

DUTY STATEMENT FORM

GP Form 196

Department	Designation	Grade
ENERGY	CASUAL EMPLOYEE	UNESTABLISHED

Section	Departmental Designation	Post Code
RURAL ELECTRIFICATION UNIT	FIELD OFFICER	

Location	Immediate Superior	Date
VARIOUS	REGIONAL MANAGER	DEC. 1993

Main Contacts **Phone Nos.**

REGIONAL MANAGER

RURAL CONSUMERS

PRIVATE CONTRACTORS

DISTRICT OFFICERS

Staff directly controlled (Grades and Numbers) **Grades** **Nos**

NONE

Objectives of the Section

IMPLEMENTATION OF RURAL ELECTRIFICATION POLICY (1993)

Duties of the Post

* Advise and provide information to rural consumers to choose the most appropriate electricity scheme.

* Inspect local repairs and replacements of rural electricity scheme.

* Train rural consumers to maintain rural electricity schemes.

* Promulgate information about the activities of the REU.

* Report to and co-ordinate with Regional Managers.

* Co-ordinate REU activities with District Officers.

Typical Tasks Performed

- Attend meetings with rural consumers to choose appropriate schemes and advise about the activities of the REU.

- Conduct training seminars with rural consumers.

- Inspect and report on contractors undertaking repairs and replacement of schemes.

- Read electricity meters and issue invoices for the sale of electricity.

- Prepare and submit reports to Regional Managers.

Qualifications of the Post

* Graduates of the Centre for Appropriate Technology and Development.

* Form 4 standard of education with a demonstrable mechanical attribute and good result in English language. Must have initiative, drive and determination.

DUTY STATEMENT FORM

GP Form 196

Department	Designation	Grade
ENERGY	CASUAL EMPLOYEE	UNESTABLISHED

Section	Departmental Designation	Post Code
RURAL ELECTRIFICATION UNIT	FIELD OFFICER	

Location	Immediate Superior	Date
VARIOUS	REGIONAL MANAGER	DEC. 1993

Main Contacts **Phone Nos.**

REGIONAL MANAGER

RURAL CONSUMERS

PRIVATE CONTRACTORS

DISTRICT OFFICERS

Staff directly controlled (Grades and Numbers) **Grades** **Nos**

NONE

Objectives of the Section

IMPLEMENTATION OF RURAL ELECTRIFICATION POLICY (1993)

Duties of the Post

* Advise and provide information to rural consumers to choose the most appropriate electricity scheme.

* Inspect local repairs and replacements of rural electricity scheme.

* Train rural consumers to maintain rural electricity schemes.

* Promulgate information about the activities of the REU.

* Report to and co-ordinate with Regional Managers.

* Co-ordinate REU activities with District Officers.

Typical Tasks Performed

- Attend meetings with rural consumers to choose appropriate schemes and advise about the activities of the REU.

- Conduct training seminars with rural consumers.

- Inspect and report on contractors undertaking repairs and replacement of schemes.

- Read electricity meters and issue invoices for the sale of electricity.

- Prepare and submit reports to Regional Managers.

Qualifications of the Post

* Graduates of the Centre for Appropriate Technology and Development.

* Form 4 standard of education with a demonstrable mechanical attribute and good result in English language. Must have initiative, drive and determination.

DUTY STATEMENT FORM

GP Form 196

Department	Designation	Grade
ENERGY	POWER STATION OPERATOR	UNESTABLISHED

Section	Departmental Designation	Post Code
RURAL ELECTRIFICATION UNIT	POWER STATION OPERATOR	

Location	Immediate Superior	Date
VARIOUS	REGIONAL MANAGER	DEC. 1993

Main Contacts **Phone Nos.**

REGIONAL MANAGER

Staff directly controlled (Grades and Numbers) **Grades** **Nos**

NONE

Objectives of the Section

IMPLEMENTATION OF RURAL ELECTRIFICATION POLICY (1993)

Duties of the Post

* Operation of electricity generating plant on rostered shifts in accordance with defined instructions.
* Record operating data and all events.
* Undertake maintenance procedures.

* Maintain plant, power house and compound clear and tidy.
* Take delivery of bulk fuel and sundry materials.
* Assist skilled workmen during repair and replacement activities.

Typical Tasks Performed

- Start and stop generators.
- Check plant operates within defined parameters.
- Control switchboard.
- Check oil, water and fuel levels.
- Change oil and filters.
- Take corrective action when failures occur.
- Report activities to Regional Manager.

Qualifications of the Post

Form 4 education with demonstrable mechanical attribute.

DUTY STATEMENT FORM

GP Form 196

Department	Designation	Grade
ENERGY	SENIOR ENGINEER ELECTRICAL	ME02

Section	Departmental Designation	Post Code
RURAL ELECTRIFICATION UNIT	SENIOR PROJECT ENGINEER	

Location	Immediate Superior	Date
SUVA	MANAGER OF REU	DEC. 1993

Main Contacts **Phone Nos.**

HEAD OF REU
FINANCIAL OFFICER
SUPPLIERS
CONTRACTORS
FIJI ELECTRICITY AUTHORITY
REGIONAL DEVELOPMENT OFFICERS
MINISTRY OF HEALTH
MINISTRY OF HOME AFFAIRS
MINISTRY OF AGRICULTURE, FISHERIES AND FORESTS
MINISTRY OF EDUCATION

Staff directly controlled (Grades and Numbers)	Grades	Nos
CONTRACTS OFFICER	ME05	ONE
SURVEYOR/ESTIMATOR	ME05	ONE

Objectives of the Section

IMPLEMENTATION OF RURAL ELECTRIFICATION POLICY (1993)

Duties of the Post

* Management of the activities of the engineering group of the REU.

* Responsible for surveying, designing, estimating, documenting and constructing rural electrification schemes.

* Responsible for arranging for FEA system extensions for rural consumers.

* Responsible for the control of contracts for consultancy, construction and repair services for rural electrification schemes.

* Plan the development of electricity supplies at Government Stations.

* Quantify and specify materials for purchase for rural electrification schemes.

* Estimate costs of rural electrification schemes to advise consumers for the purpose of choice.

* Maintain engineering records of rural electrification schemes.

* Assess and calculate tariffs for the sale of electricity.

* Co-ordinate the activities of the staff of the engineering group.

* Prepare and submit reports about the activities of the engineering group to the Manager of the REU.

Typical Tasks Performed

* Prepare briefs and documents for contracts.

* Approve designs and documents prepared by staff of the engineering group.

* Evaluate power station operating data for the purpose of reviewing tariffs.

* Review engineering standards for application to rural electrification.

* Provide cost effective solutions to engineering problems associated with rural electrification schemes.

Qualifications of the Post

* Minimum qualification requirements PSC Ref: 29/190/3, 28/9/1988 Occupational Group 6.1 Mechanical and Electrical Engineers Grade ME02 - Senior Engineer Electrical.

* Demonstrably high standard of initiative, drive and determination.

DUTY STATEMENT FORM

GP Form 196

Department	Designation	Grade
ENERGY	SENIOR ENGINEER ELECTRICAL	ME02

Section	Departmental Designation	Post Code
RURAL ELECTRIFICATION UNIT	SENIOR PROJECT ENGINEER	

Location	Immediate Superior	Date
SUVA	MANAGER OF REU	DEC. 1993

Main Contacts **Phone Nos.**

HEAD OF REU
FINANCIAL OFFICER
SUPPLIERS
CONTRACTORS
FIJI ELECTRICITY AUTHORITY
REGIONAL DEVELOPMENT OFFICERS
MINISTRY OF HEALTH
MINISTRY OF HOME AFFAIRS
MINISTRY OF AGRICULTURE, FISHERIES AND FORESTS
MINISTRY OF EDUCATION

Staff directly controlled (Grades and Numbers)	Grades	Nos
CONTRACTS OFFICER	ME05	ONE
SURVEYOR/ESTIMATOR	ME05	ONE

Objectives of the Section

IMPLEMENTATION OF RURAL ELECTRIFICATION POLICY (1993)

Duties of the Post

* Management of the activities of the engineering group of the REU.

* Responsible for surveying, designing, estimating, documenting and constructing rural electrification schemes.

* Responsible for arranging for FEA system extensions for rural consumers.

* Responsible for the control of contracts for consultancy, construction and repair services for rural electrification schemes.

* Plan the development of electricity supplies at Government Stations.

* Quantify and specify materials for purchase for rural electrification schemes.

* Estimate costs of rural electrification schemes to advise consumers for the purpose of choice.

* Maintain engineering records of rural electrification schemes.

* Assess and calculate tariffs for the sale of electricity.

* Co-ordinate the activities of the staff of the engineering group.

* Prepare and submit reports about the activities of the engineering group to the Manager of the REU.

Typical Tasks Performed

* Prepare briefs and documents for contracts.

* Approve designs and documents prepared by staff of the engineering group.

* Evaluate power station operating data for the purpose of reviewing tariffs.

* Review engineering standards for application to rural electrification.

* Provide cost effective solutions to engineering problems associated with rural electrification schemes.

Qualifications of the Post

* Minimum qualification requirements PSC Ref: 29/190/3, 28/9/1988 Occupational Group 6.1 Mechanical and Electrical Engineers Grade ME02 - Senior Engineer Electrical.

* Demonstrably high standard of initiative, drive and determination.

RURAL ELECTRIFICATION POLICY (1993)

PART B - CHAPTER 1

PROCEDURE TO APPLY FOR A SCHEME

1.0 GENERAL

This chapter sets out the procedure for villages/settlements to follow to make an application for an electricity scheme in terms of the Rural Electrification Policy (1993).

This chapter also sets out the procedure to be followed by the REU following receipt of an application up to the time a final choice is made by the village/settlement and the payments are made for the scheme to be implemented.

