FIJI ELECTRICITY AUTHORITY (FEA) REGULATORY REVIEW - Final Report

Maunsell Limited
Consultant

PI EPSAP Project Report 75d

April 2008

~ Participating Pacific Islands Countries ~
Cook Islands, Federated States of Micronesia, Fiji, Kiribati, Marshall Islands, Nauru, Niue, Palau, Papua New Guinea, Samoa, Solomon Islands, Tonga, Tuvalu and Vanuatu
# Quality Information

**Document**  
FEA Regulatory Review

**Ref**  
1042 642 58U

**Date**  
August 2005

**Prepared by**  
David Mayo

**Reviewed by**  
Gerhard Zieroth

## Revision History

<table>
<thead>
<tr>
<th>Revision</th>
<th>Revision Date</th>
<th>Details</th>
<th>Authorised</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>21/03/05</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Name/Position</th>
<th>Signature</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
# Table of Contents

Executive Summary 1  

1.0 Introduction 10  
1.1 Background 10  
1.2 Appointment of Consultant 10  
1.3 Objectives of the Regulatory Review 10  
1.4 Consultations and Workshops 12  
1.5 Structure of the Report 14  
1.6 Acknowledgements 15  

2.0 Background 16  
2.1 General 16  
2.2 Fiji Electricity Authority 16  
2.3 FEA Power System 17  

3.0 Reform of the Electricity Sector 19  
3.1 Electricity Sector Policy Overview 19  
3.2 Stakeholder Analysis 19  
3.3 Direction of Sector Reform 22  
3.4 Re-organisation of FEA 23  

4.0 Electricity Sector Regulation 25  
4.1 Principles of Utility Regulation 25  
4.1.1 General 25  
4.1.2 Objectives and Benefits of Regulation 26  
4.1.3 Regulatory Design 27  
4.1.4 Regulation of Small Systems 28  
4.2 Existing Regulatory Framework 29  
4.3 Regulatory Reform 31  
4.3.1 Government Regulatory Policy 31  
4.3.2 Regulated Functions 32  

5.0 Retail Tariff Regulation 33  
5.1 Background 33  
5.1.1 Stakeholder Tariff Perspectives 33  
5.1.2 Tariff History 33  
5.2 Tariff Setting in Fiji 35  
5.2.1 General 35  
5.2.2 Legal Framework for Tariff Setting 35  
5.2.3 Tariff Review Procedures 36  
5.2.4 Institutional Framework for Tariff 37  
5.3 Strengthening Tariff Regulation 38  
5.3.1 Analysis of Present Regulatory Regime 38  
5.3.2 Commerce Commission 39
5.3.3 Price Adjustment Process 40
5.3.4 Pricing Models 41
5.3.5 FEA’s Social Obligations 42

6.0 Technical Regulation 44
6.1 FEA’s Present Role in Technical Regulation 44
6.2 Technical Regulation Options 44

7.0 Licensing Electricity Enterprises 47
7.1 Background 47
7.2 Licensing Options 48

8.0 Regulation of Public Private Partnerships 50
8.1 Public Private Partnerships in Fiji Power Sector 50
8.1.1 Motivation for Private Sector Involvement 50
8.1.2 Private Investment Climate in Fiji 52
8.1.3 Public Private Partnerships in FEA’s Operations 52
8.2 Regulation of Private Participation 54
8.2.1 Objective of PPP regulation 54
8.2.2 Legislative Framework for PPP 54
8.2.3 PPP Procurement Procedures 57
8.2.4 Institutional Capacity and Responsibilities 60
8.2.5 Proposed Reform Measures 63
8.3 Private Distribution 64

9.0 FEA Performance 66
9.1 General 66
9.2 Power System Reliability 66
9.2.1 Reliability Performance 66
9.2.2 Regulation of System Reliability 67
9.3 Commercial Performance 68
9.3.1 Financial Performance 68
9.3.2 Institutional Efficiency 68
9.4 Consumer Protection 69
9.4.1 Development of Consumer Focus 69
9.4.2 Responsibility for Consumer Protection 70

10.0 System Expansion and Resource Planning 71
10.1 Integration of Electricity Sector Planning with National Priorities 71
10.2 Power System Planning in Fiji 72
10.3 Regulation of Resource Planning 73
10.3.1 Institutional Planning Options 73
10.3.2 Strengthening Planning Regulation 73

11.0 Environmental Regulation 75
11.1 Electricity Sector Impacts in Fiji 75
11.2 Environment Management Act 75
<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>11.3</td>
<td>Environmental Compliance</td>
<td>76</td>
</tr>
<tr>
<td>12.0</td>
<td>Labour Regulation</td>
<td>77</td>
</tr>
<tr>
<td>12.1</td>
<td>Labour Issues in the Electricity Sector</td>
<td>77</td>
</tr>
<tr>
<td>12.2</td>
<td>Regulation of Industrial Relations</td>
<td>77</td>
</tr>
<tr>
<td>13.0</td>
<td>Regulatory Framework Development</td>
<td>79</td>
</tr>
<tr>
<td>13.1</td>
<td>Strategy for Regulatory Development</td>
<td>79</td>
</tr>
<tr>
<td>13.2</td>
<td>Short Term Improvements in the Regulatory Regime</td>
<td>80</td>
</tr>
<tr>
<td>13.3</td>
<td>Longer Term Regulatory Development</td>
<td>83</td>
</tr>
<tr>
<td>13.4</td>
<td>Regional Regulation</td>
<td>84</td>
</tr>
<tr>
<td>13.5</td>
<td>Commerce Commission and Sector Reform</td>
<td>85</td>
</tr>
<tr>
<td>13.5.1</td>
<td>Role of the Commerce Commission</td>
<td>85</td>
</tr>
<tr>
<td>13.5.2</td>
<td>Strengthening of the Commerce Commission</td>
<td>87</td>
</tr>
<tr>
<td>13.6</td>
<td>Next Steps</td>
<td>88</td>
</tr>
<tr>
<td>13.6.1</td>
<td>Priority Activities</td>
<td>88</td>
</tr>
<tr>
<td>13.6.2</td>
<td>Commerce Commission – Priority Strengthening Measures</td>
<td>89</td>
</tr>
<tr>
<td>13.7</td>
<td>Concluding Remarks</td>
<td>90</td>
</tr>
<tr>
<td>13.8</td>
<td>Conclusion</td>
<td>120</td>
</tr>
</tbody>
</table>

Attachment 1: Terms of Reference
Attachment 2: FEA Major Projects and Strategy Group
Attachment 3: References
Attachment 4: Stakeholder Comments and Responses
Attachment 5: Rural Electrification Models
## Abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Full Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADB</td>
<td>Asian Development Bank</td>
</tr>
<tr>
<td>BOT</td>
<td>Build-Operate-Transfer</td>
</tr>
<tr>
<td>CC</td>
<td>Commerce Commission</td>
</tr>
<tr>
<td>CSA</td>
<td>Commercial Statutory Authority (as defined in the Public Enterprise Act)</td>
</tr>
<tr>
<td>DoE</td>
<td>Department of Energy</td>
</tr>
<tr>
<td>DSM</td>
<td>Demand Side Management</td>
</tr>
<tr>
<td>FEA</td>
<td>Fiji Electricity Authority</td>
</tr>
<tr>
<td>FT &amp; CA</td>
<td>Department of Fair Trading and Consumer Affairs</td>
</tr>
<tr>
<td>F$</td>
<td>Fiji dollar</td>
</tr>
<tr>
<td>GCC</td>
<td>Government Commercial Company (as defined under the Public Enterprise Act)</td>
</tr>
<tr>
<td>GoF</td>
<td>Government of the Republic of the Fiji Islands</td>
</tr>
<tr>
<td>GWh</td>
<td>Gigawatt hour</td>
</tr>
<tr>
<td>ICB</td>
<td>International Competitive Bidding</td>
</tr>
<tr>
<td>ILO</td>
<td>International Labour Organisation</td>
</tr>
<tr>
<td>IPP</td>
<td>Independent Power Producer</td>
</tr>
<tr>
<td>IRC</td>
<td>Independent Regulatory Commission</td>
</tr>
<tr>
<td>kV</td>
<td>kilovolt</td>
</tr>
<tr>
<td>MFP</td>
<td>Ministry of Finance and Planning</td>
</tr>
<tr>
<td>MPE</td>
<td>Ministry of Public Enterprises and Public Sector Reform</td>
</tr>
<tr>
<td>MTC</td>
<td>Ministry of Trade and Commerce</td>
</tr>
<tr>
<td>MW</td>
<td>Megawatt</td>
</tr>
<tr>
<td>MWE</td>
<td>Ministry of Works and Energy</td>
</tr>
<tr>
<td>NLTB</td>
<td>National Land Trust Board</td>
</tr>
<tr>
<td>PIB</td>
<td>Prices and Incomes Board</td>
</tr>
<tr>
<td>PPP</td>
<td>Public Private Partnership – the term is used to describe the range of public and privately financed models for private participation in infrastructure. Examples of publicly financed PPPs include service contracts and management contracts. Examples of privately financed PPPs include BOT, concession and divestiture.</td>
</tr>
<tr>
<td>PWC</td>
<td>PriceWaterhouseCoopers</td>
</tr>
<tr>
<td>RESCO</td>
<td>Renewable Energy Service Company</td>
</tr>
<tr>
<td>RFP</td>
<td>Request for Proposals</td>
</tr>
<tr>
<td>SOPAC</td>
<td>South Pacific Applied Geoscience Commission</td>
</tr>
<tr>
<td>SWER</td>
<td>Single Wire Earth Return</td>
</tr>
<tr>
<td>UN</td>
<td>United Nations</td>
</tr>
</tbody>
</table>
Executive Summary

Study Objectives

The objectives of this review of FEA’s regulatory functions as stated in the TOR are to:

(i) Provide inputs for a government decision on restructuring the regulatory functions in the electricity industry

(ii) Facilitate consultation between stakeholders on the issue of electricity sector regulation

(iii) Propose a regulatory framework that provides a conducive enabling environment for private sector participation in the electricity industry.

Global reform of electricity markets has seen the emergence of regulatory models based on transparency, consistency and protection from arbitrary government intervention. These models provide templates for designing regulatory structures to suit the specific needs of a country. However, each country is different and regulatory models must be adapted to best serve sector participants in a particular location.

An important feature of the TOR is that it seeks a consensus position on regulation rather than an imposed solution. In pursuing a consultative approach, the Consultant had discussions with a number of the industry’s stakeholders and participated in the stakeholder consultation meetings held on 22nd March and 6th July. The views expressed at these meetings were influential in shaping the proposals presented in this Final Report.

Electricity Sector Regulation – Present Regime

The electricity sector in Fiji is following some of the global trends in utility reform and the changes are testing the regulatory framework. Absorption of spare capacity at the Monasavu hydroelectric project is increasing FEA’s costs in developing and operating its system, but the tariff is not adjusting in sympathy. New generating capacity is needed to meet system load growth but public capital is scarce and private sector capital is plugging the gap. Regulatory strengthening is needed to manage the increased role of the private sector.

From an examination of current regulation of the FEA system it is clear that an appropriate legal and institutional framework substantially exists already. Existing legislation, particularly the Commerce Act and Public Enterprise Act, gives GoF agencies broad regulatory mandates to scrutinise FEA’s planning, operations and transactions. These regulatory powers tend to be discretionary and the regulatory agencies lack the staff and resources to act. The situation is not uncommon. Legal and institutional changes can be made relatively quickly, but implementation of the new arrangements requires resources and the responsible agencies are often under-resources and unable to discharge their new regulatory duties.
Retail Tariff Setting

The FEA tariff was increased recently for the first time in 13 years. This stability was underpinned by spare capacity and stable production costs at the Monasavu scheme. With Monasavu now fully utilised, thermally generated electricity in the FEA system is increasing and, with it, the sensitivity of FEA’s production costs to global energy prices increases. The clear intention of the Electricity Act and Public Enterprise Act is for FEA to operate commercially; i.e. to charge prices that allow it to recover its costs. This presupposes that FEA’s retail tariff is responsive to changes in its reasonable costs of production and effective tariff review procedures are needed to facilitate this.

The Commerce Commission was established in the late nineties and is empowered under the Commerce Act (1998) to determine price adjustments for regulated goods and services, including electricity. However, price reviews for electricity are infrequent and customers have come to accept constant prices as the norm.

For price regulation to be effective, the tariff adjustment process must enjoy the confidence of stakeholders, but views expressed during the consultative phase of the assignment suggest that the basis of the Commission’s recent tariff decision was not well understood. Stakeholder confidence is built on transparency and improvements in the tariff adjustment process could be introduced to promote greater transparency.

The following proposals are made to strengthen tariff regulation:

- Increase the frequency of tariff adjustments to better track FEA’s supply costs and to condition customers to the reality that these costs change.
- Introduce clear and verifiable procedures for managing each tariff review. Tariff adjustments could be calculated periodically by a specialist consultant with interim adjustments determined transparently by the Commission using an objective template approach based on an appropriate pricing model that allows FEA to recover its costs (cost-based or performance-based).
- Provide the Commerce Commission with the resources, independence and autonomy it needs to conduct tariff reviews in accordance with the requirements of relevant legislation.
- Agree a procedure for annually quantifying and reimbursing FEA’s social obligation costs. The procedure should include a transparent calculation methodology.

Technical Regulation

The FEA Regulatory Unit responsible for inspecting, testing and licensing electrical installations and equipment is conflicted in situations where the installations and equipment concerned are owned by FEA. To date, the arrangement has worked well and no situation was brought to the Consultant’s attention where the Unit’s independence was called into question.
No fundamental relocations or transfers of the Unit’s functions to another agency are proposed at this stage but
the Unit’s independence could be reinforced by strengthening the “ring-fencing” measures that establish its
independence of FEA management (e.g. separate cost centre, outside reporting line, assured budgets).

As a long term objective, technical regulation could be transferred to the Commerce Commission as part of a
coordinated transfer of similar responsibilities from other sectors to create an independent multi-sectoral
technical regulator.

**Licensing Electricity Enterprises**

Under the Electricity Act, FEA may license others to generate electricity for grid supply, to build and operate
transmission lines, and to distribute and sell electricity. FEA could be perceived by prospective licensees as a
competitor in these areas and may be concerned about potential conflicts in FEA’s licensing role. In practice,
this has not been a problem to date.

Any conflicts, perceived or real, could be resolved by transferring the licensing function to either DoE or the
Commerce Commission. Of these options, the Commerce Commission holds more advantage. As an
independent multi-sectoral regulator, the Commission absorb the licensing role for infrastructure service
providers across a number of sectors. The Commission may not be in a position to manage a coordinated
transfer of licensing responsibilities for a while and, until that time arrives, FEA remains the agency best
equipped to consider licence applications.