The information contained in this chapter includes the Application Form, Information Sheet on Types of Schemes and the Schedule of Costs. Also included are details about making payments and surveying for schemes.

2.0 APPLICATION FORM

A copy of the **`Application Form for a Rural Electrification Scheme'** is attached to this chapter. Copies of the Application Form will be made available from the District Officers. The completed applications will be returned to the District Officers who will then them to the REU in Suva.

Once an application is received at the REU head office it will be registered in the Applications Register. The Applications Register will be created by the Senior Projects Engineer as a formal document to maintain a record of all applications that are received by the REU. It is preferred this register becomes a specific file within the computer system of the REU.

Following registration, it is the responsibility of the Senior Projects Engineer to ensure the relevant Regional Manager is informed of the details of the application. Thereafter it is the responsibility of the Regional Manager to meet with the village/settlement to discuss the application. It is expected there will be more than one such meeting to discuss the proposed choice of a scheme before it is finalised. These meetings will include the use of publicity and information materials to ensure the village/settlement is fully informed of all options and the relevant costs. If needs be the Regional Manager will arrange a visit to an existing similar scheme to that proposed to be selected.

3.0 INFORMATION SHEET

An information sheet has been prepared to assist Regional Managers during discussions with villages/settlements about the choice of an appropriate scheme. The information sheet forms Annexure A to this chapter. It sets out details of the various types of schemes for villages/settlements. The Information Sheet is accompanied by a Schedule of Costs. This schedule sets out the estimated costs associated with the various schemes. They are given under four headings of capital works, operating schemes, maintaining schemes and sustaining schemes.

The term sustaining, referred to in the previous paragraph, is widely used throughout this document. Its meaning is the application of two separate types of procedures which are undertaken so that the item of plant may operate indefinitely. The first of these procedures will be referred to as upholding and includes repairs and major overhaul works other than those regarded as routine servicing. The second of these procedures, known as replacement, will be the replacement of a plant item - e.g. a diesel engine, at the end of its useful life. This would be at the time when it is beyond economical repair or because a more effective and less costly replacement item of plant is available to do the same duty.

A simple interpretation of the foregoing is :

SUSTAINING = UPHOLDING + REPLACEMENT

The costs set out in the Schedule of Costs are based upon those prevailing on the date shown on the schedule and will vary from time to time due to many factors such as adjustments to exchange rates and inflationary factors. As and when appropriate, the schedule will be up-dated and re-issued by the Senior Projects Engineer.

The Information Sheet and its Schedule of Costs are lengthy documents such that it will be necessary for Regional Managers and Field Officers to have some formal instruction on their contents. The Senior Projects Engineer will provide this instruction. The instruction will enable the field staff to discuss the choice of schemes with villages/settlements with confidence. These two documents are not confidential and if villages/settlements request copies for further study, they should be given to them accordingly.

It is again emphasised to the field staff that the schedule of costs provides estimates only to enable villages/settlements to make a choice of a scheme. Field staff must in turn express the same emphasis to villages/settlements who are given copies of the schedule. Only after a scheme is chosen, an initial payment made and a survey undertaken, can a final cost estimate be determined.

4.0 INITIAL PAYMENTS

Once a choice of scheme has been made, the village/settlement must then make an initial payment. This initial payment is a commitment by the village/settlement to participate in the policy. The amount of the initial payment is 5% (1/20th) of the estimated capital cost of the scheme.

The initial payment will be made to the Regional Manager who will issue a formal receipt and notify REU head office with appropriate documentation. The Regional Manager will then make arrangements with REU head office for a detailed survey of the site of the scheme. From this survey a detailed design for the scheme will be prepared and thereafter a final cost estimate determined.

The village/settlement will then be advised of the final cost estimate and requested to make the final payment. This second payment is calculated as follows :

10% (1/10th) OF THE FINAL COST ESTIMATE
MINUS THE INITIAL PAYMENT

The final payment shall be made to the Regional Manager who will issue a formal receipt and thereafter send a copy of the receipt to the REU head office for information and further action. This action will include registration by the Senior Projects Engineer that the village/settlement scheme is awaiting construction. The Regional Manager will also advise the District Officer that the scheme has had all payments made and is awaiting construction.

5.0 START OF CONSTRUCTION

The Regional Manager will also advise the village/settlement of the estimated time of starting construction of the scheme. It is to be understood the time of construction of any scheme has many dependencies. One of these is Government approval of the annual budget estimates to finance 90% of the capital cost of the scheme. Another is the availability of resources such as manpower and materials. The Regional Manager will inform the village/settlement about these factors. He will also keep the village/settlement fully informed of progress towards construction. The Regional Manager will keep the District Officer informed likewise.

It is the responsibility of the Senior Project Engineer to establish a programme of future work as a formal procedure int he head office so that the future workload is properly identified at all times. This will facilitate the availability of information to keep villages/settlements, District Officers, Regional Managers and other interested parties informed.

6.0 SURVEY

The survey referred to in 4.0 above, will be arranged by the Senior Project Engineer and undertaken by his staff. The Senior Project Engineer will co-ordinate the site survey with the Regional Manager who will in turn liaise with the village/settlement.

The village/settlement will assist the survey staff during the survey by providing, at no cost, unskilled labour and accommodation on site. Survey staff will make their own arrangements for the provision of food. The village/settlement will also arrange, at reasonable cost, the provision of local road or water transport for the survey staff to access the site.

During the survey, agreement will be reached with the village/settlement on the location of plant items such as the power house, cable routes, distribution pillars, solar panel supports, etc. Due consideration must be given to factors such as generator noise as well as cable routing to provide an efficient electricity distribution system.

APPLICATION FORM - RURAL ELECTRIFICATION SCHEME

If you wish to apply for a rural electrification scheme, will you please answer the questions set out below and provide as much information as possible in answer to 3. The more information that is given the easier it is for us to respond to this application.

When you have completed this form, please hand it to your District Officer who will then forward it to the Rural Electrification Unit for further action. As soon as possible after the Unit receives the form, they will contact you to discuss the options for electrification of your village and settlement.

Manager, Rural Electrification Unit

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1. **LOCATION OF VILLAGE OR SETTLEMENT**

Name of Village or Settlement : .....

Name of District : ..... Province : .....

2. CONTACT PERSON IN VILLAGE OR SETTLEMENT

Name : .....

Postal Address : .....

Telephone No. (if applicable) .....

3. DETAILS OF VILLAGE OR SETTLEMENT

Number of households : .....

Do you want electricity for anything other than household lighting and a power point? If **Yes,** please give details

.....

.....

.....

.....

RURAL ELECTRIFICATION POLICY (1993)

INFORMATION SHEETS ABOUT ELECTRICITY SCHEMES

1.0 GENERAL

These Information Sheets are provided for the information and guidance of Regional Managers as well as their staff of Field Officers. The intention is to provide the detailed background information REU officers will require in order to discuss with villages/settlements, in their own language, the various types of rural electrification schemes available in terms of the 1993 policy.

Compared with the original policy, which only made provision for the installation of diesel schemes, there are many changes in the 1993 policy. Regional Managers shall advise villages/settlements of these changes. The most important of these changes are :-

1. The village/settlement may now make a choice of the type of electricity scheme they wish to have.

2. The capital contribution payment that has to be made, referred to as the deposit in the original policy, will be 10% (1/10th) of the capital cost of the scheme which is selected by the village/settlement.

3. The village/settlement will own its scheme.

4. Except for FEA and centralised power supply schemes, villages/settlements will be responsible for the maintenance of their schemes. They will be shown how to care for their electricity schemes to keep the costs of maintenance as low as possible.

5. Except for FEA and centralised power supply schemes, villages/settlements will be expected to pay contributions on a regular basis for the upholding and replacement of their schemes so that the schemes may remain operable indefinitely.

2. CHOICE OF SCHEMES

Villages/settlements may choose one of the 6 types of schemes described on the individual sheets which are attached hereto. Accompanying these sheets are related Schedules of Costs. These schedules show the current costs of making the capital contribution, operating, maintaining and sustaining the various types of schemes. It is most important that Regional Managers are aware that the costs shown and given to them at this stage are estimates only and that they are current costs. They may vary from time to time. As and when variations occur, new issues of the Schedules of Costs will be arranged by the Senior Projects

Engineer. It is important Regional Managers and other staff discussing choices with villages/settlements, convey the contents of the Information Sheets and the associated Schedules of Costs as clearly as possible so that any misunderstandings and ambiguities are avoided.

The Schedules of Costs are provided as a guide only so that when considered with the features of each scheme, villages/settlements will be able to make a balanced choice to suit their needs. Regional Managers must also inform villages/settlements of the conditions of the grace period on payments (Part B, Chapter 2) which are applicable to schemes as shown in Section 3.0 which follows.

3.0 MAXIMUM SCOPE OF EQUIPMENT

It is important Regional Managers understand the maximum scope of works that can be subsidised by Government funds in terms of this policy is as follows :

a] An electrical installation in each dwelling in a village/settlement consisting of two 18W (2ft) fluorescent lights and one power point. The power point is not available for a solar installation.

b] An appropriate lighting installation in one community facility in each village/settlement.

c] A power distribution system where applicable.

d] Power generating facilities for the electrical installations.

The details of the various options described in the Information Sheets reflect the defined **MAXIMUM** scope of works; not all parts of an option need to be taken up.

4.0 ADDITIONAL EQUIPMENT

The equipment described for the various schemes in Section 3.0 above is the basic scope of supply. Villages/settlements may wish to increase the scope of equipment in the scheme of their choice. In that case villages/settlements shall pay the full cost of any additional equipment they specify at the time the initial payment is made for the scheme. Regional managers shall arrange for appropriate quotations to be submitted to villages/settlements accordingly. Quotations shall be prepared by the Senior Projects Engineer.

The REU reserves the right to modify the type of equipment described in 3.0 above where needs be to suit particular conditions. An example of this would be substituting overhead line distribution in place of underground distribution cables. (Refer to the scope of equipment for diesel generator schemes.) Regional Managers shall advise villages/settlements of such changes.

5.0 DESIGN CRITERIA

The design of distribution systems for diesel generator, centralised power supply and hydro-electric schemes will comply with the current design standards of FEA with particular regard to maximum demand for individual dwellings and the application of diversity factors within distribution systems.

JULY 6, 1994
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RURAL ELECTRIFICATION POLICY (1993)

INFORMATION SHEET - DIESEL GENERATOR SCHEME

1. SCOPE OF EQUIPMENT

This scheme includes the following major equipment items :

a] Wooden structured power house

b] Diesel engine driven generator, 240V 1-phase or 415V 3-phase 50 Hz, with starting system, fuel system and steel base frame;

c] Underground cable distribution incorporating ground level distribution pillars and underground service cables to buildings.

d] For each individual house, a wiring installation including 2 - 18W (2 ft) fluorescent lights, 1-10A power point and a meter box with main switch and circuit fuses.

e] For one community hall, a wiring installation including appropriate lighting, 1-10A power point and a meter box with main switch and circuit fuses.

f] One 200 litre drum of diesel fuel to commission the diesel generator.

2.0 FEATURES

The features of this scheme are :

a] The village/settlement is responsible for providing the operating staff for the diesel generating set.

b] The village/settlement is responsible for maintaining the complete installation. This may be arranged by sub-contracting the maintenance work.

c] There is adequate power to operate small power electrical appliances such as radios and videos.

d] The scheme would have the capacity to operate small machinery for a cottage industry provided this need was notified at the time of application. A cottage industry could produce income to meet all or a large part of the operating, maintenance and sustaining costs.

e] The scheme is entitled to the benefits of the grace period.

RURAL ELECTRIFICATION UNIT (1993)

INFORMATION SHEET - VILLAGE/SETTLEMENT SOLAR LIGHTING

1.0 SCOPE OF EQUIPMENT

This scheme includes the following major equipment items for each individual household :

a] Solar panels installed on a wooden pole with adjustable tilt brackets

b] Two 11W and one 7W fluorescent lights

c] One 12V lead acid battery

d] One battery controller

This scheme includes one or more sets of the following major equipment items for one community facility in order to provide an appropriate lighting installation:

a] Solar panels installed on a wooden pole with adjustable tilt brackets

b] Two 11W fluorescent lights

c] One 12V lead acid battery

d] One battery controller

2.0 FEATURES

The features of this scheme are :

a] The village/settlement or individual householders must maintain the systems which usually only involves maintaining the battery fluid at the correct level and keeping the equipment clean.

b] The operating costs are minimal.

c] The maintenance costs are very small.

d] The scheme is entitled to the benefits of the grace period (refer to Part B, Chapter 2).

RURAL ELECTRIFICATION POLICY (1993)

INFORMATION SHEET - FOCAL POINT SOLAR LIGHTING

1.0 SCOPE OF EQUIPMENT

This scheme includes one or more sets of the following major equipment items for one community focal point such as a community hall for a village/settlement:

a] Solar panels installed on a wooden pole with adjustable tilt brackets

b] Two 11 Watt fluorescent lights

c] One 12 V lead acid battery

d] One battery controller

2.0 FEATURES

The features of this scheme are :

a] The village/settlement must maintain the system which only involves maintaining the battery fluid at the correct level and keeping the equipment clean.

b] The operating costs are minimal.

c] The maintenance costs are very small.

d] The scheme is entitled to the benefits of the grace period (refer to Part B, Chapter 2).

RURAL ELECTRIFICATION POLICY (1993)

INFORMATION SHEET - SUPPLY FROM FIJI ELECTRICITY AUTHORITY

1.0 SCOPE OF EQUIPMENT

It is important Regional Managers advise villages/settlements who wish to select this scheme, that it must be close enough to an existing appropriate FEA supply to enable such scheme to be economically viable. This will be determined from the costing calculations in accordance with the Schedule of Costs. This scheme includes the following major equipment items :

[a] An extension of the existing FEA supply to a point adjacent to houses or buildings to be connected to the supply.

[b] An electrical installation in each residence consisting of :

Two 18W (2ft) fluorescent lights
One 10A power point
One metre box with main switch and current fuses

[c] An electrical installation in one community facility to provide appropriate lighting and one 10A power point.

[d] A service connection from the FEA supply to each of the buildings which will have an electrical installation.

2.0 FEATURES

The features of this scheme are :

[a] The provision of a continuous power supply.

[b] The village/settlement and the individual householders become consumers of FEA and are thereby subject to the rules and regulations which govern an FEA electricity supply.

[c] The FEA tariff applicable to the supply includes all maintenance and sustaining costs of the FEA system up to the point of connection of the building service main to the FEA overhead line.

[d] The individual consumers are responsible for maintaining and sustaining their own building electrical installations and the service connections from the FEA overhead line.

[e] Consumers are not entitled to the benefits of the grace period.

[f] The REU will pay the FEA connection fees for each building included in the scheme but the individual consumers and/or the village/settlement will be responsible for the payment of the deposit for the various FEA accounts.

RURAL ELECTRIFICATION POLICY (1993)

INFORMATION SHEET - SUPPLY FROM CENTRALISED GENERATING PLANT

1.0 SCOPE OF EQUIPMENT

It is important Regional Managers advise villages/settlements who wish to select this scheme that the scheme must be close enough to an existing appropriate supply from a centralised generating plant to enable such a scheme to be economically viable. This will be determined from the costing calculations in accordance with the Schedule of Costs. This scheme includes the following major equipment items :

a] An extension of the adjacent distribution network from the centralised generating plant to a point adjacent to the buildings proposed to have an electrical installation.

b] An electrical installation in each residence consisting of:

Two 18W (2ft) fluorescent lights
One 10A power point
One meter box with main switch and circuit fuses

c] An electrical installation in one community facility to provide appropriate lighting and one 10A power point as well as a meter box with main switch, and circuit fuses.

d] A service connection from the centralised supply system to each of the buildings with an electrical installation.

2.0 FEATURES

The features of this scheme are :

a] The provision of a continuous electricity supply.
b] The village/settlement and the individual householders become consumers of the power supply operating organisation. They

will be subject to the organisation's rules and regulations which are the same as those for a supply by FEA except the local tariff will be applicable instead of the FEA tariff.

c] The consumers are not liable for the payment of any maintenance or sustaining costs associated with the supply. These costs are included in the tariff for the supply.

d] The consumers are liable for the maintenance and repair of the electrical installation in their buildings including the service connections from the local centralised system to the buildings.

e] The consumers will not be entitled to the benefits of the grace period.

f] The REU will pay the connection fees from the centralised supply to the buildings in the scheme. However, the individual consumers are responsible for payment of the deposits for the consumers' accounts.

RURAL ELECTRIFICATION POLICY (1993)

INFORMATION SHEET - HYDRO-ELECTRIC SCHEMES

1.0 ASSESSMENT OF HYDRO POTENTIAL

Regional Managers must advise villages/settlements that hydro-electric schemes of electricity generation will only be available as a choice to those villages/settlements which are both close enough to potential hydro-power resources and have developed, or are proposing to develop, an income generating load - e.g. an ice plant or a sawmill. The REU will undertake a preliminary hydrological assessment of the proposed site to determine whether a hydro-electric scheme will be considered.

The arrangements for hydro-electric schemes will include a comprehensive hydrological survey of the hydro power potential to prove or disprove the viability of the hydro scheme. This survey will be undertaken over an extended period of time. During the period of hydrological survey, the village/settlement will be provided with a diesel engine generator in place of the proposed hydro-turbine generator. If the hydrological survey proves the technical viability of the hydro proposal, the diesel generator will be replaced by a hydro-turbine generator. If the survey proves not viable, the diesel generator will remain in service as the source of electricity.

2.0 SCOPE OF EQUIPMENT

The major equipment items included in this type of scheme are thus :

a] A wooden structured power house building

b] A diesel engine generator complete with controls for 415V 3-phase or 240V 1-phase which will be replaced by an equivalent sized hydro turbine generator subject to the results of a hydrological survey

c] Underground cable distribution system incorporating ground level distribution pillars and underground service cables to buildings

d] For each individual house, a wiring installation including 2-18W (2ft) fluorescent lights, 1-10A power point and a meter box with main switch and circuit fuses.

e] For one community hall, wiring installation including appropriate lighting, 1-10A power point and a meter box with main switch and circuit fuses.

2. FEATURES

The features of this scheme are :

a] There could be adequate power to operate small electrical appliances such as radios and videos

b] The scheme could have the capacity to operate small machinery for a cottage industry provided this need was notified as the time of application and that the hydrological survey proved adequate power was available from the water supply. A cottage industry could produce income to offset the costs associated with maintenance and sustaining both the initial diesel generating plant as well as the later hydro turbine generating plant

c] The operating costs are minimal for the hydro electric generator but must be considered for the initial diesel generating plant

d] The maintenance costs are negligible for the hydro electric generator but must be considered for the initial diesel generating plant

d] The scheme is entitled to the benefits of the grace period from the time the initial diesel generator is installed (refer to Part B, Chapter 2).

Issue: 1
June 1994

RURAL ELECTRIFICATION POLICY (1993)

INFORMATION SHEETS - SCHEDULE OF COSTS

1.0 GENERAL

The costs shown in this schedule are to be read in conjunction with the description sheets of the options from which villages/settlements may make a choice. The description sheets proceed this schedule in this chapter. All staff of the REU and in particular Regional Managers and Field Officers, must understand these costs are estimates only. They are defined to enable the relevant staff of the REU help villages/settlements choose the most appropriate electricity scheme for their needs.