**Regulation of PPP Projects:**

GoF and FEA appear to be at common purpose in their desire to harness private investment. Private sector
involvement in owning and operating power infrastructure is already established in the FEA system through co-
generation purchases. Private greenfield projects, though, are relatively new.

The legal system, political institutions and language inherited from the British provide a sound platform for
private sector involvement, but recent political instability and a non-convertible currency are potential concerns
for prospective investors. Investments in generation can be large, with macroeconomic implications, and
stakeholders have a legitimate interest in the effective regulation of FEA’s public-private partnerships (PPPs).

The existing legislative framework, though not specific in its treatment of PPPs, provides generally for the
regulation of all stages of commercial transactions such as PPPs from project selection through to the
negotiation and administration of project agreements. Regulatory powers are contained primarily in the
Commerce Act (Part 3, Access Agreements) and the Public Enterprise Act, but they are discretionary and tend
not to be invoked because of institutional weaknesses in capacity and resources.

FEA has internal procedures for reviewing its PPP investment proposals but these should be complemented
with external mandatory procedures for regulating procurement processes and providing for routine reporting
and GoF approvals. For regulation to be effective and transparent, procedures should be drafted in clear and
verifiable terms to define the processes and stipulate the documentation and information to be provided at each stage of the process. The procedures should be drafted in a legal style for possible incorporation into a PPP law or regulation.

With respect to institutional responsibilities for PPP implementation, FEA is the agency best equipped to cost-effectively and efficiently manage PPP procurement in the electricity sector and should remain the lead agency for such activities. Responsibility for licensing PPPs, though, should be transferred to the Commerce Commission as soon as it is expedient.

Where large PPPs are concerned, procurement is more complex and negotiations more intense and there is a need to apply specialist skills and resources to the solicitation and negotiation processes. This might be better achieved by drawing more widely from, and coordinating more closely with, other GoF agencies and a case can be made for projects of national importance to be managed and coordinated by dedicated project groups. These could be located within the a central GoF ministry to improve coordination between agencies in reviewing studies and proposals, arranging permits and consents, finalising project agreements and monitoring construction.

**Regulation of FEA**

Regulation of FEA's performance is discussed separately under: (i) power system reliability, (ii) commercial performance, and (iii) consumer protection

(i) **Power system reliability**: FEA's function is to provide and maintain a power supply that is financially viable, economically sound and consistent with the required standards of safety, security and quality. The statistics routinely provided by FEA in its Annual Report provides feedback on FEA's technical performance in the preceding year. Should a more forward-looking overview be needed, GoF should become more closely involved in FEA's power system expansion planning.

(ii) **Commercial Performance**: Financial scrutiny of FEA's affairs is authorised under the Electricity Act and Public Enterprise Act. This includes the requirement to audit its accounts annually. The Public Enterprise Act goes further, empowering the Minister to look at the institutional efficiency of FEA. The powers provided under existing legislation are adequate for overseeing FEA's commercial performance, but they are largely discretionary.

(iii) **Consumer Protection**: The Fair Trading Decree (1992) and the Commerce Act define the consumer rights of FEA's customers. FEA staff provides a first line of defence for consumer protection. With the transfer of the regulatory aspects of the Department of Fair Trading to the Commerce Commission, final recourse for customers with complaints is through the Commission. The legal and institutional framework provides adequate protection of FEA's customers.
Power System Expansion Planning

FEA, having a utility perspective, plans its system expansion on a least-cost basis. GoF, with its national perspective, has a broader interest in the integrated planning of Fiji’s resources to achieve its goal of economic efficiency. The regulatory regime must reconcile these perspectives.

Though small, the Viti Levu power system, with its reliance on hydropower, is a complex system to simulate for the purposes of least-cost expansion planning of the FEA system. The Major Projects and Strategy Group of FEA conducts load forecasting, generation expansion simulations and power system planning, and, at present, no other GoF agency has the expertise or software to do this work.

Current planning processes allow GoF several opportunities to influence the objectives and direction of planning. These include the requirement under the Public Enterprise Act to submit to GoF the annual FEA Corporate Plan and Statement of Corporate Intent. Planning must conform to these documents. Opportunities for GoF to steer the planning process also arise through a stakeholder consultation process at the start of a planning cycle.

That GoF does not always take advantage of these opportunities could be attributable to a lack of formal structure in the planning procedures. Power planning in many countries is divided between strategic planning conducted by the government, and tactical planning conducted by the utility. This ensures an integration of national and utility objectives. To introduce this approach in Fiji would involve the setting up of a new planning group in DoE which would split the country’s already thin power planning expertise.

The preferred remedy is to establish clear and verifiable procedures that would govern the consultation process at the start of and during the planning cycle to ensure the national priorities of GoF are formally reflected in the planning criteria and parameters used by FEA in the preparation of its least-cost expansion plans.

Environmental Regulation

With environmental effects only partly built into the pricing of electricity, the market is a poor regulator of environmental responsibility. Regulation is needed to direct behaviour in project selection and development, system dispatch and electricity consumption.

The recently enacted Environment Management Act (2004) provides an effective framework for regulating environmental and social impacts of FEA activities in operating and extending its system. The Act is strongest in assessing and controlling impacts from capital works but is not designed to regulate the environmental effects of power system operation.

The application of the provisions of the Environment Management Act will be overseen by the National Environment Council and the Department of the Environment. Powers may also be delegated to environmental units within line ministries and to FEA.
Though the legal framework properly addresses regulation of environmental effects of FEA, effective legislation is only one element of effective regulation. A number of countries have adequate environmental legislation but are unable to regulate behaviour because of a combination of factors including lack of institutional capacity and resources (and sometimes a lack of political will). Environmental regulation is only as effective as the institutions implementing it.

The question of independence also arises in connection with environmental regulation. Those charged with administering the Act should be able to carry out their duties independently. The Department of Environment is a GoF agency and potential conflicts arise where it is required to monitor and enforce conditions on priority government projects. The same conflict exists in other countries but the arrangement works satisfactorily in many cases. The alternative is to duplicate environmental capacities under an independent regulatory agency, an approach of doubtful merit for Fiji. It is therefore proposed that environmental regulation remains with the Department of Environment and line ministries.

**Labour Regulation**

The labour market in Fiji is unionised and regulated by legislation. Employees can be employed pursuant to an industrial award or under an employment contract.

When FEA becomes a Government Commercial Company under the Public Enterprise Act, FEA must prepare an Employment and Industrial Relations Plan which must specify FEA’s major employment and industrial relations issues.

A new Industrial Relations Bill is before Parliament. The Ministry of Labour, Industrial Relations and Productivity is reviewing the Bill which consolidates amendments from workers’ and employers’ organisations with existing employment and industrial relations legislation. The Bill’s provisions bring labour legislation into line with Fiji’s 1997 Constitution and with international agreements ratified by Fiji such as the UN and ILO Conventions.

On the basis of the documents studied and the Consultant’s consultations, the industrial relations legislation and labour institutions provide an adequate framework for regulating employment and staff issues in the sector.

**Regulatory Framework Development**

Development of “best practice” regulation is a long-term and ongoing process. Strategies for improving regulation in Fiji should have two facets:

1. Long term objective of building transparency and independence into the regulatory framework as well as other best practice principles applicable to small systems;
2. In the interim, introducing short term enhancements to address particular areas needing immediate attention.

GoF has already introduced a number of major reforms with the creation of a multi-sectoral model of regulation with the Commerce Commission as the focal agency. The multi-sector model recognises the constraints of a small market and commonalities between network industries.

In general, the existing legal and institutional framework provides an effective basis for regulating the sector, but problems in application exist, caused in the main by insufficient resourcing of the regulating agencies and lack of formal procedures to specify and mandate regulatory processes. Relatively minor adaptations could be introduced at little cost to ease perceived and actual shortcomings. These steps should be considered to be transitional – designed to work within the existing legal and institutional framework to avoid the cost, disruption, risks and delays associated with revolutionary reform involving the division or relocation of successful units. With time, other options will become more realistic and the further development of the regulatory framework based around an expanded Commerce Commission should be considered.

Proposed adaptations that could be introduced within a short timeframe are summarised below:

(i) **Retail Tariff Setting**

- Increase the frequency of tariff adjustments so FEA’s revenue base more closely tracks its reasonable production and system development costs.

- Introduce clear and verifiable procedures for managing each tariff review, specifying the timing and methodology of tariff reviews, the pricing model or template to be used to determine a fair price.

- Provide the Commerce Commission with the resources and autonomy it needs to conduct tariff reviews in accordance with the requirements of relevant legislation.

- Agree an objective procedure for annually quantifying and reimbursing FEA’s “social obligation” costs associated with GoF’s commitment to non-commercial rural electrification.

(ii) **Technical Regulation**

- Strengthen perceptions of independence of the FEA Regulatory Unit by reinforcing “ring-fencing” measures to further insulate it from management influence in matters relating to the licensing of FEA plant and equipment.
(iii) **Licensing Electricity Enterprises**

- Transfer responsibility for the licensing of electricity enterprises (including PPPs) from FEA to the Commerce Commission as soon as practicable. This should be done as part of a coordinated transfer of similar licensing functions in other sectors. The transfer should occur only when an institutional capacity for multi-sectoral licensing has been developed within the Commission.

- In the meantime, strengthen procedures for licensing of electricity enterprises to provide transparency of process and provide stakeholders with adequate and timely information;

(iv) **PPP Procurement**

- As the agency best equipped to manage PPP procurement, FEA should retain responsibility for the procurement process. Responsibility for formal PPP licensing and monitoring of compliance with licence conditions should be assumed by the Commerce Commission as soon as practicable.

- Clear and verifiable procedures drafted in legal style should be introduced to bind all parties to a systematic and transparent PPP procurement process, and to specify the agencies responsible for procurement activities and approvals.

- Where large PPPs of macroeconomic significance are concerned, wider support from Government may be needed to assemble the skills needed to manage complex projects and negotiate on equal terms with experienced developers and their advisors.

(v) **System Expansion and Resource Planning**

- Introduce formal procedures governing GoF input into FEA power system planning criteria to reconcile national and utility objectives in the expansion of the FEA system.

The faith of investors, customers and other participants in the power sector is promoted by a system of regulation that is independent, transparent and efficient, and longer term regulatory objectives should be aimed at reinforcing these features. The Commerce Commission provides a natural focus for progressive strengthening of the regulatory regime over a period of time. Regulatory functions currently carried out by FEA and other GoF agencies could be transferred to the Commission as its capacity to absorb the new responsibilities is developed. In keeping with its multi-sectoral charter, the broadening of the Commission’s role should be coordinated across sectors, as appropriate, to take advantage of any scale effects.

Institutional weakness has been an obstacle to effective regulation and sustained capacity building programs to strengthen the key regulatory agencies should be a part of any long-term development plan for the sector. The
Commerce Commission, in particular, should receive on-going assistance to prepare it for its expanding role. Technical assistance from multilateral and bilateral agencies could be enlisted to support such programs.

Next Steps

At the Second Stakeholder Consultation Workshop it was agreed that the planning of regulatory reform should take account of the resources available to GoF and should concentrate on several priority issues rather than attempt reform across a broad front. Priority issues are:

- Tariff reviews and tariff adjustments
- PPP procurement
- Power system planning

The planning and resourcing of these initial reforms are explored in the report.
1.0 Introduction

1.1 Background

The Strategic Development Plan for 2003-2005 of the Government of Fiji (GoF) sets the goal of the energy sector as being “to facilitate the development of a resource efficient, cost effective and environmentally sustainable energy sector.” A specific objective for the electricity supply industry is “reform of the power sector through internal restructuring of FEA and the encouragement of private sector participation through Independent Power Producers (IPP’s) and Renewable Energy Service Companies (RESCOS) in electricity generation”. It is recognized by GoF that the private sector can contribute capital and expertise to sector development provided that business incentives and legal and regulatory arrangements create an attractive investment climate.

Against this background the Acting Director of Energy together with the Chief Executive Officer of the Ministry of Public Enterprises and Public Sector Reform requested PIEPSAP to assist in a review of FEA’s functions as a regulator in electricity industry. Cabinet has approved the terms of reference for this review on 17 November 2004. as part of SOPAC’s support to the Government of Fiji in developing a National Energy Policy (NEP).

1.2 Appointment of Consultant

Following a competitive tendering process, Maunsell Limited of New Zealand was appointed. The Consultant mobilised on 23rd February 2005.

1.3 Objectives of the Regulatory Review

The objective of the regulatory review is not to provide an inclusive and detailed re-design the regulatory framework. Rather, it is to review the existing framework, identify issues, facilitate discussion, propose a framework that reflects stakeholder views and describe a model for transitioning from the present to the proposed framework. The resourcing of the consultancy reflects these limited aims. Once GoF has decided on a course of action, additional work will be required to prepare and implement the regulatory changes it wishes to pursue. This report is designed to provide GoF with the information to determine a course of action and to scope downstream work.

Specifically, the objectives of the review of FEA’s regulatory functions as stated in the TOR are to:

(i) Provide inputs for a government decision on restructuring the regulatory functions in the electricity industry

(ii) Facilitate consultation between stakeholders on the issue of electricity sector regulation
(iii) Propose a regulatory framework that creates an enabling environment for private sector participation in the electricity industry.

The Terms of Reference (TOR) for the assignment are provided as Attachment 1. The work plan adopted by the Consultant in responding to the TOR is outlined below:

- **Consultations** – The Consultant met most of the primary stakeholders and sought their views and ideas on regulation in the sector. The consultations were conducted over the full period of the Consultant’s stay, i.e. 24 February to 22nd March. These consultations are described in Section 1.4.

- **Inception Report** – An Inception report was prepared describing the consultations and setting out some early proposals. The report was completed on 10th March and circulated to stakeholders.

- **Comments on Inception Report** – Comments on the Inception Report were invited and received. Comments were incorporated into a first draft of the Draft Final Report.

- **Draft Final Report – First Draft** – The first draft of the Consultant’s report was distributed to stakeholders prior to the First Stakeholder Consultation Meeting.

- **First Stakeholder Consultation Meeting** – Stakeholders attending the First Stakeholder Consultation Meeting on 22 March were invited to give their views on on the present and proposed regulatory regime. At the conclusion of the meeting stakeholders were invited to pass any subsequent comments or views to the Consultant by email.

- **Draft Final Report – Second Draft** – After allowing a period for further comments, the Draft Final Report was produced incorporating the comments and views expressed during the First Stakeholder Consultation Meeting and in the period up to the issuing of the report. The report was circulated to Stakeholders who put their written views to the Consultant for consideration and discussion in the Second Stakeholder Consultation Meeting.

- **Second Stakeholder Consultation Meeting** – Stakeholders attending the Second Stakeholder Consultation Meeting on 6 July 2005 were issued with copies of and responses to all comments received on the second draft of the Draft Final Report. The report and the comments were discussed at the workshop and views about the content of the Final Report were aired.