Once a particular type of scheme has been chosen, the Regional Manager will arrange the necessary survey and then quote these costs more accurately. The costs and other financial data quoted in this price schedule include 10$ VAT (value added tax).

2.0 GRACE PERIOD

The Rural Electrification Policy (1993) provides for a grace period of three years after the installation of certain schemes. The grace period is defined as a period of time following the installation of a scheme during which the full impact of the costs associated with maintaining and sustaining a scheme is effectively reduced by means of defined contributions. Full details of the grace period conditions are provided in Part B, Chapter 2.

In summary, during the grace period, villages/settlements will pay contributions towards the full costs of maintaining and sustaining their schemes as set out below :

First Year Contribution		$220
Second Year Contribution	$330	
Third Year Contribution		$440

During the grace period Government will pay the rest of the costs of maintaining and sustaining schemes and will also arrange for the establishment of credits for the contributions villages/settlements would otherwise have paid during the grace period towards replacing their schemes.

Issue : 1
June 1994

RURAL ELECTRIFICATION POLICY (1993)

INFORMATION SHEET - SCHEDULE OF COSTS

DIESEL GENERATOR SCHEMES

1.0 GENERAL

Regional Managers must take care discussing estimated costs of schemes which have significantly more houses or less houses than the numbers quoted because the costs given may not be proportionally greater or less. Other factors such as transport costs for schemes which are far distant from Suva, may have to be taken into account.

The requirements of the grace period will apply to diesel generator schemes.

The estimates below are provided for an average village/settlement of 40 houses.

2.0 COST OF CAPITAL CONTRIBUTION PAYMENT

Based upon a village/settlement of 40 houses the following estimated costs will apply :

Total capital cost will be	$50 000
Government will pay	$45 000
Village/settlement will pay as the capital contribution payment	$ 5 000

For the purpose of preliminary estimating, the total capital cost per house is $1,250.

3.0 COST OF OPERATING

The cost of operating a scheme of 40 houses for 4 hours every night is $300 to $400 per month. This is equivalent to $7.50 to $10.00 per house per month or $3,600 to $4,800 per scheme per year.

After the end of the grace period villages/settlements will be required to pay the full

maintenance and operating costs and are expected to set aside funds for sustaining their schemes. These costs are detailed on the individual cost sheets for each of the schemes. They follow the last paragraph of this preliminary information.

The costs are set out in four sections for each of the schemes as follows:

a] Cost of capital contribution payment to install a scheme

b] Cost of operating a scheme

c] Cost of maintaining a scheme

d] Cost of setting aside funds expected to be paid to sustain a scheme

All the above costs will have to be paid by the village/settlement operating the scheme.

4.0 VALIDITY OF THIS PRICE SCHEDULE

The costs quoted in this price schedule are valid on the date on page 1 hereof. The Senior Project Engineer is responsible for maintaining this price schedule up to date. Revised issues will be made from time to time to maintain validity. Regional Managers and other users should regularly check the validity of the copy in their possession.

Issue: 1
June 1994

RURAL ELECTRIFICATION POLICY (1993)

INFORMATION SHEET - SCHEDULE OF COSTS

VILLAGE/SETTLEMENT SOLAR LIGHTING

1.0 GENERAL

The conditions of the grace period will apply to solar lighting schemes. The costs quoted below are based upon one solar lighting set provided as a standard installation in each dwelling in a village/settlement. Multiple sets of the same range of equipment are provided for a community facility.

2.0 COST OF CAPITAL CONTRIBUTION PAYMENT

Based upon a village/settlement of 40 houses the following estimated costs will apply:

Total capital cost will be	$60 000
Government will pay	$54 000
Village/settlement will pay as capital contribution payment	$6 000

For the purpose of preliminary estimating, the total capital cost per house is $1,500.

3.0 COST OF OPERATING

The cost of operating solar schemes is nothing.

4.0 COST OF MAINTAINING

The cost of maintaining one solar lighting set is less than $0.05 per set month. Thus for a village of 40 houses each equipped with solar lighting, the cost of maintenance is less than $2 per month or less than $24 per year.

5.0 COST OF SUSTAINING

The cost of contributions to be paid for sustaining one set of solar equipment is $6.50 per month. For a village/settlement of 40 houses, the cost of contributions will be $260 per month or $3,120 per year.

Issue 1
June 1994

RURAL ELECTRIFICATION POLICY (1993)

INFORMATION SHEET - SCHEDULE OF COSTS

FOCAL POINT SOLAR LIGHTING SCHEMES

1.0 GENERAL

The conditions of the grace period will apply to focal point solar lighting schemes. The estimated costs quoted below are based upon a typical installation consisting of three sets of solar lighting equipment in a focal point lighting installation to provide appropriate lighting.

2.0 COST OF CAPITAL CONTRIBUTION PAYMENT

Based upon a facility with 3 sets of solar lighting equipment, the following estimated costs will apply:

Total capital cost will be	$4500	
Government will pay		$4050
Village/settlement will pay as capital contribution payment		$450

3.0 COST OF OPERATING

The cost of operating solar schemes is minimal.

4.0 COST OF MAINTAINING

The cost of maintaining one focal point solar lighting installation with 3 sets of solar equipment is less than 15 cents per month. This is equivalent to $1.80 per year.

5.0 COST OF SUSTAINING

The cost of contributions to be paid for sustaining one focal point lighting installation with three sets of solar lighting equipment is $19.50 per month or $235 per year

Issue 1
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RURAL ELECTRIFICATION POLICY (1993)

INFORMATION SHEET - SCHEDULE OF COSTS

SCHEMES SUPPLIED BY FEA

1.0 GENERAL

Regional Managers must take care discussing estimated costs of schemes proposed to be supplied by FEA because of the large variation in costs extending the nearest appropriate FEA electricity supply to a village/settlement. An appropriate FEA supply would be one of its 11kV networks. The estimated cost of extending such a network is $25 000 per kilometer.

The 132kV transmission system from Wailoa across Viti Levu is not an appropriate supply for a village/settlement. The cost to supply electricity to a village/settlement adjacent to that system would exceed a million dollars.

For the purpose of indicating costs for schemes proposed to be supplied by FEA, it will be assumed an appropriate supply is one km from a village/settlement which has 40 dwellings.

The conditions of the grace period do not apply to schemes which are supplied with electricity by FEA.

2.0 COST OF CAPITAL CONTRIBUTION PAYMENT

Based upon a village/settlement of 40 houses, the following estimated costs will apply:

Total capital cost	$60 000
Government will pay	$54 000
Village/settlement will pay as the capital contribution payment	$ 6 000

3.0 COST OF OPERATING

The cost of operating a building installation is the amount to be paid by the consumer when the FEA tariff is applied for the electricity used. For domestic consumers this is currently 24.54 cents per unit (kWh).

4.0 COST OF MAINTAINING

The cost of maintaining a building installation is the responsibility of the owner. The cost of maintaining the system supplying electricity is included in the FEA tariff.

5.0 COST OF SUSTAINING

Similar remarks are applicable as set out above for the cost of maintaining.

Issue 1
June 1994

RURAL ELECTRIFICATION POLICY (1993)

INFORMATION SHEET - SCHEDULE OF COSTS

SCHEMES SUPPLIED BY CENTRALISED GENERATING SYSTEM

1.0 GENERAL

Regional Managers must take care discussing estimated costs of schemes proposed to be supplied by centralised generating systems because of the large variation in costs extending the system electricity supply to a village/settlement. The estimated cost of extending such a supply is $25 000 per kilometer.

For the purpose of indicating costs for schemes proposed to be supplied by a centralised generating system, it will be assumed the supply is one km from a village/settlement which has 40 dwellings.

The conditions of the grace period do not apply to schemes which are supplied with electricity by a centralised generating system.

2.0 COST OF CAPITAL CONTRIBUTION PAYMENT

Based upon a village/settlement of 40 houses, the following estimated costs will apply:

Total capital cost	$60 000
Government will pay	$54 000
Village/settlement will pay as the capital contribution	$ 6 000

3.0 COST OF OPERATING

The cost of operating a building installation is the amount to be paid by the consumer when the relevant tariff is applied for the electricity used. The relevant tariffs for the four REU power stations are as given below per unit (kWh) :

REU Tubou	81.20 cents
REU Vunisea	104.50 cents
REU Nabouwalu	74.90 cents
REU Waiyevo	123.80 cents

4.0 COST OF MAINTAINING

The cost of maintaining a building electrical installation is the responsibility of the owner. The cost of maintaining the system supplying electricity is included in the relevant tariff.

5.0 COST OF SUSTAINING

Similar remarks are applicable as set out above for the cost of maintaining.

Issue 1
June 1994

RURAL ELECTRIFICATION POLICY (1993)

INFORMATION SHEET - SCHEDULE OF COSTS

HYDRO ELECTRIC SCHEMES

1.0 GENERAL

These types of schemes will be arranged to operate with diesel generators initially during the time when the hydrological survey is being undertaken. It is assumed the survey will prove the feasibility of a hydro generating scheme so that a hydro turbine generator will replace the diesel generator. If the survey disproves the feasibility of the hydro turbine generator, the diesel generator will remain in service indefinitely.

The estimates derived below are based upon a village/ settlement scheme of 40 houses, the same as that assumed for the diesel generator scheme earlier.