- **Final Report** – The Final Report will be produced after receiving and incorporating the written comments on the Draft Final Report and the content of the discussions at the Second Stakeholder Consultation Meeting.
1.4 Consultations and Workshops

As part of the Consultant’s assignment, consultations were held with a number of parties with a role or interest in the regulation of the sector (refer Table 1). In addition, two workshops were scheduled to bring together stakeholders to discuss the preferred form of regulatory reform.

An important feature of the TOR is that it seeks an agreed position on regulation rather than an imposed solution. In many respects, the Consultant’s role is as a facilitator, collecting opinions and ideas from each stakeholder, developing solutions based on these ideas and international best practice, adapting them for the Fiji sector and testing reactions to them. In adopting the consultative approach, the Consultant and the manager of the PIEPSAP project had discussions with a number of the industry’s stakeholders and participated in the two workshops. The two workshops, in particular, provided valuable opportunities to raise objections, debate issues, and develop consensus on regulatory reform. The proposals presented in this Final Report reflect these discussions.
Table 1 – Consultations and Workshops

<table>
<thead>
<tr>
<th>Date</th>
<th>Meeting</th>
<th>Attendees</th>
</tr>
</thead>
<tbody>
<tr>
<td>24 Feb</td>
<td>Joint Meeting – Fiji Electricity Authority: Sunil de Silva</td>
<td>Sunil de Silva</td>
</tr>
<tr>
<td></td>
<td>Fiji Electricity Authority: Om Dutt Sharma</td>
<td>Om Dutt Sharma</td>
</tr>
<tr>
<td></td>
<td>Department of Energy: Makereta Sauturaga</td>
<td>Makereta Sauturaga</td>
</tr>
<tr>
<td></td>
<td>Min. of Public Ent. &amp; Public Sector Reform: Ana Naivakasoro</td>
<td>Ana Naivakasoro</td>
</tr>
<tr>
<td>25 Feb</td>
<td>Dept of Energy, Min. of Works &amp; Energy</td>
<td>Peceli Nakavulevu</td>
</tr>
<tr>
<td>25 Feb</td>
<td>Asian Development Bank</td>
<td>Sirpa Jarvenpaa</td>
</tr>
<tr>
<td></td>
<td>Sophia Ho</td>
<td></td>
</tr>
<tr>
<td>25 Feb</td>
<td>Telesource (Fiji) Ltd</td>
<td>Kord Christianson</td>
</tr>
<tr>
<td>28 Feb</td>
<td>Prices &amp; Incomes Board, Min. of Finance &amp; Planning</td>
<td>Biulailai Biutiviti</td>
</tr>
<tr>
<td></td>
<td>Ane Naulivou</td>
<td></td>
</tr>
<tr>
<td>28 Feb</td>
<td>Deputy Secretary, Min. of Works &amp; Energy</td>
<td>Devendran Kumaran</td>
</tr>
<tr>
<td>28 Feb</td>
<td>Min. of Public Enterprises and Public Sector Reform</td>
<td>Parmesh Chand</td>
</tr>
<tr>
<td></td>
<td>Ana Naivakasoro</td>
<td></td>
</tr>
<tr>
<td>1 Mar</td>
<td>Commerce Commission, Min. of Trade &amp; Commerce</td>
<td>Thomas Raju</td>
</tr>
<tr>
<td></td>
<td>Miliana Racule</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lia Waqainabete</td>
<td></td>
</tr>
<tr>
<td>2 Mar</td>
<td>Fiji Electricity Authority</td>
<td>Rokoseru Nabalarua</td>
</tr>
<tr>
<td></td>
<td>Om Dutt Sharma</td>
<td></td>
</tr>
<tr>
<td>3 Mar</td>
<td>Fiji Electricity Authority</td>
<td>Ron Steenbergen</td>
</tr>
<tr>
<td></td>
<td>Raj Reddy</td>
<td></td>
</tr>
<tr>
<td>4 Mar</td>
<td>Sectoral Regional Planning Division, Min. of Finance &amp; Planning</td>
<td>Krishna Prasad</td>
</tr>
<tr>
<td></td>
<td>Moses Qasenivalu</td>
<td></td>
</tr>
<tr>
<td>7 Mar</td>
<td>Asset Mgt Unit, Min. of Finance &amp; Planning</td>
<td>Aisake Taito</td>
</tr>
<tr>
<td>7 Mar</td>
<td>Department of Energy</td>
<td>Makereta Sauturaga</td>
</tr>
<tr>
<td>14 Mar</td>
<td>Forum Secretariat, Trade &amp; Investment Div.</td>
<td>Jared Morris</td>
</tr>
<tr>
<td>16 Mar</td>
<td>SOPAC, Energy Adviser</td>
<td>Anare Matakiviti</td>
</tr>
<tr>
<td>16 Mar</td>
<td>Asian Development Bank, Manila</td>
<td>Mats Elerud (email consultation)</td>
</tr>
<tr>
<td>21 Mar</td>
<td>Minister for Works &amp; Energy</td>
<td>Hon. Col. Savenaca U Draunidalo</td>
</tr>
<tr>
<td>22 Mar</td>
<td>First Stakeholder Consultation Meeting</td>
<td>Multi-agency attendance</td>
</tr>
<tr>
<td>6 Jul</td>
<td>Second Stakeholder Consultation Meeting</td>
<td>Multi-agency attendance</td>
</tr>
</tbody>
</table>
1.5 Structure of the Report

The Draft Final Report outlines the background to the study, provides an overview of electricity sector regulation, analyses features of regulation in Fiji and outlines options for improvement. The intention of the report is to draw together the comments and views of stakeholders on each regulatory issue, to explore the positions taken in the literature in respect of these issues, and to overlay the characteristics and constraints of the Fiji electricity sector in determining a sensible response.

The report is organized under the following sections:

- **Section 1 – Introduction**, (this section): This section states the objectives of the study and describes its context and the background to the Consultant’s appointment. It outlines the organization of the study and records some administrative matters.

- **Section 2 – Background**: This section provides background information on Fiji and the Fiji Electricity Authority.

- **Section 3 – Reform of the Electricity Sector**: This section discusses the reform options facing the sector and outlines assumptions made about the direction of development of the sector for the purposes of designing a regulatory framework to serve the sector in the future.

- **Section 4 – Electricity Sector Regulation**: Section 4 takes a general look at the objectives and principles of utility regulation and considers more specifically the problems of regulation in small systems. The present regulatory environment in the FEA system is described.

- **Section 5 – Retail Tariff regulation**: Section 5 describes the existing system of regulating electricity prices and offers proposals for improving transparency in the tariff setting process.

- **Section 6 – Technical Regulation**: Section 6 describes the system of licensing of equipment and contractors.

- **Section 7 – Licensing Electricity Enterprises**: Section 7 outlines the system of regulation of private electricity enterprises.

- **Section 8 – Regulation of Public Private Partnerships**: This section examines a particular class of electricity enterprise – Public Private Partnerships (PPPs) – and looks at options for regulating PPP transactions.

- **Section 9 – FEA Performance**: Section 9 explores the regulatory system as it applies to FEA’s technical performance, commercial efficiency and customer relationships.
Section 10 – System Expansion and Resource Planning: Regulation as it applies to the alignment of national and utility priorities is the subject of Section 10.

Section 11 – Environmental Regulation: Section 11 looks at the regulation of environmental and social impacts of FEA’s activities.

Section 12 – Labour Regulation: Section 12 briefly examines labour regulation as it applies in the Fiji electricity sector.

Section 13 – Regulatory Framework Development: Having considered regulatory development for each component of the framework, Section 13 examines overall development and looks at longer term improvements based on broadening the independence of the regulatory processes.

1.6 Acknowledgements

The Consultant wishes to express his gratitude for the cooperation of the staff of the Department of Energy, Fiji Electricity Authority, SOPAC and the many other organizations interviewed in the course of gathering information and views for this study. Particular thanks are given to Peceli Nakavulevu, Gerhard Zieroth and Anare Matakiviti for their assistance and ideas.
2.0 Background

2.1 General

Fiji is an archipelago of approximately 320 islands supporting a population of around 820,000, about 75% of whom live on the main island of Viti Levu.

The electricity sector has an important role to play in Fiji’s economic and social development. Viti Levu has an integrated grid that supplies the main population centres of the island but more than half of Fiji’s population live in villages and only half have access to electricity.

The Ministry of Works and Energy (MWE) is responsible for most aspects of the electricity sector. Functions are shared between the Fiji Electricity Authority (FEA) and the Department of Energy (DoE). FEA is a vertically integrated, state-owned utility and is responsible for the efficient, reliable and cost-effective production and supply of electricity to customers accessible to its grids on Viti Levu, Vanua Levu and Ovalau. DoE is responsible for:

- Reviewing power development proposals;
- Evaluating indigenous renewable energy sources;
- Extending grid and off-grid electrification in areas where supply is not commercially viable. (Operation and maintenance of off-grid supplies is also a DoE responsibility but for grid-based rural electrification schemes, this falls to FEA.)

2.2 Fiji Electricity Authority

FEA is a statutory authority incorporated under the provisions of the Electricity Act (1966). Members of the Authority are appointed by the Minister for Works and Energy. The Electricity Act allocates to FEA the responsibility of providing a safe and secure electricity supply, and gives it the authority to charge according to the reasonable costs incurred in operating and developing the system.

Though widely regarded as a well administered and effective utility, FEA, in 1998, was gazetted as a Reorganisation Enterprise under the Public Enterprise Act (1966). The intention of the action was to reform FEA to make it more efficient, productive and accountable, and to improve its organisation. The Act sets out the process and procedures involved in re-organising and corporatising FEA and regulating its relationship with GoF. FEA was brought under a Reorganisation Charter which described the re-organisation process and provided for the establishment of FEA as a “Government Commercial Company” (GCC) under s44(1) of the Public Enterprise Act. The reorganisation process was commenced and FEA was unbundled in 1998 but an incoming government reversed this change and in 1999 FEA was removed from the list of reorganisation

---

1 Refer s7 of the Public Enterprise Act (1996)
2 Part A of Schedule 1, Key Principles of Public Enterprise Reform, Public Enterprise Act (1996)
enterprises. It is understood that FEA currently has the status under the Public Enterprise Act of a Commercial Statutory Authority (CSA) but it is GoF’s intention to reorganise it as a GCC. The review of the FEA regulatory framework has been conducted on this assumption.

### 2.3 FEA Power System

The power system owned and operated by FEA comprises the Viti Levu Integrated System (VLIS) and three isolated grids supplying Labasa and Savusavu on Vanua Levu, and Levuka on Ovalau. Annual energy production within the FEA systems in 2003 was 628 GWh, of which the VLIS accounted for 94%.

The completion of the Monasavu hydroelectric project in the early eighties gave the FEA system a long period of ample capacity and stable pricing, but for the last five or six years FEA has been at a crossroads in its development of generation resources. FEA is actively courting the private sector. Cogeneration purchases from the Fiji Sugar Corporation, Tropik Wood and Emperor Gold Mine contribute energy to the system and FEA has formed a joint venture with Pacific Hydro for the development of hydropower and wind generation projects. The recent completion of Wainikasau and impending completion of Vaturu by the joint venture brings the installed capacity of the system to 200 MW (refer Table 2), but there is still insufficient reserve margin in the system and other IPP and co-generation proposals are being actively considered.

FEA management has instituted a number of measures to reduce staff numbers, reduce losses and otherwise improve efficiency. It has entered into a 20-year energy conversion agreement with Telesource covering the Kinoya and Vuda diesel stations. The transfer of staff to Telecource has contributed to an overall decline in staff numbers from a peak of 1050 in 2001 to around 640 in 2003.

FEA remained profitable in 2003 despite dry hydrological conditions and higher fuel and insurance costs.
<table>
<thead>
<tr>
<th>Power Station</th>
<th>Type</th>
<th>Installed Capacity (MW)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Viti Levu</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Monasavu (Wailoa)</td>
<td>Hydro</td>
<td>83.2</td>
</tr>
<tr>
<td>Kinoya</td>
<td>Diesel</td>
<td>35.5</td>
</tr>
<tr>
<td>Vuda</td>
<td>Diesel</td>
<td>24.0</td>
</tr>
<tr>
<td>Nadi</td>
<td>Diesel</td>
<td>8.0</td>
</tr>
<tr>
<td>Singatoka</td>
<td>Diesel</td>
<td>8.8</td>
</tr>
<tr>
<td>Deuba</td>
<td>Diesel</td>
<td>5.7</td>
</tr>
<tr>
<td>Rakiraki</td>
<td>Diesel</td>
<td>1.0</td>
</tr>
<tr>
<td>Korovou</td>
<td>Diesel</td>
<td>1.2</td>
</tr>
<tr>
<td>Rokobilli</td>
<td>Diesel</td>
<td>3.3</td>
</tr>
<tr>
<td>Wainikasou</td>
<td>Hydro</td>
<td>6.0</td>
</tr>
<tr>
<td>Vaturu</td>
<td>Hydro</td>
<td>2.8</td>
</tr>
<tr>
<td><strong>Vanua Levu</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Savusavu</td>
<td>Diesel</td>
<td>2.5</td>
</tr>
<tr>
<td>Wainiqueu</td>
<td>Hydro</td>
<td>0.8</td>
</tr>
<tr>
<td>New Labasa</td>
<td>Diesel</td>
<td>14.3</td>
</tr>
<tr>
<td><strong>Ovalau</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Levuka</td>
<td>Diesel</td>
<td>2.0</td>
</tr>
<tr>
<td><strong>Others</strong></td>
<td>-</td>
<td>3.7</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td><strong>202.8</strong></td>
</tr>
</tbody>
</table>
3.0 Reform of the Electricity Sector

3.1 Electricity Sector Policy Overview

GoF recognises that the electricity sector is a vital engine for growth, development and prosperity in Fiji. Its policy is to reform the sector to better achieve the following:

- Provide customers with reliable, sufficient and least-cost supply of electricity;
- Expand access to electricity to remote and rural communities through on-grid and off-grid electrification;
- Develop indigenous energy sources for generation to reduce exposure to volatile global energy markets;
- Minimise environmental impacts and social disruption of system development and operation.

An essential part of any healthy power sector is an effective system of regulation to guide the behaviour of its participants and resolve conflicts in a way that promotes efficiency and protects the interests of stakeholders, particularly those lacking market power. The regulatory framework must be developed as an integral part of sector reform and must constantly adapt to keep pace with the changing institutional and commercial environment in Fiji.

The performance of FEA is central to the achievement of GoF’s reform goals and, as the main agent for change, FEA is itself being reformed to improve its efficiency and business outlook.