2.0 COST OF CAPITAL CONTRIBUTION PAYMENT

For the first stage development when the diesel set is installed:

Total capital cost will be	$50 000
Government will pay	$45 000
Village/settlement will pay as the capital contribution payment	$ 5 000

For the second stage development when the hydro-turbine generator is installed to replace the diesel generator:

Capital cost of hydro turbine generator including civil works and controls		$30 000
Credit for return of diesel generator	15 000	

Net capital cost of hydro generator	$15 000
Government will pay	$13 500
Village/settlement will pay as the capital contribution payment for the hydro turbine generator	$ 1 500

3.0 COST OF OPERATING

The cost of operating the diesel scheme initially is $300 to $400 per month. The cost of operating the hydro-turbine generator scheme at stage 2 is minimal.

4.0 COST OF MAINTAINING

The cost of maintaining the diesel scheme operating 4 hours every night is $21 per month which is equivalent to $0.50 per house per month or $250 for the scheme per year.

The cost of maintaining the hydro turbine generator scheme is $8 per month or $100 per year.

5.0 COST OF SUSTAINING

The cost of contributions for sustaining the diesel scheme will be $210 per month or $2,500 per year.

The cost of contributions for sustaining the hydro turbine generator scheme will be $280 per month or $3,400 per year.

June 16, 1994
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RURAL ELECTRIFICATION POLICY (1993)

PART B - CHAPTER 2

THE GRACE PERIOD

1.0 GENERAL

This chapter defines the policy and arrangements for the application of the benefits of the grace period. The grace period is applicable to new schemes provided in terms of the 1993 policy. It is also applied to schemes provided in terms of the original policy when they are transferred to the 1993 policy.

2.0 THE GRACE PERIOD

The grace period is a three year period starting from the time a village/settlement has a scheme installed, during which the full impact of the cost of maintaining and sustaining an electricity scheme is reduced by means of a Government subsidy. The grace period will also be applicable, under conditions defined below, to schemes which transfer from the conditions of the original policy to those of the 1993 policy. The original policy covered only diesel schemes. Any arrangements associated with the transfer to the 1993 policy are specific to diesel schemes and to pilot projects of the Department of Energy e.g. Navakawau steam plant project, that are to be incorporated into the 1993 policy.

During the grace period a contribution will be made by both the village/settlement and the REU towards maintenance, upholding and replacement costs. What is not spent remains in the fund for future expenditure

The contributions that will be paid by villages/settlements during the grace period have been defined in the Schedule of Costs (Part B, Chapter 1) and are currently:

First Year Contribution	$220
Second Year Contribution	$330
Third Year Contribution	$440

The contributions defined above are the maximum that a village/settlement will pay during the three year grace period. If the actual total costs of maintenance and sustaining are less per year than the contributions defined, then the lower amount will be paid.

The above contributions have been calculated by escalating the $100 annual contribution for maintenance defined in the original policy which was set in 1974. It was escalated by applying the inflation rate since 1974 which resulted in the original $100 being equivalent to $440 in March 1993. The contributions defined above were then raised in approximately equal steps to $440 over the three year grace period. The contributions will be subject to further regular review based upon future changes in the inflation rate. In terms of the original policy, villages/settlements did not pay contributions towards sustaining their schemes.

After the end of the grace period, villages/settlements will be required to pay the full maintenance and operating costs as well as the contributions for sustaining their schemes. These costs for each of the different types of schemes are defined in the Schedule of Costs (Part B, Chapter 1).

3.0 TRANSITION FROM ORIGINAL POLICY

The terms and conditions of the original policy will no longer apply when the 1993 policy is implemented. This section details the options and conditions open to villages/ settlements whose schemes were provided in terms of the original policy to come within the scope of the 1993 policy. This transition from the original policy to the 1993 policy will include applying the benefits of the grace period described in 2.0 above. This section also describes the arrangements by which the maintenance and sustaining of original schemes will change to the arrangements defined in the new policy.

3.1 Original Policy

Virtually all schemes installed in terms of the original policy were diesel schemes with underground cable distribution and individual household installations consisting of 2 fluorescent lights and one 10A power point. The last schemes provided in terms of the original policy were installed in 1993.

The salient features of the original policy with regard to maintaining and sustaining were as follows:

1] Villages/settlements contributed $100 per year to have their schemes serviced twice per year by the Public Works Department

2] The diesel generator set and its switchboard were owned by Government and the village/settlement paid a nominal $2 per year

rent for the use of it

3] Government repaired the set for no additional cost other than the $100 contribution for maintenance paid by the village/ settlement annually

4] Government sustained the diesel generator in working order indefinitely: the implication of this was that Government had a commitment to uphold and replace schemes virtually for ever

3.2 Transition Arrangements

The transition process will start by the Regional Manager describing to villages/settlements the three options detailed below. Once this detailed description has been provided, Regional Managers will request each village/ settlement operating a scheme in terms of the original policy to select one of the options. The village/ settlement will be given three months in which to decide. In the absence of a decision by the village/settlement within the three months time limit, the REU will assume Option 1 has been chosen.

Option 1. **The village/settlement elects to operate their scheme completely independently of the 1993 policy.**

In this case they will immediately take full ownership of the scheme. The village/ settlement will no longer enjoy any of the benefits of either the original policy or the 1993 policy.

Option 2. **The village/settlement elects to install a new type of scheme as a replacement for the original scheme.**

The replacement scheme will be one which is within the financial capability of the village/settlement to maintain and pay contributions for sustaining.

In order to maintain the principle of consistency, the original scheme will be regarded as having been operated in terms of the 1993 policy since it was first installed. Thus, during the period from the time of the installation of an original scheme up to the time of transition to the 1993 policy, it will be assumed that the village/settlement has paid regular contributions for the purposes of maintaining and sustaining its scheme.

Reference is made to Part B, Chapter 6, Example 2 which shows how contributions for sustaining are calculated as well as showing the individual costs for upholding and replacing. Credit for any maintenance and upholding will not be available because this is considered to have been carried out by Government since the scheme's installation. The value of the credits for

replacement contributions that will have accumulated are calculated in accordance with the following formula:

Credit Value $ = $612 x Age of scheme at end of grace period

The values are standardised for all schemes.

In summary, the village/settlement will have accumulated a credit for the replacement of the parts of the scheme and the size of this credit will be related directly to the age of the scheme at the time of transition. The accumulated credit will be used to fund the capital cost of the selected replacement scheme.

What happens if the accumulated credit is inadequate for a replacement scheme?

In order that villages/settlements with schemes provided in more recent years are not disadvantaged by the accumulation of an inadequate amount of credit to pay for a replacement scheme, the REU will provide a minimum credit of $6000. This will ensure that any village/settlement will, as a minimum, be able to select a focal point solar lighting scheme to replace its diesel generator scheme. The value of $6000 is based upon costs prevailing mid-1994 and will be adjusted in accordance with future cost-of-living indices.

What happens if the accumulated credit exceeds the cost of the replacement scheme?

In the event of the accumulated credit exceeding the cost of a replacement scheme, the village/settlement may continue to operate the original diesel generator scheme and utilise the excess credits to sustain the diesel scheme until the credits are reduced to the level required to pay for the replacement scheme. Villages/settlements may continue to contribute, at a rate they can afford, in order to keep the credits in excess of the level required for the replacement scheme. This will allow the diesel scheme to be kept in service longer than would otherwise be the case.

When will the conditions of the grace period be applied?

Up to the start of the grace period the cost of maintaining and upholding the original scheme will be in accordance with the terms of the original policy viz. the village/ settlement will pay $100 per year for maintenance and the REU will maintain and sustain the scheme free of further cost to the village/settlement.

Before the start of the grace period the REU will arrange for the original scheme to be thoroughly overhauled. The grace period will actually start when the scheme is re-commissioned into service at the end of this overhaul work.

At the end of the grace period, the operating condition of the scheme will again be checked and any necessary overhaul or repair work will be undertaken by the REU, so long as the grace period contributions have been paid, to ensure the scheme is in first class working condition before the cost of sustaining it becomes the responsibility solely of the village/settlement.

What will happen to the diesel generating plant?

In all cases, when the replacement scheme is installed, the REU will take possession of the recoverable plant of the original diesel scheme .

Who will monitor the application of this Option 2?

Both the Financial Officer and the Project Engineer will be required to monitor the use of credit funds and ensure the village/ settlement is fully informed, with advance notice, when the accumulated credit will only cover the cost of the selected replacement scheme.

Option 3. **The village/settlement elects to keep the diesel scheme and to operate it in terms of the 1993 policy.**

In order to maintain the principle of consistency, the original scheme will be regarded as having been operated in terms of the 1993 policy since it was first installed. Thus, during the period from the time of the installation of an original scheme up to the time of transition to the 1993 policy, it will be assumed that the village/settlement has paid regular contributions for the purposes of maintaining and sustaining its scheme.

Reference is made to Part B, Chapter 6, Example 2 which shows how contributions for sustaining are calculated as well as showing the individual costs for upholding and replacing. Credit for any maintenance and upholding will not be available because this is considered to have been carried out by Government since the scheme's installation. The value of the credits for replacement contributions that will have accumulated are calculated in accordance with the following formula:

Credit Value $ = $612 x Age of scheme at end of grace

period

The values are standardised for all schemes.

In summary, the village/settlement will have accumulated a credit for the replacement of the parts of the scheme and the size of this credit will be related directly to the age of the scheme at the time of transition. The accumulated credit will be used to fund the future cost of sustaining the scheme.

When will the conditions of the grace period be applied?

Up to the start of the grace period the cost of maintaining and upholding the original scheme will be in accordance with the terms of the original policy viz. the village/ settlement will pay $100 per year for maintenance and the REU will maintain and sustain the scheme free of further cost to the village/settlement.
Before the start of the grace period the REU will arrange for the original scheme to be thoroughly overhauled. The grace period will actually start when the scheme is re-commissioned into service at the end of this overhaul work.

At the end of the grace period, the operating condition of the scheme will again be checked and any necessary overhaul or repair work will be undertaken by the REU, so long as the grace period contributions have been paid, to ensure the scheme is in first class working condition before the cost of sustaining it becomes the responsibility solely of the village/settlement.

4.0 PRIORITY OF TRANSITION WORKS

The implementation of the transition arrangements must be regarded as a priority task by the REU once it is established. The choices available to villages/settlements operating existing schemes are complex such that Regional Managers will be required to be very familiar with them to be able to explain them adequately to villages/settlements with existing schemes. The project Engineer must ensure there is no delay arranging overhauls, where necessary, to avoid delaying the start of the grace period for those existing schemes being transferred to the 1993 policy.

July 8, 1994
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RURAL ELECTRIFICATION POLICY (1993)

PART B - CHAPTER 3

CONSTRUCTION OF SCHEMES

1.0 GENERAL

Once the scheme contribution has been received and the scheme is registered as awaiting construction by the REU, the Regional Manager will keep the village/settlement informed of the earliest possible period when the scheme might be constructed. As and when this changes the village/settlement will also be informed. Any likely date for construction or period of waiting will also be indicated by the Regional Manager with at least four weeks notice. Nearer the time for the start of construction, an accurate estimate of the construction starting time will be notified together with the proposed number of people in the construction team. The Senior Project Engineer is responsible for defining the construction schedule.

The Regional Manager is responsible for all site construction activities and will co-ordinate all such activities with the villages/settlements.

Construction plans will be notified to and agreed with villages/settlements so that there is minimal disruption to their daily activities.

2.0 CONSTRUCTION ACTIVITIES

2.1 Diesel Generator and Hydro Electric Schemes

a] Local Support Activities

In order to keep the cost of construction activities as low as possible, the villages/ settlements are responsible for the provision of all unskilled labour,

free of charge, for such tasks as unloading and manhandling materials, building construction and cable trenching. The village/settlement will also arrange, free of charge, for secure storage of materials during construction as well as accommodation for members of the construction team except the provision of food.

Villages/settlements will make the arrangements for local transport such as from island jetties to the sites of schemes at least cost for construction teams and materials

b] Commissioning

The Regional Manager will arrange for commissioning of the completed scheme and formal handing over to the village/settlement. A certificate to this effect will be obtained from the village/ settlement. All loose equipment included in the scope of supply of the scheme will be handed over to the village/settlement together with copies of instructions relating to operation, maintenance, repairs, and trouble shooting procedures.

At the time of commissioning, the Regional Manager will ensure the operating personnel are fully trained to operate the scheme. This will include instruction on any necessary safety procedures. The level of training will be such that the Regional Manager is satisfied the operators are capable of safely operating the plant with particular regard to personnel and equipment.

c] Other Requirements

The schemes are subject to inspection by the licensing authority which is currently FEA. The Regional Manager will make the necessary arrangements for this inspection at the time of commissioning

2.2 Solar Lighting Schemes (Both types)

a] Local Support Activities

In order to keep the cost of construction activities as low as possible, the villages/ settlements are responsible for the provision of all unskilled labour, free of charge, for such tasks as unloading and manhandling materials, pole planting etc. The village/settlement will also arrange, free of charge, for secure storage of materials during construction as well as accommodation for members of the construction team except the provision of food.

Villages/settlements will make the arrangements for local transport such as from island jetties to the sites of schemes at least cost for construction teams and materials.

b] Commissioning

The Regional Manager will arrange for commissioning of the completed scheme and formal handing over to the village/settlement. A certificate to this effect will be obtained from the village/ settlement. All loose equipment included in the scope of supply of the scheme will be handed over to the village/settlement together with copies of instructions relating to operation, maintenance, repairs, and trouble shooting procedures.

At the time of commissioning, the Regional Manager will ensure the operating personnel are fully trained to operate the scheme. This will include instruction on any necessary safety procedures. The level of training will be such that the Regional Manager is satisfied the operators are capable of safely operating the plant with particular regard to personnel and equipment.

c] Other Requirements

The Regional Manager will make the necessary arrangements for an inspection as required by the Senior Project Engineer at the time of commissioning.

2.3 FEA Schemes

a] Local Support Facilities

It is expected FEA or the appointed contractor will make their own arrangements for all construction activities. However if local support is required, FEA or the contractor will make such arrangements on an ad hoc basis.

b] Commissioning

The Regional Manager will co-ordinate the construction arrangements of FEA or the appointed contractor so that the household electrical installations including the service connections are available for final connection as necessary and at the same time the FEA inspection is made.

2.4 Centralised Generating Schemes

a] Local Support Activities

In order to keep the cost of construction activities as low as possible, the villages/ settlements are responsible for the provision of all unskilled labour, free of charge, for such tasks as unloading and manhandling materials, pole planting etc. The village/settlement will also arrange, free of charge, for secure storage of materials during construction as well as accommodation for members of the construction team except the provision of food.

Villages/settlements will make the arrangements for local transport such as from island jetties to the sites of schemes at least cost for construction teams and materials.

b] Commissioning

The Regional Manager will arrange for commissioning of the completed scheme and formal handing over to the village/settlement. A certificate to this effect will be obtained from the village/ settlement.

c] Other Requirements

The schemes are subject to inspection by the licensing authority which is currently FEA. The Regional Manager will make the necessary arrangements for this inspection at the time of commissioning.

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RURAL ELECTRIFICATION POLICY (1993)

PART B - CHAPTER 4

OPERATION OF SCHEMES

1.O GENERAL

The villages/settlements are responsible for the operation of their own schemes. FEA and the REU or operators of centralised power supply schemes are responsible for the operation of such schemes. This chapter therefore provides information on the procedures to be followed by a village/ settlement to operate their electricity scheme. The Regional Manager will arrange for any necessary training to be provided for the personnel who will operate any of the schemes (refer to Part A Chapter 3). This training will be arranged at the time the scheme is first commissioned into service.

Particular requirements for various schemes are defined in subsequent paragraphs. The Regional Manager must be satisfied that the operating personnel of any of the schemes are fully conversant with all operational techniques before the training is finished. Additionally a return visit must be made by the Regional Manager or the local Field Officer within three months of first commissioning any scheme to ensure the scheme is being properly operated.

The operation of power stations under the control of the REU is described in a separate publication for the instruction of Regional Managers and power station operating staff.

2.0 OPERATING REQUIREMENTS - SOLAR, DIESEL & HYDRO SCHEMES

It is strongly recommended that the REU ensures the following operating requirements are followed by villages/settlements. This will mean instituting procedures to check and monitor these requirements are being met and, where appropriate, designing and undertaking training courses.

These requirements are defined into two classifications viz. essential requirements and good practice.

2.1 Essential Requirements

a] Familiarity with the manufacturer's operating instructions which are in the form of a printed publication. A copy must be available to the operating staff at all times.

b] Familiarity with starting and stopping procedures particularly with the latter for the purpose of emergency shut-down of the plant.

c] Maintaining a log book of the operation of the plant which will also be used to record all events which are not routine

d] Maintaining the generating plant, power house and adjacent area clean and tidy

2.2 Good Practice

a] Full time attendance during the period generators such as diesel and hydro-turbine driven sets are operating. Should this not be possible then minimum half hourly visits by operators must be arranged.

b] For solar schemes the close monitoring of the electronic battery controller particularly during the first months of operation when, if there are going to be problems, they are likely to arise then.

The Regional Manager and his staff must ensure the above notes are included in the training of operators of schemes.

3.0 OPERATING REQUIREMENTS - FEA & CENTRALISED POWER SUPPLY SCHEMES

The operation of any consumer's installation connected to FEA or centralised power supply scheme is comparatively simple. However it is essential all such consumers who have electricity available in their premises for the first time are instructed by the Regional Manager or his Field Officer on the operation of light switches, the changing of lamps and the re-wiring of fuses. The instruction must also include a general warning on the dangers of electricity.

RURAL ELECTRIFICATION POLICY (1993)

PART B - CHAPTER 5

MAINTENANCE OF SCHEMES

1.0 GENERAL

Villages/settlements are responsible for the maintenance of their electricity schemes. FEA and the REU or operators of centralised power supply schemes are responsible for the maintenance of such schemes.

The REU is responsible for the training of appropriate persons in villages/settlements to maintain their electricity schemes (refer Part A, Chapter 3 - Training). These training responsibilities are part of the duties of the Regional Manager and his Field Officers.

During the grace period the REU is responsible for the maintenance of schemes under defined conditions (refer to Part B, Chapter 2).

This chapter sets out the procedures villages/settlements will follow to maintain their electricity schemes. The details set out below are divided into parts, one for each of the different types of schemes which are normally available to rural consumers.

Maintenance is defined as the application of regular procedures to ensure the continuous and safe operation of schemes.

The cost of maintaining schemes is the responsibility of the villages/settlements except as defined for the grace period (refer to Part B, Chapter 2.). Regional Managers must make villages/settlements aware of their responsibilities to properly maintain their schemes so that they are able to generate and supply electricity as designed. The requirements for maintenance described below are considered a minimum to achieve this objective.

2.0 TRAINING

Reference must be made here to Part B, Chapter 3, REU - Training. In order to undertake the defined responsibilities, the Regional Managers and their staff of Field Officers will conduct formal training of villages/settlements to enable them to maintain their schemes. This training will be arranged at the villages/settlements at the same time that the first service on newly installed equipment is undertaken. The villages/settlements will ensure all

operators are present to receive the training. Further training will be provided as a follow-up to the first session when the second maintenance service is performed. The Regional Managers are responsible for assessing how well the villages/settlements are able to maintain their equipment to determine the need for further training.

The details of the training will follow the maintenance procedures defined by the manufacturers of the equipment forming the scheme. It is expected Regional Managers and Field Officers will themselves be thoroughly familiar with these procedures. If needs be they will be provided with training arranged by the Manager of the REU to ensure they are familiar with all maintenance requirements.