In parallel with the reform program an investment program is being pursued to expand FEA’s system to meet demand growth and broaden access to electricity. Expenditures of F$500 million are planned over the next five years. This exceeds the means of FEA, GoF and their donor supporters, and private sector investment of F$150 million is budgeted for the period, principally in generation. The private sector is usually quick to show interest but slower to commit, and the terms of its involvement will generally reflect the investment environment in the sector. Among the factors they will assess will be the efficacy and independence of regulation.

3.2 Stakeholder Analysis

A stakeholder analysis of the Fiji electricity sector is conducted to assess the importance of the sector to key institutions, entities and groups. The objectives of the analysis are to:

- Identify institutions, entities and groups that influence and are influenced (positively and negatively) by the electricity sector and define their characteristics;
- Assess the objectives and interests of stakeholders;
- Identify relationships (and conflicts) between stakeholders and assess their influence; and
- Develop strategies for sector development that best meets stakeholder interests.
The understanding developed from a stakeholder analysis assists in shaping the direction and detail of policy development, sector reform and regulatory strengthening.

The stakeholder analysis summarised in Table 3 lists the stakeholders of particular relevance to the review of FEA regulation but it is by no means an exhaustive listing of stakeholders. Among those not included in the analysis are Department of the Environment, Ministry of Labour, FEA’s contractors and suppliers, local communities displaced or otherwise affected (positively or negatively) by FEA’s projects, and the tourism industry and those dependent on it.

The stakeholder analysis is useful in exposing attitudes of interested parties so that conciliatory measures can be built into the proposed framework to build broader consensus. The analysis highlights a common interest among GoF agencies in an efficient utility offering reliable supply at least cost. Inevitably, though, tensions can be found in some stakeholder interests; for instance:

- Profit motive (investors), cf. low electricity prices (customers)
- Low investment risk (investors, lenders), cf. low wholesale power purchase risk (FEA)
- Managerial autonomy (FEA), cf. utility oversight and control (DOE, MPE)
- Responsiveness of retail tariff to production costs (FEA), cf. stable electricity prices (customers)
- Government guarantee of borrowings (FEA), cf. limits on contingent liabilities (MFP)
- Compensation for non-commercial activities (FEA), cf. rural electrification (DOE)
<table>
<thead>
<tr>
<th>Stakeholder</th>
<th>Stakeholder Interests</th>
<th>Relationship to FEA</th>
<th>Influence on FEA</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>FEA:</strong></td>
<td>• profit / cash flow</td>
<td>not applicable</td>
<td>not applicable</td>
</tr>
<tr>
<td></td>
<td>• cost stability (renewables)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• customer satisfaction</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• system development</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• operational autonomy</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• HR / IR / OHS</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>GoF:</strong></td>
<td>• MWE / DOE</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• price</td>
<td>DOE provides planning overview.</td>
<td>Potentially influential – but limited in practice by lack of resources.</td>
</tr>
<tr>
<td></td>
<td>• optimal system development</td>
<td>DOE and FEA cooperate on RE.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• rural electrification</td>
<td>MPE is responsible for FEA’s reorganisation to GCC.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• commercial efficiency</td>
<td>Independent of FEA</td>
<td>Potentially influential – but limited in practice by lack of resources.</td>
</tr>
<tr>
<td></td>
<td>• profitability</td>
<td>Responsible for tariff adjustments.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• competition / transparency</td>
<td>May review access agreements (PPA).</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• price</td>
<td></td>
<td>Influence is limited by the scarcity of CC’s resources.</td>
</tr>
<tr>
<td></td>
<td>• network access</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• FEA debt / guarantees</td>
<td>FEA depends on loan guarantees.</td>
<td>MFP is potentially influential – FEA’s loan program relies on guarantees.</td>
</tr>
<tr>
<td></td>
<td>• FEA dividend</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• power system planning</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Customers:</strong></td>
<td>• Industrial &amp; commercial</td>
<td>FEA is monopoly supplier</td>
<td>Underpin FEA’s commercial performance</td>
</tr>
<tr>
<td></td>
<td>• Low and stable price</td>
<td></td>
<td>Customer groups exert political influence.</td>
</tr>
<tr>
<td></td>
<td>• supply reliability</td>
<td></td>
<td>Little influence – some GoF pressure on FEA for RE.</td>
</tr>
<tr>
<td></td>
<td>• Residential</td>
<td>FEA is monopoly supplier</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Low and stable price</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Aspiring customers</td>
<td>FEA to extend supply to unserved areas</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• access</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• affordability</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Development Agencies:</strong></td>
<td>• SOPAC</td>
<td>Partnership approach to achieving mutual objectives.</td>
<td>Some influence through advice and assistance.</td>
</tr>
<tr>
<td></td>
<td>• policy and regulation</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• sector efficiency</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• institutional framework</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• regional cooperation</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• ADB</td>
<td>No current ADB lending to FEA.</td>
<td>Influence according to FEA’s dependence on concessional lending.</td>
</tr>
<tr>
<td></td>
<td>• poverty reduction</td>
<td></td>
<td>Some influence through advice and assistance.</td>
</tr>
<tr>
<td></td>
<td>• regional cooperation</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Forum Secretariat</td>
<td>Partnership approach to achieving mutual objectives.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• economic development</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• social development</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• regional cooperation</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• self-determination</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Investors:</strong></td>
<td>• profit</td>
<td>Business relationship with FEA as JV partner, IPP or management contractor.</td>
<td>Some influence in selecting and financing generation projects.</td>
</tr>
<tr>
<td></td>
<td>• risk</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• bankability</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
3.3 Direction of Sector Reform

The design of regulatory mechanisms for the FEA system must be based on a particular view of the future form of the Fiji electricity sector. Sector restructuring can generate competition which can substitute for regulation in some segments. The sector in Fiji is small and the limitations of size must be recognized in speculating on the direction of reform over the coming decade.

Remoteness and lack of size of Pacific island countries engender a belief that economies of scale in the delivery of infrastructure services in these countries are best captured by natural monopolies. The validity of this view needs to be assessed for each country and each sector but recent studies suggest that economies of scale increase rapidly to 100 MW and continue to increase up to around 500 to 800 MW.\(^3\)

GoF unbundled FEA in 1998 on the advice that these reforms would produce efficiency improvements, encourage private participation and lower retail prices. The unbundling was to have been the first step in establishing a competitive bid-based electricity market. These changes were reversed and in the six years that have elapsed since, a lot has been learnt about the behaviour of competitive electricity markets and a better understanding has emerged about the prerequisites for successful market operation. The wisdom of introducing sophisticated competitive market mechanisms into small developing economies is now widely questioned.\(^4\)

In the context of the Fiji sector, it is asserted that many models of generation or retail competition will not serve the interests of consumers and the country at large and the assumption is therefore made that such reforms will not be introduced in the short or medium-term future for the following reasons:

- The VLIS has an installed capacity of only 200 MW. Transmission bottlenecks split the VLIS load into eastern and western load centres, effectively creating two even smaller markets. Economies of scale are therefore still present in the system and would be lost by unbundling and disaggregating generation.

- It is hard to conceive a design for a competitive power market in the VLIS in which one or more players would not be able to influence pricing. The Monasavu project (83 MW) accounts for almost half of the system’s installed capacity and would have the market power to set prices. The other significant bloc of capacity in the system, the Vunda and Kinoya stations (aggregate 60 MW), are locked into a fixed 20-year energy conversion arrangement by a management contract awarded to Telesource.

---


The unbundling of FEA into separate generation, transmission and retail entities would duplicate executive, administrative, commercial and technical functions and fragment FEA’s narrow skills base.

Sector efficiency improvements from loss reduction and supply side management programs, system security improvements and tariff reform offer more certain gains at less cost and should receive higher priority than sophisticated reforms aimed at establishing a competitive market in the VLIS.

The FEA system needs capital investment and is relying on the participation of the private sector in financing development, particularly in generation. Access to private capital will not be improved by adding market risk to an investor’s risk matrix. The further strengthening of FEA’s credit position should remain a central priority.

On the strength of these arguments it is assumed that the Reorganisation Charter of 1998 will not be put into effect and that unbundling and privatisation will not occur in the foreseeable future. It is therefore assumed for the purposes of this review of FEA’s regulatory functions that FEA will remain a vertically integrated state-owned corporation and will be the single buyer of electricity at a wholesale level. Entry-level competition is foreseen in distribution and generation through the award of bilateral contracts, management contracts, supply concessions and similar arrangements.

### 3.4 Re-organisation of FEA

In the words of the Public Enterprise Act, the re-organisation of FEA as a GCC aims to strengthen its ability “to operate as a successful business and ….. to be as profitable and efficient as comparable businesses which are not owned by the State”. The overall objectives of the reforms are stated in Schedule 1 of the Public Enterprise Act as being to “increase the operational efficiency of public enterprises and improve the allocative efficiency of resources between public enterprises and other sections of the economy.”

Selected principles listed in Schedule 1 that have bearing on the design of a regulatory framework for the sector are reproduced below:

- FEA “to operate as a successful business and, to this end, to be as profitable and efficient as comparable businesses which are not owned by the State”

- FEA to “focus on commercial activities, and for this purpose any activity of a government policy formulation or regulatory nature will, wherever possible, be transferred from [FEA] to a department, separate regulatory authority or other agency”

- FEA to “be appropriately compensated for any non-commercial obligations”

- “The [FEA] Board will be given the autonomy and authority to make commercial decisions”
“The role of Ministers in relation to [FEA] will be clearly defined.”

These are the guiding principles of FEA’s re-organisation and its regulation. A feature of the re-organisation is to develop FEA as an effective conduit for private capital. Putting FEA into an enterprise format is intended to give it independence and further strengthen its credit position so that it becomes an attractive business or trading partner for local and foreign firms.
4.0 Electricity Sector Regulation

4.1 Principles of Utility Regulation

4.1.1 General

Regulation, re-organization, competition, private participation, and other electricity sector reform elements are not ends in themselves, but contribute to the achievement of development goals such as better system security, reduced vulnerability to external factors, increased economic growth, greater environmental sustainability, accelerated poverty alleviation and improved commercial and operational performance of all service providers. In particular, electricity industry reforms aim to improve the economic efficiency of the sector and to establish an environment that promotes participation by private investors and lenders.

It is common for regulatory processes, rules and procedures to lag change. Changes are often brought in under tight time pressures in reaction to immediate problems such as supply constraints, budget blow-outs or capital scarcity, and appropriate regulatory adjustments tend to be added later as time allows and circumstances demand. This creates transitional gaps in the framework. International experience suggests that a lack of capacity as well as preoccupation with other pressing priorities results in regulatory reform lagging the events driving the reform. The rapid pace of change, particularly in the expansion of the role of the private sector in delivering infrastructure services, has exposed regulatory weaknesses around the world and the fall-out from regulatory failures are well documented. Also well documented are the efforts of governments in closing these regulatory gaps. It is not so easy to design and install a regulatory framework that will operate effectively from the outset; reform has tended to be an on-going process with an initial overhaul followed almost invariably with periodic tinkering to correct distortions and remove bottlenecks. Effective regulatory and enforcement mechanisms may take time to introduce and mature, and the convergence on an “ideal” regulatory environment may in fact be a continuing process due to the constantly changing nature of the sector.

In this context, the observation made in the World Bank paper, Public and Private Sector Roles in the Supply of Electricity Services, is relevant: “Since the reality is that many regulators will begin performing their functions with the disadvantage of limited independence and capacity, other transitional arrangements may need to be established to provide stability and predictability for a new regulatory regime. This could include limiting the amount of discretion that regulatory bodies have in setting prices and key parameters, particularly during the initial years of public private partnerships, particularly where the private sector is investing significant amounts of capital. This can be achieved by setting out details on key terms, such as initial price controls in the key regulatory instruments (licenses or contracts), or by having clear tariff setting principles in the country’s legislation. In many situations, governments may have to play a major role in setting the initial terms and conditions of key regulatory instruments since these are best established as an outcome of the transaction process.”

---

4.1.2 Objectives and Benefits of Regulation

Regulation is provided in markets where the objectives of productive efficiency and minimum output price would not otherwise be achieved. The prime objective of utility regulation is described in the paper, *Best Practice Utility Regulation*, as being “to reduce or manage the risk associated with market failure or to achieve certain social objectives, such as providing services in remote areas or reducing risks to public health and safety.” The paper further defines market failure as the situation where markets do not produce economically efficient outcomes; e.g. where a monopoly abuses its market power. Regulation is needed to prevent exploitation of market power and cover other market imperfections.

Specific objectives of electricity regulation include the following: 7

- **Efficiency**: Regulation of the sector must be consistent with economic efficiency; i.e. it must regulate an optimal allocation of resources. It must also provide for productive efficiency; i.e. long-term least-cost generation and distribution. The commercial efficiency of the power utility is central to this objective.

- **Fairness in pricing**: Prices charged should be fair; i.e. the utility should be able to levy a tariff that recovers its reasonable costs but should be prevented from reaping profits exceeding a benchmark return on assets.

- **Non-discriminatory treatment**: Customers should have non-discriminatory access to services, and private generators non-discriminatory access to the utility’s transmission system. Reputable investors are attracted by non-discriminatory treatment and their participation will help to reduce premiums built into investments.

- **Quality and reliability of supply**: A reliable supply of electricity with appropriate voltage and frequency characteristics is important from an economic and social point of view and regulation must provide incentives to encourage due technical performance by the utility.

- **Environmental and social issues**: A regulatory regime must provide for protection of the environment, respect for land rights, provision of affordable electricity for low income households, protection of consumer rights and regulation of labour.

The ideal regulatory environment should involve a minimum of regulation to achieve these stated objectives. Under-regulation would allow poor performance to go undetected and un-remedied; over-regulation on the other hand can unnecessarily constrain participants and suffocate initiative. To date, regulation of FEA has been light. Though it is widely held that the FEA has performed satisfactorily, GoF is seeking to strengthen the

---

6 *Best Practice Utility Regulation*, Utility Regulators Forum discussion paper, Office of Water Regulation, Western Australia, July 1999.

regulatory regime as a forward looking initiative to improve oversight of FEA’s future activities. That self-regulation has worked in the past is no guarantee that it would continue to do so into the future.

If money is to be invested in reforming the system of regulation to achieve these objectives, one could reasonably expect the investment to be justified by a comparison of benefits and costs. Benefits associated with achieving the listed objectives, though potentially significant, tend to be rather abstract in nature and do not easily lend themselves to quantification. How, for instance, does one relate the introduction of PPP regulations to an increased probability of developing the optimal project at minimum cost? How can one quantify the broader economic advantages of building FEA’s commercial integrity through regular and appropriate tariff adjustments? How does one value the long term benefits of better regulation of social and environmental issues? The imprecision in quantifying these effects and the significant effort it would involve calls into question the value of the exercise. However, an appreciation of the benefits of effective regulation can be gained by studying the economic effects of some of the well-documented examples of regulatory failure; e.g. overpricing of power in some Pacific jurisdictions, the distortions of below-cost tariffs in India, the power crises in Auckland (1998) and California (2000), and the IPP track record in many South East Asian countries.