3.0 MAINTENANCE DURING GRACE PERIOD

The 1993 policy provides for a grace period of three years for villages/settlements after they have had their schemes installed before they must accept the full maintenance commitment as well as the full sustaining commitment of the policy (refer to Part B, Chapter 2). In a similar manner the conditions of the grace period are included in the transition arrangements for existing schemes before they become liable for the full maintenance commitment and the sustaining commitment. For the duration of the grace period the REU is responsible for the maintenance of the relevant schemes.

The implications of the grace period are that the REU must make arrangements for maintenance works. This will be undertaken by the Regional Managers in co-ordination with the Senior Project Engineer.

Notwithstanding this maintenance commitment, the training of villages/settlements must still be undertaken as stated above and where possible the villages/settlements must be encouraged to undertake the maintenance work instead of the REU as soon as possible after constructing a new scheme or after the start of the transition to the 1993 policy. The REU will be providing maintenance materials to the villages/settlements during the grace period.

4.0 MAINTENANCE DETAILS

In all cases the detailed instructions of the manufacturers of the equipment included in schemes shall be followed by the villages/settlements. Particular requirements will include the following procedures:

4.1 Diesel Generator Schemes

a] Daily checking of lubricating oil levels and topping up as required

b] Changing oil, fuel and air filters at specified intervals

c] Changing the lubricating oil at specified intervals

d] Maintaining the fuel system free of moisture

e] Maintaining the diesel engine, power station building and adjacent compound clean, tidy and where applicable free of excessive vegetation

4.2 Solar Schemes

a] Daily checking of the battery liquid level and topping up as required

b] Maintaining the solar cells clean and free of dust and debris

4.3 FEA and Centralised Power Supply Schemes

FEA and operators of centralised power supply schemes maintain their own systems themselves. This is done free of additional cost to the consumers because the cost of maintenance is included in the tariff. The consumer's installation starts at the connection point to such systems which would usually be the overhead line pole to which the service wire is connected. It is the consumer's responsibility to keep the route of the service connection free of excessive growth from adjacent trees. The installation in the building is the responsibility of the consumer to keep it in safe working order.

4.4 Hydro-Electric Schemes

a] Daily checking of lubricating oil levels and topping up as required

b] Changing or cleaning oil filters at specified intervals

c] Changing lubricating oil at specified intervals

d] Maintaining the generating plant, power station building and adjacent compound clean, tidy and where applicable free of excessive vegetation

RURAL ELECTRIFICATION POLICY (1993)

PART B - CHAPTER 6

SUSTAINING SCHEMES

1.0 GENERAL

In terms of this policy villages/settlements are responsible for sustaining their electricity schemes. FEA and the REU or operators of centralised power supply schemes are responsible for the sustaining of their schemes.

The term sustaining means repairs to and replacement of items of equipment forming the scheme (refer to Part B, Chapter 1 Section 3.0). This must be undertaken on a continuous basis so that the schemes will operate indefinitely. In order to sustain their schemes, villages/ settlements will be expected to pay contributions into a fund established for the purpose of meeting the future sustaining expenditure. This chapter describes how such funds will be established and the responsibilities of the REU associated with the administration of such funds. It will also show how contributions are calculated for payments into sustaining funds.

2.0 SUSTAINING FUNDS

As soon as a village/settlement has an electricity scheme commissioned into service, it must establish a sustaining fund with a commercial bank of its choice. This will be one of the conditions applicable to have an electricity scheme installed. The Regional Manager is responsible for explaining this to the village/settlement at the time they apply for a scheme. At the same time the Regional Manager must come to some agreed arrangement with the village/settlement on the method of actual payment of sustaining contributions on a regular basis.

The fund will usually take the form of a bank savings account in the name of the village/settlement and preferably nominated "Electricity Sustaining Account". One of the conditions of establishing this account is that an official of the REU, the Accounting Officer, must be nominated as one of the signatories for any withdrawals. This condition is imposed to ensure the funds are in fact always applied for the purpose of sustaining the nominated

electricity scheme.

It is the responsibility of the Accounting Officer to ensure these funds are maintained with the regular payment of contributions. If there are lapses in payments, the Accounting Officer will inform the Regional Manager so that the village/settlement may be appropriately advised and encouraged to bring payments up to date. It may be helpful or even necessary to solicit the assistance of the District Officer if such problems persist.

One problem that may arise is a call for sustaining expenditure which exceeds the actual funds in the account of the village/settlement or the credit that is held on account with the REU. This may be referred to as a **"cash flow problem"**. Under such circumstances it will be the responsibility of the Manager of the REU, in consultation with the relevant Regional Manager, to decide if the sustaining expenditure may be made on credit, anticipating the village/settlement will meets its incurred debt as soon as possible in order to keep the scheme operating.

3.0 APPLICATION OF SUSTAINING FUNDS

The application of sustaining funds is directed to meeting the cost of works other than routine maintenance to enable a scheme to operate indefinitely. The Senior Project Engineer is responsible for defining the works for sustaining schemes that may be paid for out of sustaining funds. Some of the major works included in this definition are described in Section 4.0 below.

Sustaining funds are only applicable to schemes such as those powered by diesel generators, solar panels and hydro-electric generators. Schemes powered by FEA or centralised power supplies will have the costs of sustaining incorporated into the tariffs for the sale of electricity.

Sustaining funds are not applicable to a household electrical installation which would be the service connection, wiring, lighting fittings and power point. The exception to this would be battery controllers included with solar schemes. Householders are therefore expected to sustain their own installations; this includes the replacement of lighting fittings.

4.0 SUSTAINING COSTS

Sustaining costs are derived for the purpose of identifying the amount of contributions that are expected to be paid by villages/settlements into their respective scheme sustaining funds. In this section these costs have been calculated based upon current costs. However the actual expenditure may not be made for several years at which time the costs will have risen and probably significantly so. In order to take into account this rise in costs, it will be necessary to make regular adjustments to the rate of contributions by reviewing the current costs and recalculating accordingly.

The calculation of sustaining costs shall be undertaken by the Senior Project Engineer. It is a complex exercise and requires knowledge of the estimated life of equipment and wearing parts as well as the respective costs. It also requires knowledge of the type and costs of standard servicing procedures for diesel and hydro-electric generators as well as the frequency of application of such procedures. The current interest rate for savings funds must also be known.

The method of calculation is demonstrated by two examples. In both cases it is assumed the

annual interest rate will be 3% for the funds that are accumulating in the sustaining accounts. This is equivalent to a decimal interest rate of 0.0025 per month.

Example 1

A standard solar lighting modular kit consisting of the following items with expected life and estimated costs

	Description	**Current Cost $**	**Life in years**
1.	2 x solar panels + pole	1000	20
2.	Battery controller	90	20
3.	Battery	180	5
4.	Cabling etc	150	30

In this particular example the sustaining costs consist only of the contributions for replacing the equipment items. No overhaul procedures are possible for this type of installation. The monthly payments of contributions to sustain this kit will be calculated by the application of the following formula :

$$\text{Monthly payments} = \frac{\text{Future value}}{(1+i)^n - 1} \times i$$

where **"i"** is the interest rate for one month expressed as a decimal

"n" is the number of months life of the equipment

Actual monthly payments will be the sum of the following four items of monthly payments :

Item 1. $\frac{\$1000}{(1+0.0025)^{20\times12} - 1} \times 0.0025 = \$3.04$

Item 2. $\frac{\$90}{(1+0.0025)^{20\times12} - 1} \times 0.0025 = 0.27$

Item 3. $\frac{\$180}{(1+0.0025)^{5\times12} - 1} \times 0.0025 = 2.78$

Item 4. $\frac{\$150}{(1+0.0025)^{30\times12} - 1} \times 0.0025 = 0.26$

Total monthly contribution payments = $6.35

Example 2

A village/settlement scheme consisting of a diesel engine generator with underground cable distribution. In this example the two parts of the costs of sustaining viz. upholding and replacement, are shown. For the purpose of the example it is assumed the estimated annual operating time is 1500 hours based upon 4 hours per night.

[a] Replacement Costs

	Description of Plant	Cost $	Life Yrs
1.	Power house	5000	30
2.	Diesel generator set	15000	30
3.	Underground cabling	10000	30

[b] Upholding Costs

	Description of Procedure	Cost $	Frequency
1.	Repaint/repair power house	500	5 years
2.	**Diesel engine**		
.1	Fuel system o'haul	750	2000 hrs
.2	Top o'haul	2000	4000 hrs
.3	Major o'haul	4000	10000 hrs

Based upon the above data, the monthly costs of sustaining are calculated as set out below.