### 4.1.3 Regulatory Design

Inappropriate regulation could detract from the efficiency of the electricity sector and this can distort the allocation of resources in the economy. Whether to regulate, what to regulate and how to regulate within a small system are difficult questions and involve trade-offs in finding an optimal regime.

Regulatory measures must be clear and responsibilities well-defined. The paper, *Best Practice Utility Regulation*, defined nine principles that its authors considered to be characteristic of best practice utility regulation. They provide a checklist for evaluating current and proposed regulatory tools. The principles are:

1. Transparency
2. Accountability
3. Independence
4. Consistency
5. Predictability
6. Flexibility
7. Effectiveness and efficiency
8. Communication
9. Consultation

The principles are described and explained in the referenced paper. It is stressed that the principles conflict and must be balanced against each other to maximise public benefit.

---

*Best Practice Utility Regulation*, Utility Regulators Forum discussion paper, Office of Water Regulation, Western Australia, July 1999
The single principle of critical importance to the efficacy of regulation is transparency. Without transparency, the system of regulation will not inspire confidence of stakeholders and without their confidence, the system will fail to achieve its purpose. The ingredients needed to achieve transparency have been analysed:\(^9\)

- Integrity of decision makers;
- Integrity of the decision making process;
- Integrity and logic of the reasoning behind regulatory decisions;
- Facts and arguments taken into consideration in making regulatory decisions;
- Clarity and verifiability of rules governing decision making processes;
- Clarity and verifiability of transaction that occur within the regulated sector.

Clear and verifiable procedures and rules are an essential feature of transparency. If an activity is to be effectively regulated, the rules and procedures that govern it should be clearly stated, consistently applied and on public record.

### 4.1.4 Regulation of Small Systems

The last couple of decades have seen widespread reform of electricity markets across the world to capture efficiency benefits and promote private sector involvement. An accompanying debate about regulation of these markets has produced regulatory models based on independence, transparency and consistency. These models provide templates for designing a regulatory framework to meet the specific needs of individual countries. Each country, though, is different and regulatory models must be adapted to best serve participants in a particular sector and location.

The models of utility regulation described in the literature are generally designed for larger systems and do not provide a practical and affordable model for the FEA system. The conspicuous difficulty in the case of the FEA system is size. Ideal models of regulation require separate institutions to create physical separation between regulated entities and their regulators but the lack of scale presents a couple of obstacles:

- In a small system the restructuring of a utility and the creation of new institutions and new groupings of functions between institutions may carry a penalty. It could result in a loss of scale economies in the power system and in a loss of critical mass in the smaller institutions created by the reforms. GoF agencies have developed competencies in their various fields, but the institutions are small and generally lack depth. Fragmentation of these units or loss of staff through relocation to new agencies could degrade their effectiveness. Emigration of skilled staff to higher remunerating countries is already a problem and institutional fragmentation would compound it. Depth is needed to provide a platform for bringing on new staff. Also, the multiplicity of ministries and agencies in Fiji is already a political issue and GoF is under pressure to streamline the government bureaucracy rather than expand it.

---

• The danger of regulatory capture is greater in small systems. Even if the creation of separate institutions carried no penalty (other than their cost), there is no guarantee that institutional separation of regulated and regulating entities would overcome the close professional, personal and cultural ties that may exist between them.

As the FEA system grows, options for restructuring and regulating the sector will broaden but for the foreseeable future the structure of regulation within the FEA system must account for the limitations imposed by the size of the system.

4.2 Existing Regulatory Framework

FEA is a monopoly utility within the areas covered by its grids. It exercises this monopoly either by generating or supplying electricity itself or licensing others to carry out these activities. FEA operates within a regulatory framework that has evolved over the past forty years. The essential features of the current regulatory environment are listed in Table 4.
### Table 4 - Existing Framework for Regulating FEA

<table>
<thead>
<tr>
<th>Regulated Function</th>
<th>Regulating Agency</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Tariff Setting</strong></td>
<td>Commerce Commission</td>
<td>Adjustments have been occasional</td>
</tr>
<tr>
<td><strong>2. Technical Regulation</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Licensing installations</td>
<td>Regulatory Unit, FEA</td>
<td>Unit within FEA</td>
</tr>
<tr>
<td>Licensing contractors</td>
<td>Regulatory Unit, FEA</td>
<td>Unit within FEA</td>
</tr>
<tr>
<td>Calibration</td>
<td>MTC</td>
<td>Calibrates FEA test benches, etc.</td>
</tr>
<tr>
<td><strong>3. Licensing Electricity Enterprises</strong></td>
<td>FEA</td>
<td>Licenses others to generate and supply electricity</td>
</tr>
<tr>
<td><strong>4. Regulation of Public Private Partnerships</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Access to natural resource</td>
<td>NLTB</td>
<td>Land owner compensation and access</td>
</tr>
<tr>
<td>Wholesale tariff / PPA</td>
<td>FEA</td>
<td>FEA negotiates PPAs</td>
</tr>
<tr>
<td></td>
<td>CC</td>
<td>CC can review PPAs at its discretion</td>
</tr>
<tr>
<td>Technical compliance</td>
<td>Regulatory Unit, FEA</td>
<td>Licenses the plant &amp; equipment</td>
</tr>
<tr>
<td>Licensing of PPPs</td>
<td>FEA</td>
<td>Refer 3.– licenses electricity enterprise</td>
</tr>
<tr>
<td><strong>5. Regulation of FEA:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>System reliability</td>
<td>FEA / MPE</td>
<td>Corporate Plan / Statement of Corporate Intent</td>
</tr>
<tr>
<td>Financial performance</td>
<td>Annual audit MPE MWE</td>
<td>Min of Finance may appoint auditor</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Overview of business performance</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Discretion to intervene (s14, Elec. Act)</td>
</tr>
<tr>
<td>Consumer protection</td>
<td>FEA</td>
<td>Front line response to complaints</td>
</tr>
<tr>
<td></td>
<td>Commerce Commission</td>
<td>Final recourse for customers</td>
</tr>
<tr>
<td>Institutional efficiency</td>
<td>MPE</td>
<td>Overview of institutional efficiency</td>
</tr>
<tr>
<td></td>
<td>MWE</td>
<td>Discretion to intervene (s14, Elec. Act)</td>
</tr>
<tr>
<td><strong>5. Resource Planning:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strategic system objectives</td>
<td>FEA</td>
<td>FEA consults other agencies</td>
</tr>
<tr>
<td>System expansion planning</td>
<td>FEA</td>
<td>FEA Major Projects &amp; Strategy</td>
</tr>
<tr>
<td><strong>7. Environmental Regulation</strong></td>
<td>Dept of Environment</td>
<td>EIA process, monitoring &amp; enforcement</td>
</tr>
<tr>
<td><strong>8. Labour Regulation</strong></td>
<td>Ministry of Labour</td>
<td>Balance between rights of staff and flexibility to implement reform</td>
</tr>
</tbody>
</table>

**NOTE:** Regulation of FEA is also provided through board governance. The FEA board includes representatives of DOE, MFP, MPE, private sector and land owners.
The existing framework relies to some extent on self-regulation but most activities are covered by a regulatory mechanism. The system has worked reasonably well in the past with most stakeholders expressing the view that the utility has operated in the best interests of its customers and the country as a whole.

The electricity sector in Fiji, though, is following some of the global trends in utility reform and the changes are putting the regulatory framework under additional pressure. Adaptation is needed to provide formal regulation in some emerging areas and to more generally maintain consistency with the principles of regulation as set out in Section 4.1.3. FEA is facing pressures on several fronts. As a Re-organisation Enterprise, it is undergoing commercial reform. In addition, the Monasavu hydroelectric project has been fully absorbed by rising demand and FEA must now fund new capacity to meet future load growth and meet the higher running costs of its increased reliance on diesel generation. Also, the private sector is taking an increasing role in assisting FEA with its generation functions and this, too, poses regulatory issues.

4.3 Regulatory Reform

4.3.1 Government Regulatory Policy

Current GoF regulatory policy governing FEA’s activities is embodied in a number of pieces of legislation, much of it enacted within the last decade. The following legislation is of particular relevance to the regulation of the sector and was reviewed by the Consultant:10

- Electricity Act (1966)
- Fair Trading Decree (1992)
- Public Enterprise Act (1996)
- Commerce Act (1998)
- Environment Management Act (2004)

Some aspects of the statutory basis of regulation of FEA will change when FEA becomes a GCC. FEA will, for instance, fall under different provisions of the Public Enterprise Act and it will be governed by the audit requirements of the Fiji Companies Act (1983).

The regulatory environment for the electricity industry will continue to evolve and GoF’s objectives of protecting consumers’ interests and encouraging foreign investors will be promoted in the medium term by applying the following principles:

- FEA to remain a mainly government-owned public utility.

---

10 Also reviewed was the Electricity Reform Bill (1998). Although never enacted, the Bill touched on a number of regulatory areas and indicated the direction of thinking at the time it was drafted.
• FEA to be allowed to operate commercially; i.e. it will be allowed to charge cost-covering tariffs (subject to achievable performance incentives in tariff price caps) and will be reimbursed for non-commercial (social) activities;
• Generation for own use to continue to be permitted;
• Licences to third parties to distribute electricity to be issued;
• Grid access for IPP’s and co-generators to be permitted and encouraged, with FEA remaining the single buyer;
• Electricity tariffs paid by FEA to IPPs to be determined in accordance with transparent, verifiable and, wherever practicable, competitive procedures and capped by FEA’s avoided cost.
• A grid code will govern technical parameters of IPP supply.

4.3.2 Regulated Functions

An effective regulatory framework must strike a reasonable balance between the interests of various stakeholders. The measures put in place must be fair, and seen to be fair. The extent to which a sector must be regulated depends on the market imperfections within it. By virtue of its size and system structure, the Fiji electricity sector is not well suited to the more competitive reform models and monopolistic forces are therefore likely to remain a part of the landscape for some time. There is, therefore, a need for systematic regulation based on the single-buyer model (refer Section 3.3).

Regulatory functions considered in this report are listed below and discussed in the following sections:

• Retail Tariff Setting (Section 5)
• Technical Regulation (Section 6)
• Licensing Electricity Enterprises (Section 7)
• Licensing IPP Development (Section 8)
• FEA Performance (Section 9)
• Resource Planning (Section 10)
• Environmental Regulation (Section 11)
• Labour Regulation (Section 12)
5.0 Retail Tariff Regulation

5.1 Background

5.1.1 Stakeholder Tariff Perspectives

Of the regulatory functions, the setting of the retail tariff is perhaps the most prominent and pivotal for the sector’s stakeholders:

- For FEA, a cost-recovery tariff is essential if it is to operate commercially and perform to the standards required of it under the Public Enterprises Act. An adequate tariff is also needed to maintain FEA’s creditworthiness so that it can continue to attract private sector investment in its system on favourable terms.

- For customers, a least-cost tariff will improve the quality of people’s lives and lower the costs of commercial and industrial users.

- For GoF, the tariff has important political, social and economic implications. A least-cost tariff is needed to promote economic development. From the political point of view, consumers must understand and accept the need for a tariff that reflects FEA’s costs of production.

The Commerce Commission is the agency responsible for fixing electricity retail tariffs. The Commission was established under the Ministry of Commerce and Trade to determine (amongst other things) price adjustments for goods and services declared under the Commerce Act as “controlled”. Responsibility for tariff setting formerly belonged to the Prices and Incomes Board (PIB) under the Ministry of Finance and Planning but was moved to the Commission in the late nineties. More recently, cabinet decided to transfer the remaining pricing responsibilities of PIB to the Commission to consolidate price setting of all regulated goods and services within a single institution.

5.1.2 Tariff History

There is general acceptance that the tariff prevailing at the end of 2004 did not provide FEA with the cash flow to meet its statutory obligations. Moreover, the low retail tariff discouraged IPP interest.

The retail tariff was increased in January 2005 for the first in 13 years. This extraordinary stability in the tariff owes much to the Monasavu scheme. Commissioned in the early eighties, Monasavu has until recently been able to supply almost all the energy needs of the VLIST and to meet load growth through its reserve capacity. This has substantially insulated FEA from the effects of global energy price fluctuations and customers now take constant electricity prices for granted (despite being conditioned to regular price rises in other commodities such as diesel fuel). With the Monasavu scheme now fully utilised, the proportion of energy

---

11 In 2002, based on a recommendation by the Commerce Commission, the Minister made an Order declaring electricity prices to be controlled pursuant to the Commerce Act.
supplied by FEA from hydropower has been declining and FEA's production costs are now more sensitive to global energy prices.

FEA made application to the Commission in 2002 for a tariff increase and the Commission responded with a determination on administration fees, but implementation was deferred on request of the Minister of Finance until after the introduction of a VAT increase.

The FEA application was determined by the Commission on 26th November 2004 and the tariff increase became effective in January 2005. The approved annual percentage increases for different customer categories are:

- **Lifeline tariff:** No increase
- **Domestic customers:**
  - 2005: 3.3%
  - 2006: 3.2%
  - 2007: 3.1%
- **Commercial and industrial customers**
  - 2005: 6.9%
  - 2006: 6.45%
  - 2007: 5.7%
- **Max. demand customers**
  - 2005: 6.9%
  - 2006: 6.45%
  - 2007: 5.7%

Some observations on the tariff history can be made:

- Reviews are infrequent and anecdotal reaction to the recent increase suggests that customers have become conditioned to a constant tariff.
- The Consultant’s consultations suggest that the basis of the Commission’s recent tariff decision is not well understood.

---

12 Hydro generation as a proportion of total energy was 92% in 1995 but only 55% in 2003. The dependence on diesel generation in 2003 was exacerbated by the El Nino dry period.
5.2 Tariff Setting in Fiji

5.2.1 General

Judgements about the effectiveness of present regulatory arrangements for tariff setting must consider whether:

- the existing legal framework is adequate;
- the procedures to be followed in setting the tariff are clearly stated and verifiable, and provide for appropriate feedback to stakeholders on the decision process.
- the institutions responsible for implementation of tariff reviews have the capacity and independence to apply the law as specified;

Each of these points is examined in turn in the following sections.

5.2.2 Legal Framework for Tariff Setting

Statutory requirements with respect to tariff are contained in the Electricity Act, Public Enterprise Act and Commerce Act:

- **Electricity Act**: Under s13(1)(c) and s18, FEA has a statutory obligation to “secure the supply of energy at reasonable prices” and “to secure that the total revenues of the Authority are sufficient to meet its total outgoings properly chargeable to revenue account” (s18). Under s20, “the Authority, in fixing tariffs, …… shall not show preference as between customers similarly situated, and shall not exercise discrimination as between persons similarly situated”. Under s14 of the Electricity Act the Minister for Works and Energy also has general powers to intervene on matters of policy and this could extend to pricing matters.

- **Public Enterprise Act**: The Public Enterprise Act is concerned only indirectly with pricing. Its focus is on the efficiency and accountability of a GCC. Under s43(1), FEA as a GCC will have the principal objective of operating “as a successful business and …... to be as profitable and efficient as comparable businesses which are not owned by the State”. s43(2) requires that this objective “is to be achieved through the application of the key principles of public enterprise reform”, with the key principles, as listed in Schedule 1, including the principle that “the role of Ministers in relation to [FEA] will be clearly defined.” Part 5 of the Act includes provisions designed so that GCCs “are accountable for their actions, report to government regularly and uniformly, and are properly managed and planned.”

- **Commerce Act**: The Commerce Act is the overarching legislation on matters of pricing and overrides powers contained in the Electricity Act. It complements the Public Enterprise Act in that
it empowers the Commerce Commission to control FEA’s prices but does not explicitly authorise it to look at efficiency and planning (though this may be a factor in the choice of pricing model it uses).

The Commission is established under s11 of the Commerce Act which specifically limits the Minister’s influence over the Commission to certain prescribed powers. The provision states: “Except as provided by this Act, the Commission is not subject to the control or direction of the Minister or any other referring authority in the performance of its functions.”

Under s32, the Commission can make a recommendation to the Minister that prices goods or services should be controlled and specifies criteria for such a recommendation: i.e. (i) competition in the market is limited; and (ii) price control is in the interests of users, consumers and suppliers. On the crucial matter of tariff reviews, the Commission has the authority under s34 to independently set the prices of controlled goods and services free of Ministerial intervention. The provision states: “A person must not supply any controlled goods or services unless a price for those goods and services has been authorised by the Commission and the goods and services are supplied in accordance with the authorisation.”

The relevant legislation therefore seems clear on two important points:

1. The legislation establishes a platform for the Commerce Commission to independently review electricity prices. It provides for ministerial intervention in some matters but s34 of the Commerce Act precludes any such involvement in the authorisation of price adjustments

2. The clear intention of the Electricity Act and Public Enterprises Act is that FEA is to operate commercially. It follows that FEA must be able to charge cost-recovery prices. Subject to this overriding constraint, the Commission appears to have some discretion to take other factors into account in considering tariff submissions from FEA. The tariff structure and cross subsidies can, for instance, be reviewed for effects on low income groups, business usage, effects on the economy, etc.

5.2.3 Tariff Review Procedures

For price regulation to be effective, it must enjoy the confidence of stakeholders. Confidence is built on adherence to clearly stated and verifiable procedures, and nurtured by feedback to stakeholders on the decision processes.

The recent tariff increase authorised by the Commission was less than that sought by FEA. Many of the parties consulted by the Consultant expressed the view that the tariff increase would not provide the revenues for FEA to cover operating and system development costs. There is also a widespread perception in the
industry that the tariff decision was influenced by Government. These perceptions were rebutted at the First Stakeholder Consultation Meeting on 22nd March by representatives of the Commerce Commission who asserted that the Commission conducted the review independently and considered FEA’s costs of running its business. Irrespective of the validity of the perceptions, they are a problem as they undermine confidence in the tariff setting process.

From the Consultant’s review of relevant legislation and consultations with stakeholders, it would appear that procedures and pricing models to be followed by the Commission in the conduct of its reviews of electricity prices are either not fixed, not disclosed or not widely disseminated. To the extent that this is true, the transparency of the tariff process suffers. Disclosing tariff setting procedures to consumers and the public has proven to be an excellent tool to build stakeholder confidence in many countries.

Regardless of how tariffs are set and who sets them, the role of public education in explaining price rises should not be overlooked. Most customers understand little of utility pricing and an education program is an effective means of overcoming public objections. Educational efforts should be aimed at providing:

- Information about energy usage, conservation and demand-side management;
- Disclosure of information about resource mix, energy use and environmental impacts;
- The procedures and methodology used to determine price adjustments.

5.2.4 Institutional Framework for Tariff

The pivotal agency in the setting of the retail tariff is the Commerce Commission. The Commission was established as a requirement of the Commerce Act to promote competition, oversee non-discriminatory access to monopoly infrastructure services and to otherwise regulate nominated state-owned or monopolistic industries. Control of prices in markets in which competition is limited is one of its regulatory functions.

The Consultant’s assignment did not allow for a detailed evaluation of the Commission’s practices in conducting tariff reviews. Aspects of importance in considering the Commission’s fitness for its tariff setting functions are:

- **Independence:** The Commission’s mandate as defined in the Commerce Act allows it to independently consider submissions and authorise price increases. Whether the Commission will always be free to exercise this independence is another question. In many countries a number of safeguards are put in place to shield regulators from political pressure.

- **Institutional capacity:** To provide effective price regulation, the Commission needs adequate skills and resources. Price control is only one of the Commission’s responsibilities and it must

---

perform this across a number of different sectors. Electricity pricing is a specialist discipline requiring knowledge of marginal cost pricing in power systems. The Commerce Commission’s in-house resources are limited and, as is usual for regulators, there is a reliance on consultants for these specialist services. The Commission will only be able to competently fulfil its duties under the Commerce Act if it has adequate in-house resources and budget.

5.3 Strengthening Tariff Regulation

5.3.1 Analysis of Present Regulatory Regime

The basic framework for the regulation of electricity prices is already in place. Legislation has been enacted and a separate institution created for the purpose of regulating access and prices in the electricity sector (among others). The tariff-setting framework is still relatively new and experience gained from the last review suggests that the process could benefit from strengthening in some areas, specifically:

- The procedures and pricing models followed by Commission staff in conducting tariff reviews should be disseminated to stakeholders to raise their understanding of the process. The procedures should be framed so that they are clear and verifiable, and an appeals procedure should allow stakeholders an avenue for raising grievances.

- The Commission’s decisions should be explained to stakeholders and, in the case of FEA, they should be referenced against FEA’s costs of system operation and development.

- Anecdotal evidence suggests that FEA’s customers have become accustomed to constant electricity prices. Given FEA’s rising production costs and shrinking reserve margin, greater frequency in price adjustments is needed and this should be supported with a program of public education to prepare customers and advise them on conservation measures that help to keep expenditures constant. Price adjustments could be automatically generated using an objective formula or template approach with periodic tariff studies to benchmark the tariff against FEA’s marginal costs.

- With more frequent tariff reviews expected in the future, the Commission will need more resources if it is to continue to respond to stakeholder submissions in a timely and professional manner.

The Commerce Commission is the pivotal institution in reviewing and authorising tariff increases and its role is examined in more detail in Section 5.3.2.
5.3.2 Commerce Commission

Best practice models of power sector regulation are based around the establishment of an independent regulatory board or commission focused on the electricity or energy sector and having diverse powers to regulate a range of functions within the sector. The creation of a new energy sector regulator in Fiji is not proposed for the following reasons:

- Regulation in Fiji is already organised on a multi-sectoral basis. Reorganisation of the electricity sector to establish an energy sector regulator would be incompatible with the existing regulatory framework and would cause overlaps in functions and duplication of institutions. It can also be argued that Fiji, as a small country, is probably better suited to multi-sector regulation.

- The Commerce Commission is already established with a statutory mandate to independently authorise adjustments to the tariff and oversee non-discriminatory access to FEA’s grid. To establish a new regulator would involve unpicking the existing arrangements and the cost and disruption could only be justified if the existing arrangements were demonstrably and inherently weaker than those proposed.

- In the minds of many, government bureaucracies in Fiji are already too numerous and complex. The establishment of a vertically organised regulator for the energy sector to duplicate functions of the multi-sectoral Commerce Commission would be seen as a backwards step.

It is therefore proposed that reform efforts should be directed at the strengthening and broadening of the Commerce Commission. This approach is more likely to provide the institutional depth needed for effective regulation. The goal of GoF should be to build the capacity of the Commission as an integral part of its reforms to put FEA on an enterprise footing and encourage private sector participation in the sector. Investors and lenders, in conducting their due diligence of country risk, will look for the following in a regulator:14

- Independence from government and from the regulated enterprise;
- A mandate that allows it to act in the public and national interest;
- Technical expertise in the functions and business of the regulated enterprise; and
- Continuing monitoring and enforcement of legal requirements, licence conditions, rules and orders.

Principles to be observed in building capacity and credibility of a regulatory commission are outlined below:

- To ensure independence, a regulatory commission needs adequate resources and its staff adequate remuneration under a salary scale de-linked from public sector scales.

---

• A regulatory commission must possess the institutional attributes, instruments and skills for it to do its job (refer Table 5). In a small country such as Fiji, a multi-sectoral regulator cannot be expected to retain in-house skills and resources for performing its wide ranging regulatory functions. It will therefore rely on external specialists for much of its work.

• Members of a regulatory commission should be nominated by the government and approved by parliament for fixed terms with staggered terms for continuity. The commission’s staffing requirements should be determined by the members of the commission without government intervention.

• A regulatory commission should be accountable for its decisions through (i) open decision-making, (ii) documenting and publishing proceedings, and (iii) an appeals procedure.

Table 5 - Building an Effective Regulatory Institution

<table>
<thead>
<tr>
<th>Institutional Attributes</th>
<th>Instruments</th>
<th>Skills</th>
</tr>
</thead>
<tbody>
<tr>
<td>What attributes are necessary for regulators to perform their mission?</td>
<td>What comprises the legal framework within which the regulator works?</td>
<td>What are the tools that the regulator needs to manage within this framework?</td>
</tr>
<tr>
<td>Independence</td>
<td>Legislation</td>
<td>Monitoring</td>
</tr>
<tr>
<td>Accountability</td>
<td>Contracts</td>
<td>Enforcement</td>
</tr>
<tr>
<td>Transparency</td>
<td>Licenses</td>
<td>Asset Valuation</td>
</tr>
<tr>
<td>Adequate funding</td>
<td>Arbitration / Dispute Resolution</td>
<td>Financial Analysis</td>
</tr>
<tr>
<td>Legitimacy</td>
<td></td>
<td>Benchmark</td>
</tr>
<tr>
<td>Professional and technical expertise</td>
<td></td>
<td>Industry and company financial models</td>
</tr>
</tbody>
</table>

(Source: Public and Private Sector Roles in the Supply of Electricity Services, World Bank, Feb 2004)

5.3.3 Price Adjustment Process

To de-politicise the price adjustment process, reviews should become more frequent and more objective. By reducing the period between adjustments, customers will become more inured to the idea that electricity production costs vary.

The objectivity of tariff reviews could be promoted by using a pricing template or model for interim adjustments, with a full independent marginal cost tariff study every three to five years to benchmark the template adjustments. The pricing template could be designed to minimise specialist involvement and administrative input, allowing the Commission to prepare interim adjustments using data provided by FEA’s Major Projects and Strategy Group. The periodic tariff studies would involve a detailed review of FEA’s system expansion plan and preparation of LRMC estimates. The Commission would not have the in-house power system planning skills to do this and would need to engage consultants.
5.3.4 Pricing Models

Templates used to calculate tariff adjustments would be based on an appropriate pricing model for the time and circumstances. The model adopted by the Commerce Commission should be disclosed to stakeholders. The model could take the form of an objectively calculated adjustment based on a formula or spreadsheet template. There are a number of transparent structured pricing models that could be employed. They include:

- **Rate-of-Return** pricing sets the tariff at a level that allows the utility to earn total revenues corresponding to a permitted rate of return on its assets. The regulator would raise the tariff whenever the utility’s revenue requirements increased.

  The “Rate of Return” approach suffers from several disadvantages. Firstly, it does not provide incentives for efficiency improvements. Secondly, it is normally based on average cost pricing and therefore does not provide for long-term investment needs as earnings are historically based rather than forward-looking. Thirdly, distinguishing and verifying costs is a problem.

- **“Price-Cap” or “Performance-based”** pricing involves setting a price cap tied to the rate of inflation and specified efficiency improvements. The regulator would set the tariff for a pre-determined period. A typical price cap formula takes the form:

  \[
  \text{Tariff adjustment (\%)} = \text{CPI} - x\% + z\%
  \]

  where “x” represents an annual efficiency improvement expected of the utility; and “z” represents other factors which could be added to take account of significant items not satisfactorily represented by the CPI (e.g. change in law, fuel costs, exchange rate effects).

  Price cap pricing can be based on the utility’s average cost or marginal cost of production. Economic efficiency is best served by setting rates that reflect the long run marginal cost of production.

- **Revenue-Cap** pricing is similar except that the tariff would be based on a permitted amount of revenue.

- **Sliding Scale** pricing would involve a sharing of super profits or abnormal losses between the utility and government.

These models calculate the overall weighted average tariff. There would be some discretion in setting cross subsidies between customer categories to promote social, economic or environmental objectives.


5.3.5 FEA’s Social Obligations

A major issue in any examination of tariff regulation is the treatment of social obligations. FEA supplies subsidised electricity to rural parts of Viti Levu and to the islands of Vanua Levu and Ovalau. Under the uniform tariff policy of GoF, electricity is charged in these areas at the same price as urban consumers of the corresponding customer category despite the fact that the costs of providing the service are significantly higher.

The losses incurred from these sales, estimated by FEA to be F$26 million in 2003, are borne by FEA as a social obligation. This appears to be at odds with the objectives of the Public Enterprise Act which promotes FEA as a commercial enterprise.\(^{15}\) As a GCC, s71 will apply, the provisions of which providing for the GCC to be reimbursed for costs incurred in providing “non-commercial” obligations. Non-commercial” obligations are to be calculated by the Public Enterprise Minister in consultation with the Minister of Finance. Schedule 1 of Public Enterprise Act (under Part B – Key principles) goes further by stating the following:

- the GCC should “focus on commercial activities, and, for this purpose, any activity of a government policy formulation or regulatory nature will, wherever possible, be transferred from the GCC to a department, separate regulatory authority or other agency.”
- “any non-commercial obligations of the GCC will be clearly identified in the GCC’s statement of corporate intent and be separately costed”.
- “the GCC will be appropriately compensated for its non-commercial obligations and any funding will be made apparent.”

It is understood that the Ministry of Finance and Planning (MFP) accepts that FEA should be reimbursed for social costs but present practice in this area is for GoF and FEA to trade these costs off against unpaid taxation and dividends. This is an untidy arrangement and it undermines the transparency of FEA’s financial position. A stricter accounting of social costs (and dividends and taxation) is needed as an essential step in restoring rigour to the accounts. A mechanism for calculating the costs should be developed by the parties and an annual amount determined, audited and itemised in FEA’s financial statements. Reimbursement by GoF could then be made accordingly and acknowledged in FEA’s annual report.