[a] Monthly Contributions for Replacement

Item 1. $\frac{\$5000}{(1 + 0.0025)^{30x12} - 1} \times \frac{0.0025}{} = \$ 8.56$ $(1 + 0.0025)^{x}$

Item 2. $\frac{\$15000}{(1 + 0.0025)} \times \frac{0.0025}{(1 + 0.0025)^{30x12} - 1} = 25.68$

Item 3. $\frac{\$10000}{(1 + 0.0025)} \times \frac{0.0025}{(1 + 0.0025)^{30x12} - 1} = 17.12$

Total Monthly Contributions for Replacement = $51.36

(b) Monthly Contributions for Upholding

Item 1. $\frac{\$500}{(1 + 0.0025)} \times \frac{0.0025}{(1 + 0.0025)^{12x5} - 1} = 7.72$

Item 2.1 $\frac{\$750}{(1 + 0.0025)} \times \frac{0.0025}{(1.0025)^{12x2000/1500} - 1} = 45.89$

Item 2.2 $\frac{\$2000}{(1 + 0.0025)} \times \frac{0.0025}{(1.0025)^{12x4000/1500} - 1} = 59.96$

Item 2.3 $\frac{\$4000}{(1 + 0.0025)} \times \frac{0.0025}{(1.0025)^{12x10000/1500} - 1} = 45.12$

Total Monthly Contributions for Upholding = $158 69

Total Monthly Contributions for Sustaining = $210.05

5.0 GRACE PERIOD

During the grace period villages/settlements pay nominal annual contributions for both the maintenance and the sustaining of their schemes. Reference should be made to Part B, Chapter 2, for the detailed description of the conditions applicable to the grace period. During the grace period the REU will also make contributions to the maintenance and the sustaining of schemes. The contributions by the REU include the creation of credits for the replacement part of the sustaining costs of schemes

While the REU is a Government Department its activities are governed by the General Orders and other relevant regulations. It is thus unable to set aside actual funds as the credits for the contributions for the replacing of schemes. Under the circumstances the Accounting Officer will create and maintain a general ledger of accumulated credits for each village for replacement works. The annual amount of the credits will be calculated in accordance with the calculations set out in section 4.0 above. As when there is a call for the use of such credits, the Senior Project Engineer will authorise such expenditure. The actual expenditure will be met out of current funds identified in the budget estimates and particularly allocated for the purpose. Under no circumstances will any such funds be paid into the sustaining accounts of villages/settlements as referred to in 2.0 above.

6.0 CONTROL OF EXPENDITURE

It is the responsibility of the Senior Project Engineer to control and approve the expenditure of funds for sustaining schemes. It is seen as one of the general responsibilities of the REU

to assist all villages/settlements to keep their schemes operating indefinitely and as economically as possible. This responsibility will be exercised towards selecting the most suitable organisation for servicing/repair works be it Public Works Department or private sector contractors.

RURAL ELECTRIFICATION POLICY (1993)

PART B - CHAPTER 7

EXTENSIONS TO SCHEMES

1.0 GENERAL

This Chapter describes the procedures to be followed by the REU responding to applications by villages/settlements to extend their electricity schemes. An extension to a scheme implies there is an existing scheme and the existing scheme is operating in terms of the 1993 policy. Thus any scheme which is operating in terms of the transition arrangements or the original policy cannot be extended in terms of the conditions set out in this Chapter. Particular arrangements will have to be agreed with the Manager of the REU for extensions to schemes which are operating in terms of the transition arrangements or the original policy.

The benefits of the grace period do not apply to extensions to schemes.

2.0 CONDITIONS FOR EXTENDING EXISTING SCHEMES

Schemes may be extended in terms of this policy to provide electricity to new houses and buildings that have since been erected or which were not provided with an electrical installation when a scheme was first installed in a village/settlement. However, the subsidy of 90% of the capital cost of such extensions will only be available for those extension works which do not cause the scope of the extended scheme to exceed the maximum defined in the relevant section of Chapter 1 of this Part B. The village/settlement must pay the full cost of any works which exceed the defined maximum.

3.0 APPLICATIONS

Applications for extensions to existing schemes will be submitted and processed generally in the same way that applications are made for new schemes as described in Chapter 1 of this part B.

The application form for new schemes shall be used and notated **"Extension to Existing Scheme"**.

4.0 INFORMATION SHEET

The data provided in the information sheet in Chapter 1 of Part B, is equally applicable for the purpose of estimating the costs of extensions to schemes. The Regional Manager must advise villages/settlements of the any increased contributions that will be payable for sustaining extended schemes.

In cases where the extension work necessitates the replacement of the existing generating equipment with larger equipment, the capital cost of the extensions works shall include the cost of a replacement generator. However the capital cost of the extension works shall be reduced by the value of the existing generator as delivered to Suva. The REU will take ownership of the existing generator when the extension works are constructed.

5.0 CAPITAL CONTRIBUTION PAYMENT

The procedure for making the capital contribution payment as set out in Chapter 1 of this Part B, is equally applicable for making the capital contribution payment for extension works.

6.0 START OF CONSTRUCTION

The procedure described for the start of construction in Chapter 1 of this Part B is equally applicable to extension works.

7.0 SURVEY

The procedure described for surveying the village/settlement for the extension works as described in Chapter 1 of this Part B, is equally applicable to surveying for extensions to schemes.

8.0 OTHER PROCEDURES FOR EXTENSIONS

The procedures described in other chapters of this Part B listed below are equally applicable to extensions to schemes:

Chapter 3 Construction of Schemes

Chapter 4 Operation of Schemes

Chapter 5 Maintenance of Schemes

Chapter 6 Sustaining Schemes

RURAL ELECTRIFICATION POLICY (1993)

PART B - CHAPTER 8

CHANGING SCHEMES TO A CONTINUOUS SUPPLY

1.0 GENERAL

This chapter describes the conditions applicable and the procedures to be followed when schemes installed in villages/settlements change to a continuous supply in place of their own scheme diesel generators or solar panels. In the case of hydro electric schemes a particular evaluation of changing to a continuous supply will be required.

A continuous supply will be an FEA supply or that provided from another source such as an REU operated power station.

2.0 CONDITIONS OF CHANGE

In general terms, because villages/settlements will have already received the benefits under the RE policy for their original scheme, they will not be entitled to any further subsidies under the 1993 policy for the capital costs incurred as a result of changing to a continuous supply of electricity.

However, the benefits of the policy are still applicable to extending the FEA or other continuous electricity system to houses and a community facility not already connected if such extensions are considered at the same time. In this respect the definition of the maximum scope of works set out in Chapter 1 of this Part B, must be considered.

A further exception to the general statement made above would arise if the standard of construction of the existing distribution scheme does not meet the prevailing construction standards of the organisation providing the continuous supply. Under these circumstances, the Senior Project Engineer will derive an estimate of the costs of upgrading the existing distribution system accordingly. The village/settlement will be liable to pay for 10% of the cost of upgrading and the REU will arrange to pay the balance 90% of this cost.

3.0 APPLICATION FOR CHANGE

A village/settlement must submit an application to the District Office in a similar manner to the procedure set out in Chapter 1 of this Part A for a new scheme, in order to apply for a change to a continuous supply of electricity.

Once the application is received and registered in the REU head office, the Senior Projects Engineer will ensure the Regional Manager meets with the village/settlement to discuss the proposed change.

4.0 ESTIMATING COSTS

The Regional Manager must have costing and equipment value information available for discussions with villages/ settlements because the final decision to be made by them will invariably depend upon the costs they have to pay to effect the change. The details of the costs to be considered for the various schemes are set out below.

4.1 Diesel Schemes

a] The cost of extending the continuous power supply to a point adjacent to the existing power house where the connection will be made into the existing distribution system

b] The cost of installing metering equipment at each consumer's main switch

c] The cost of inspecting all building installations and upgrading to an acceptable standard as necessary

d] The value of the existing generating plant and associated equipment for disposal after the continuous power supply connection is made

e] The value of the sustaining fund for the original scheme

f] 10% of the cost of the upgrading works of the distribution system if necessary. (Refer to section 2.0 above)

4.2 Solar Schemes

a] The cost of extending the continuous power supply to the village/settlement and distributing to the power to the buildings to be connected.

b] The cost of providing a service connection to each building to be connected to the continuous supply as well as the provision of a meter box with meter and main switch

c] The cost of replacing the existing solar lighting fittings and wiring as necessary with lighting and power point(s) to suit the continuous supply

d] The value of the redundant solar lighting equipment for disposal after the continuous power supply is connected

e] The value of the sustaining fund for the original scheme

The Senior Project Engineer is responsible for identifying the above costs based upon the survey of the existing equipment which is to be made redundant and the estimated costs set out in the Schedule of Costs in Chapter 1 of this Part B.

The net cost of the change to a continuous supply will be the cost of the construction works less the amount realised for the saleable redundant equipment and the amount of the existing sustaining fund.

5.0 PAYMENTS

Once the full costs of the change have been identified, the Regional Manager will advise the village/settlement accordingly. Full payment must be made by the village/ settlement before any works can proceed to effect the change. Full payment will include 10% of the cost of upgrading works if deemed necessary.

6.0 PROGRAMME OF WORKS

The programme of work to effect the change will not be dependent on Government funds unless the works include either upgrading or extensions which are being subsidised in terms of this policy.

In the case of a simple change, arrangements should be implemented as soon as possible by the Senior Project Engineer after the payment has been received. The only delay will possibly be the delivery of materials and the availability of both manpower and transport. The Regional Manager will advise the village/settlement the proposed programme of construction once that has been determined by the Senior Project Engineer.

If the change works include either upgrading or extensions, then the start of construction will be delayed until Government funds are available to subsidise the upgrading or extension parts. The Regional Manager will follow the same procedure of advising the village/settlement the estimated programme of works as set out in Chapter 3 of this Part B.

7.0 CONSTRUCTION

The requirements and procedures set out in Chapter 3 of this Part B are equally applicable to the construction of extension works.

8.0 OPERATION, MAINTENANCE & SUSTAINING

The requirements of the relevant sections of Chapters 4,5 and 6 of this Part B are equally applicable to the completed works of the change.

9.0 HYDRO ELECTRIC SCHEMES

Particular reference was made in 1.0 above regarding hydro electric schemes which are likely to be already providing a continuous electricity supply. Thus to change to an alternative continuous electricity supply must take into account several factors such as the economics and the engineering costs. Additionally, consideration must be given to connecting the hydro electric scheme to the adjacent alternative continuous supply and operating the two systems in parallel.

As and when the foregoing circumstances arise, the REU will make a detailed study taking into account all relevant factors so that the most beneficial arrangement may be determined. The interests of the village/settlement operating the existing hydro electric scheme will have particular consideration in the proposed study.