The separation of FEA’s commercial and social obligations is not a clear-cut exercise. The determining factor is cost of supply at the customer’s meter and the problem almost invariably involves residential customers rather than commercial and industrial loads. Households in densely populated areas or in the vicinity of MV/LV substations can be supplied commercially; those in remote and sparsely populated villages cannot. However, the demarcation between these “profitable” and “social” groups is not distinct. No two households have exactly the same cost of supply and there is a gradation between one group and the other. A cut-off must be decided

---

\(^{15}\) Though silent on the treatment of rural electrification costs, the Electricity Act, too, recognises the need to insulate FEA’s commercial activities from the cost of any state services. Under s19, it makes provision for the recovery of any losses incurred in providing state services in the area of technical regulation (licensing, inspections, testing, etc.).
to distinguish the “profitable” from the “social” customers. The choice of cut-off would be related to FEA’s ability to retail electricity profitably and this is related, in turn to the prevailing residential and lifeline electricity prices. A low FEA retail tariff, for instance, would imply a tight definition of FEA’s “profitable” customer base.

The calculation of social obligation costs would in practice involve some simplifying criteria to identify a particular load as “profitable” or “social”. The criteria would be proxies for load characteristics that determine the cost of supply – peak demand, energy demand, daily load curve, transmission and distribution costs). Criteria for classifying a load might therefore include:

- Size and density of households making up the load;
- Socio-economic characteristics of the population;
- Average distance of the load from existing MV substations (or from substations to be installed primarily for other purposes such as system reinforcement or suppling large commercial or industrial loads);
- Type of metering used (i.e. conventional or pre-paid)

This conflict between a utility’s commercial charter and a government’s social objectives is found in the rural electrification programs of many other countries. A number of funding models designed to reconcile the conflict are being tested but their suitability is generally dependent on the social and cultural setting in which they are implemented. A discussion on alternative rural electrification models in use around the world is provided in Attachment 5. A specific study of the issue is needed to find the model best suited to Fiji and to adapt it to local conditions.

One model that is enjoying some success in Fiji as elsewhere is to pass responsibility for rural electrification to the private sector through the award of supply concessions. For such an arrangement to work, though, it must be both profitable for the concessionaire and affordable for the customers. Incomes are low in rural areas and it is difficult to meet both objectives without some form of subsidy. A Rural Electrification Fund (REF) can provide a mechanism for injecting investment subsidies into in rural electrification investments to reduce the cost of supply below willingness-to-pay limits. Subsidies can be channelled from the REF to support the development of the concessions. In general, subsidies should be limited to capital subsidies (to ‘buy down’ the development cost) in preference to ongoing subsidies for operation and maintenance. The REF would receive its funds from the government, donor agencies and development banks, and would be administered by a semi-autonomous board appointed by the government and comprising members of government and non-government agencies, private sector entities and members of the donor community. Light handed regulation procedures and processes could ensure the cost of regulatory compliance is not too burdensome.

16 A number of references and reports describe alternative rural electrification models and examine how they are applied in different countries and how effective they have been in promoting both electrification and utility objectives. One such reference is Rural Electrification Frameworks Study, Maunsell, for Department of Electricity, Lao PDR (World Bank), September 2004 which examines practice in Vietnam, Cambodia, Bangladesh, India, Sri Lanka, Nepal, Philippines, China, Uganda and Chile.
6.0 Technical Regulation

6.1 FEA’s Present Role in Technical Regulation

At present FEA performs most functions related to technical regulation in the electricity sector.

A dedicated department within FEA, the Regulatory Unit, was formed recently by bringing together staff scattered through the organisation with responsibility for different forms of technical compliance overview. The Regulatory Unit puts into effect those provisions of the Electricity Act dealing with the inspection and licensing of electrical installations. It verifies compliance with standards and safety requirements, and issues licenses and permits for electrical plant and equipment.

The Regulatory Unit is headed by the Chief Inspector and employs 31 staff. The staff and resources of the Unit are geographically spread across the FEA system according to function with the Chief Inspector in Lautoka. Revenues for services and from license fees and penalties totalled approx FJ$ 300,000 in 2003, but this fell well short of the operating costs of the Unit. Under s20 of the Electricity Act, provision is made for the reimbursement of the Unit’s net costs.

The functions of the Regulatory Unit can be divided into two categories:

1. Those activities in which the Regulatory Unit inspects and tests FEA generators and equipment and determines their compliance with technical standards, safety requirements and other statutory obligations.

2. Those activities in which the Regulatory Unit inspects and tests equipment and awards and renews licences of other parties to determine their compliance with technical standards, safety requirements and other statutory obligations.

There is no conflict in the Regulatory Unit’s role in carrying out the functions described in the second category and it is argued persuasively that FEA, with its size, technical resources and geographical coverage, is better able to provide these services more efficiently and cost-effectively than any other agency. Asking the Regulatory Unit to carry out the services in the first category, though, is in effect asking FEA to regulate itself. This issue was raised with a number of people during the Consultant’s discussions with stakeholders and though the conflict was acknowledged, none cited any incidents in which the independence of the Regulatory Unit was compromised or otherwise called into question the performance of the Unit. It was generally felt that the issue of technical regulation held a lower priority than other regulatory issues.

6.2 Technical Regulation Options

Despite the conflict in the licensing of FEA plant, it is understood that the current arrangement works well in practice. Locating the Unit within FEA is pragmatic as the FEA has the resources and provides the technical
environment to allow such a Unit to operate at least cost. It also provides the Unit’s staff with the administrative support, professional development opportunities and career path needed for institutional sustainability.

The conflicts created by the Unit’s location within FEA are not serious and therefore reform is not an urgent priority. Nevertheless, the arrangement as it stands leaves FEA without external technical overview and options for resolving this regulatory gap should be examined:

- **FEA Option**: The Regulatory Unit could remain within FEA and institutional measures introduced to "ring-fence" it from its host to safeguard its independence when licensing FEA assets. This might be achieved, for instance, by creating some institutional separation from FEA by establishing the Unit as a separate cost centre with GoF budget support and a reporting line to the Department of Energy on matters related to the certifying of FEA assets. It is understood that some provision of this nature already exists.

  One advantage of the “ring-fencing” option is its minimal cost and dislocation. More important, FEA is better equipped than other potential hosts to provide the Unit with the technical and logistical support it needs across a wide geographical area.

- **“Independent” Option**: The Regulatory Unit might be relocated to a government ministry or form a new independent agency. The following options were discussed with stakeholders:

  - Relocate the Unit to MWE, the logical host being the Department of Energy (DOE). This would provide a purer form of institutional separation from FEA than ring-fencing but DoE and the Unit have little in common and the Unit could become isolated professionally. DoE also lacks the infrastructure to support the Unit as cost-effectively as FEA in its testing and licensing activities across the country.

  - Establish the Regulatory Unit within a new energy regulator created by merging staff responsible for technical regulation across the electricity sector and other energy sub-sectors (e.g. liquid and solid fuels, gas, renewables). From preliminary inquiries, it would seem that the petroleum sector is largely self-regulating with respect to technical standards and no comparable regulatory unit exists.\(^\text{17}\) Also, the petroleum sector has more in common with other sectors involved with handling hazardous materials such as chemicals and explosives. Regulation for these comes under an assortment of agencies including the Ministry of Mines, Department of the Environment and Ministry for Labour and Industrial Relations.\(^\text{18}\) The aggregation of these functions within a new agency would be expensive, disruptive and of uncertain benefit.

---

\(^\text{17}\) Whether this represents a weakness in petroleum regulation should be investigated.

\(^\text{18}\) The Chief Health and Safety Inspector bears responsibility for occupational health and safety.
As the role of the Commerce Commission as a national multi-sectoral regulator is broadened to encompass other regulatory functions (refer Sections 13.3), the FEA Regulatory Unit could be included as a division within this institution. Whether such a move would be workable would depend on which regulatory functions were grouped under the Commission. If the Commission’s role were to include technical regulation across the petroleum, mining, water and wastewater, communications and other sectors, a technical bureaucracy would emerge that could sustain a unit such as the FEA Regulatory Unit. This option, though, would involve significant re-organisation and a larger purpose would be needed to justify it than the remedying of the relatively trivial regulatory conflict in the licensing of FEA plant.

In summary, the fact that the current arrangement is working well is a compelling reason to leave things largely as they are unless and until an alternative emerges that is demonstrably better. Such an alternative may emerge one day if a decision is taken to centralise technical regulation under the Commerce Commission, but this day is unlikely to occur in the foreseeable future. The Commission currently has no interest in assuming the responsibility.

In any event, no change is proposed until higher priority reforms have been made to the regulatory framework. This approach was discussed at the Second Stakeholder Consultation Meeting and it was agreed that regulatory reform should be approached in manageable stages and that technical regulation should be deferred to a later stage after the major elements of the new framework were in place and key agencies, notably the Commerce Commission, had had time to develop and mature to a point where they might credibly absorb the technical regulator role. Its emergence as a credible candidate would occur with a coordinated rationalising of technical regulation across the economy. This would be an exercise of some complexity and is unlikely to occur for some time.

It follows that conditions are unlikely to favour any major reforms in the way in which technical standards are regulated in the power sector for five to ten years. In the meantime the independence of the FEA Regulatory Unit might be improved by strengthening the existing ring-fencing. The precise form of this ring-fencing must be designed by those with an intimate knowledge of the institutional and commercial structure of FEA but should be based on providing the Unit with an assured and adequate budget and a direct reporting line to GoF on matters involving the licensing of FEA plant, equipment and systems.
7.0 Licensing Electricity Enterprises

7.1 Background

FEA is charged with the responsibility to generate, transmit, distribute and retail electricity within its grids. However, it does not have the sole right to these activities. Under s28 of the Electricity Act, a person may apply for and obtain a licence to:

- Generate electricity for grid supply (IPPs and co-generators)
- Build and operate transmission lines
- Distribute and sell electricity

The electricity enterprises falling within the licensing provisions of the Act include Public Private Partnerships (PPPs). The regulation of PPPs, particularly in generation, is a subject of pivotal importance in the regulation debate and is discussed at some length in Section 8.0.

Reference to s7 and 8 the Electricity Reform Bill of 1998 (not enacted) indicates that there was an intention to maintain the system of licensing of electricity enterprises under the Director-General of Electricity Supply (a post that was to have been established under the Bill).

The provisions in the Electricity Act dealing with enforcement of licence conditions are few. Responsibility for licensing was to have been shifted to the Director-General of Electricity Supply and the powers of enforcement of licence conditions were to have been defined in more detail. Division 4 of the Electricity Reform Bill set out an enforcement regime that included:

- procedural requirements, fees, etc. right to information, etc.;
- determination of compliance with licence conditions;
- appointment, duties and powers of electrical inspectors;
- inspection and testing;
- consumer protection.

Ideally, responsibility for licensing electricity enterprises should belong with an agency independent of FEA. FEA could be perceived as competing with the private sector in the business of generating and supplying electricity. FEA’s responsibility for administering the licensing system is a conflict.

The Consultant discussed this conflict with a number of people during the initial consultative phase of the assignment. Though they acknowledged the conflict, no instances were brought to the Consultant’s attention where a licence had been denied by FEA to protect its market. On the contrary, it is widely acknowledged that FEA has actively promoted private sector involvement in generation and distribution. The policy of the present management, though, is not necessarily an indicator of future attitudes and a regulatory framework should take account of future possibilities.
7.2 Licensing Options

Several options were considered for the licensing of electricity enterprises. The function could remain with FEA or, alternatively, the licensing conflict could be resolved by passing responsibility to GoF or an independent regulator. These options are examined:

- **FEA Option**: The licensing of electricity enterprises by FEA functions adequately under present circumstances and it could be argued that the responsibility should therefore remain with FEA. FEA also has the technical, financial and contractual skills resident within the organisation to perform the function. The matter of a perceived conflict could be resolved by strengthening existing procedures to provide for clear and verifiable rules governing decision making processes and for strict reporting standards that explain the integrity and logic of the reasoning behind licensing decisions.

- **GoF Option**: If GoF were to assume the licensing responsibility (as was the intention in 1998), DoE would be the logical department to assume the task unless the post of Director-General of Electricity Supply (or equivalent) were to be established at some point in the future. DoE currently lacks the capacity for a licensing role and this would have to be developed. Monitoring and enforcement of licence conditions would require commercial, contractual and technical skills and it is arguable that these would be provided more sustainably and cost-effectively by FEA.

- **“Independent” Option**: If the role of the Commerce Commission is broadened to embrace wider regulatory roles, the transfer of responsibility for licensing of electricity enterprises and other private infrastructure services to the Commission would be a logical step. Criteria based on national interest could be defined by GoF to guide the Commission’s evaluations of licence applications. An expanded Commerce Commission is likely to have the legal and commercial skills to assess applications and monitor and enforce licence conditions, but it would need to develop an appropriate technical capability.

The most attractive of the options is the Commerce Commission. It has the institutional independence, and if the transfer of licensing is coordinated with similar licensing functions for other sectors, the licensing work load may be sufficient to support a viable team. This is a point that should be carefully researched. The size of the FEA system is a complicating issue. The licensing unit would need to have access to technical skills either by forming an in-house capacity or by taking outside advice as needed. If the licensing unit builds an in-house capacity, it would probably recruit technical staff from FEA. FEA already competes with higher remunerating countries such as UK, Australia and New Zealand to retain staff and additional pressure from a new licensing unit would be unwelcome. Institutional and human resource issues would need to be managed carefully.

Nevertheless, it would be desirable to transfer licensing responsibilities to the Commerce Commission as soon as practicable. The Commission is currently under-resourced and undergoing expansion with the absorption of regulatory functions from PIB and the Department of Fair Trading. Any transfer of technical functions to the
Commission should wait until the dust has settled from these reforms and capacity has been developed to absorb new functions and disciplines across multiple sectors. This could take time.

Until such time, it is recommended that the licensing function remains with FEA and that the rules and reporting requirements are reviewed and, if necessary, strengthened as an interim measure to resolve any conflicts. The strengthened procedures should provide for transparency of process and provide stakeholders with adequate and timely information at appropriate times in the licensing process – i.e. application, evaluation and appeal stages.
8.0 Regulation of Public Private Partnerships

8.1 Public Private Partnerships in Fiji Power Sector

8.1.1 Motivation for Private Sector Involvement

GoF and FEA appear to be at common purpose in their desire to harness private investment. Various reasons for involving the private sector in the operation and expansion of FEA’s system were given, including the need for competition, greater efficiency and lower prices. Whether private participants can deliver on these hopes is open to debate but there is no doubting the sector’s pressing need for private capital, particularly in generation. Private sector investment of F$150 million is budgeted over the next five years.

Internationally, private investment in power infrastructure in developing countries peaked in 1997 and has since declined to less than one sixth of peak levels. This decline has a number of reasons, some specific to individual countries and others to global market requirements and trends. What is clear, however, is that Fiji’s power sector has to compete for private investment in a more difficult global investment market.

Against this background practical solutions must be found to overcome the obstacles that discourage private sector participation in the electricity sector. Given the global competition for capital, reputable private investors increasingly expect an effective regulatory environment to provide an assurance of predictability, consistency and equal treatment. Without such assurances, they will either look elsewhere or build into their investment evaluations a higher risk premium.

Public Private Partnership (PPP) projects can be publicly financed (e.g. project alliances, management contracts and service agreements) or they can be privately financed (e.g. BOT, concession and divestiture). Table 6 sets out the more common PPP models and indicates the importance of various market attributes in attracting private partners. Three of the Table 6 attributes are directly aligned with a sector’s regulatory regime; they are the regulatory framework itself, cost-recovery tariffs and credit rating. These attributes are interdependent. Each is examined below:

- **Regulatory Framework**: Reputable investors and lenders consider the regulatory framework of a country or sector carefully before committing. They expect appropriate checks on arbitrary abuse of government or buyer power in a market in which there is only one buyer. Contract enforcement is a key concern; clarity in the legal and regulatory framework and independence of courts and tribunals are important.
Table 6 - Prerequisites for Successful Implementation of Different Private Sector Options

<table>
<thead>
<tr>
<th>Option</th>
<th>Stakeholder support and political commitment</th>
<th>Cost-recovering tariffs</th>
<th>Good information about the system</th>
<th>Developed regulatory framework</th>
<th>Good country credit rating</th>
<th>Potential benefits of the option</th>
</tr>
</thead>
<tbody>
<tr>
<td>Service contract</td>
<td>Unimportant</td>
<td>Not necessary</td>
<td>Possible to proceed with only limited information</td>
<td>Minimal monitoring capacity needed</td>
<td>Net necessary</td>
<td>Low</td>
</tr>
<tr>
<td>Management contract</td>
<td>Low to moderate levels needed</td>
<td>Preferred but not necessary in the short term</td>
<td>Sufficient information required to set incentives</td>
<td>Moderate monitoring capacity needed</td>
<td>Net necessary</td>
<td></td>
</tr>
<tr>
<td>Lease</td>
<td>Moderate to high levels needed</td>
<td>Necessary</td>
<td>Good information required</td>
<td>Strong capacity for regulation and coordination needed</td>
<td>Net necessary</td>
<td></td>
</tr>
<tr>
<td>Build-operate-transfer</td>
<td>Moderate to high levels needed</td>
<td>Preferred</td>
<td>Good information required</td>
<td>Strong capacity for regulation and coordination needed</td>
<td>Higher rating will reduce costs</td>
<td></td>
</tr>
<tr>
<td>Concession</td>
<td>High levels needed</td>
<td>Necessary</td>
<td>Good information required</td>
<td>Strong regulatory capacity needed</td>
<td>Higher rating will reduce costs</td>
<td></td>
</tr>
<tr>
<td>Divestiture</td>
<td>High levels needed</td>
<td>Necessary</td>
<td>Good information required</td>
<td>Strong regulatory capacity needed</td>
<td>Higher rating will reduce costs</td>
<td>High</td>
</tr>
</tbody>
</table>

Note: The shading signals the degree of importance: □ not significant □ low □ moderate □ high

(Source: Private Sector in Water and Sanitation – How to get Started, Penelope Brooke-Cowen, Private Sector Note № 126, 1997)

- **Cost-Recovery Tariff**: A cost recovery retail tariff is a major issue for IPP investors as tariff underpins the creditworthiness of a power utility. Regulation of the tariff is of interest as it provides an indication of a government’s long term commitment to a cost-recovery tariff. Transparency in tariff-setting processes helps to settle any doubts in the minds of potential investors about the capacity of a utility to meet payment commitments of a PPA.

- **Credit Rating**: Country and utility credit ratings provide other measures of market risk. Table 6 refers only to country credit rating but utility credit rating is also important as a direct measure of payment risk. Country credit rating is of particular importance if a sovereign guarantee is provided by government to secure the obligations of its agencies. An investment grade rating will unlock doors but lower ratings can still be an attraction if the change in rating over time indicates improvement. A credit rating from a recognised agency is itself an attraction as it relieves a prospective investor of part of its due diligence load.

Private sector involvement in electricity sector infrastructure adds to the pressures on a country’s regulatory regime and institutions. The private sector has predatory instincts that need to be countered. Inevitably there will be divergences between public and private interests and these will only be reconciled fairly if effective regulation is in place and there is parity across the negotiation table. Exclusively negotiated PPP deals have a
troubled history throughout the developing world. Large projects, in particular, raise the stakes and sharpen adversarial pressures. This can be a problem in small countries where local institutions lack the specialist multi-disciplinary skills and budgets to compete on equal terms with experienced developers and their highly paid advisors.

### 8.1.2 Private Investment Climate in Fiji

Fiji has a head start over many countries in attracting investment to the power sector. Pros and cons are sketched out in Table 7 and it can be seen that the overall balance is favourable.

**Table 7 - Fiji Electricity Sector as an Investment Destination**

<table>
<thead>
<tr>
<th>Advantages</th>
<th>Concerns</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Legal and political systems and language inherited from the British provide a good platform for private sector involvement</td>
<td>• Fiji dollar is not presently freely convertible</td>
</tr>
<tr>
<td>• A local capital market regulated by the Capital Markets Development Authority operates in Fiji. The Fiji National Provident Fund administers a compulsory savings scheme that provides funds.</td>
<td>• Recent political instability increases sovereign risk. Electricity sector investments are less vulnerable than most as they are generally insulated from market effects of political events by PPAs.</td>
</tr>
<tr>
<td>• FEA enjoys a reputation as a well organised and administered utility with a good credit record.</td>
<td>• Land disputes could be a concern for investors promoting certain types of project (e.g. storage hydro).</td>
</tr>
<tr>
<td>• Capacity additions in the FEA system are typically less than $F50 million, well below the floor value for limited recourse financings. Balance sheet financing simplifies lender involvement.</td>
<td></td>
</tr>
<tr>
<td>• Retail tariff is at or near cost recovery levels.</td>
<td></td>
</tr>
</tbody>
</table>

### 8.1.3 Public Private Partnerships in FEA’s Operations

The increasing involvement of the private sector in the Fiji power sector based prompts the need for greater clarity in the direction of this trend. It would seem in respect of the private sector that practice in the industry has overtaken the existing policy and legal framework and that further development in these areas is necessary to guide and control the role of the private sector in power system development and operation. There is a need to formally articulate policy on the matter and to follow this up with a review of relevant aspects of the Electricity Law. Policy development is a matter for GoF and ideally it should precede any major overhaul of regulation in this area. The regulation proposals put forward in this report are based on existing policy and practice.

FEA’s PPP focus has been principally on privately financed projects, though not exclusively. Generation is an area of FEA’s business in need of capital investment. FEA’s reserve margin has been declining over the years
and now some “catch-up” is required. The Fiji power sector has a longer association with private generation than most utilities. For many years it has been contracting with cogenerators such as Fiji Sugar Corporation, Tropic Woods and Emperor Gold Mine and has solicited private sector involvement through other avenues. In 1998, a competitive IPP solicitation was conducted for capacity up to 15 MW.19

PPP models employed or considered by FEA include the following:

- **Management contracts:** A twenty-year agreement has been executed between FEA and Telesource under which Telesource manages and operates FEA’s Kinoya and Vunda diesel stations. The contract provides for some capital expenditure. Telesource is paid for energy conversion with fuel as a pass-through under the agreement.

- **Power purchases from IPPs and co-generators:** FEA and GoF have for some time been actively seeking private sector involvement either by purchasing energy through cogeneration arrangements or by promoting greenfield IPP generation projects. A special case of the latter is the formation of a joint venture partnership between Pacific Hydro and FEA for pursuing renewable energy projects. To date, they have developed two hydros, Wainikasou (6 MW) and Vuturu (2.8 MW), and are considering a third, Sigatoka-Ba (54 MW). Pacific Hydro also considered taking a role in the 10 MW Butoni wind farm but it is now being implemented as a FEA project.

- **Supply concessions:** It is understood that private parties are licensed by FEA to generate and supply power in rural and isolated areas. Also, resort operators with captive plant may provide for their own electricity needs and sell surplus output to communities in the vicinity of the resort.

Of central interest in PPP procurement are price and risk. The practice in Fiji, as elsewhere, is to negotiate wholesale electricity prices on a project-by-project basis, setting the utility’s avoided cost as the ceiling value.20 In Fiji, present policy is to fix the wholesale price of electricity at 13 c/kWh or the tariff corresponding to a nominal pre-tax rate of return of 15%, whichever is least. If a project offers seasonal output (i.e. it cannot meet specified minimum annual production), the price will be reduced to reflect the lack of capacity value. The 13 c/kWh ceiling is reportedly based on FEA’s avoided cost but if it is unrealistically low, it will frustrate attempts to attract private investment to the sector. This seems to have happened in the case of the Butoni wind farm. It is not known what energy production cost FEA has assumed for the project under the current implementation arrangement.

At present, FEA is the single buyer of privately generated electricity but a point much debated in recent years is the right of private generators to sell directly to large customers (subject to the payment of a wheeling charge to FEA for access to its transmission system). The idea is promoted on the basis that it would attract capital and

---

19 The bid was an unstructured solicitation for MW up to a maximum of 15 MW. Location, technology and installed capacity were left open for bidders to propose. In the event, no award was made as no bidder offered a price lower than FEA’s avoided cost.

20 An alternative approach adopted in some countries for small projects is to advertise for power proposals based on a published tariff and standardized PPA. Conforming proposals are accepted up to a subscription ceiling.
provide low cost power to large commercial and industrial customers. Contrary arguments turn on the size of the sector and the social structure of FEA’s tariff. If private generators are allowed to target large customers, FEA would be unable to compete at the margin because of the uniform tariff. Commercial and industrial prices in the uniform tariff cross subsidise low volume residential customers. If private generators can “cherrypick” FEA’s most attractive customers, the burden of the cross-subsidies would fall onto a narrower customer base and would result in either the residential or the commercial/industrial rates increasing. From a system point of view, FEA would lose base load customers, resulting in a more “peaky” daily load curve. Both effects would be to the commercial detriment of FEA. In a small system, the direct and indirect effects of permitting direct sales should be carefully considered. If private investment in the FEA system is an objective, the financial health of FEA should be of paramount concern and direct sales disallowed except in situations where FEA is unable to provide a supply of the required quality and reliability.

8.2 Regulation of Private Participation

8.2.1 Objective of PPP regulation

Investments in generation can be large. In a small system, the capital cost of a new power station might be of the order of several percent of GDP. Poor investment decisions can therefore have macroeconomic effects and accordingly, control of investments usually ranks with electricity pricing as the leading priority in power sector regulation. Experience across the globe has shown that PPP has a chequered record in countries where regulation is inappropriate and institutions are weak. This is particularly so where project agreements are formed by exclusive negotiation.

The quality of a generation investment is determined by the project selection and procurement processes. Regulation of project selection is a planning matter examined under Section 10.0. Regulation of PPP procurement is explored below under the following headings:

- Legislative Framework for PPP
- PPP procurement procedures
- Institutional Capacity and Responsibilities

In commenting on the regulatory framework for PPPs, it is assumed that FEA will remain the single buyer of electricity from PPPs (refer Section 3.3).

8.2.2 Legislative Framework for PPP

The provisions of the Electricity Act, Public Enterprise Act, Companies Act, Foreign Investment Act and other relevant legislation define a legal framework for regulating many private sector activities including the licensing of private parties to operate captive generation, enter into cogeneration arrangements with FEA, and to supply
electricity within a license area. Contracts, licences and other special purpose instruments complete the regulatory framework.

Relevant provisions of the legislation for enabling and regulating PPPs are discussed.

(i) **Electricity Act**: Under s28, a person may be licensed to supply electricity to consumers. The licence will stipulate, amongst others:

- Term of the licence;
- Area of supply
- Maximum charges payable by consumers

The Act admits the use of PPP arrangements and provides for suspension or revocation of licences but does not foresee some of the more recent models of private participation and is silent on the framework for negotiating, monitoring and enforcing PPP agreements.

PPP arrangements must be submitted to the FEA Board for approval and some regulatory control by GoF is possible through its appointees to the Board (s4).

(ii) **Commerce Act**: PPAs executed between FEA and IPPs fall within the meaning of “Access Agreements” under the Commerce Act. As such, the following provisions apply:

- **s9** – the Commerce Commission has the following objectives in relation to the regulation of access regimes: (i) to promote effective competition in the interests of consumers; (ii) facilitate a balance between efficiency and environmental and social considerations, and (iii) ensure non-discriminatory access to monopoly infrastructure;

- **s19** – the Commission must be notified of an intention to enter into an access agreement at least 30 days before executing the PPA. A copy of the draft agreement and other details must be provided to the Commission on request;

- **s20** – the Commission must be notified when the PPA is signed and a copy of the executed document and other requested details provided;

- **s22** – a register of access agreements maintained by the Commerce Commission is accessible by the public;

- **s24** – either FEA or the IPP may at their election invite a representative of the Commission to attend PPA negotiations;

- **s25 and s26** – a dispute between FEA and a private investor may be referred by either party to the Commission.
Based on the objectives specified in s9 and on the Commission’s access to draft agreements, it would seem that the Act would allow the Commission to play a watchdog role on PPP transactions to safeguard the national interest.

(iii) **Public Enterprise Act**: The objective of the Public Enterprise Act is to put FEA on an enterprise basis so that it operates as an efficient business. As a business, FEA is encouraged to interact commercially with the private sector where this will advance its objectives of profitability and efficiency.

The Act provides a framework for accountability of GCC’s and sets out the principles in Schedule 1 as follows:

- FEA’s board is accountable to the Public Enterprise Minister and Minister of Works and Energy for FEA’s performance;
- FEA’s Statement of Corporate Intent forms the basis for accountability;
- FEA’s performance will be monitored by GoF against performance targets in the Statement of Corporate Intent;
- To compensate for FEA’s increased autonomy as a GCC, GoF will monitor FEA.

Part 5 of the Act sets out the provisions regarding reporting and accountability. Features of this part of the legislation are:

- FEA is required to submit a corporate plan setting out its future operations. The Public Enterprise Minister may issue guidelines on the format of the corporate plan which must be consistent with FEA’s Statement of Corporate Intent.
- FEA must submit a Statement of Corporate Intent summarising the main elements of the Corporate Plan. The Statement of Corporate Intent must include (amongst others) procedures to be followed in acquiring shares in any company or organisation.
- The Public Enterprise Minister may direct FEA to cover specific matters in the Statement of Corporate Intent.
- Annual audits must be carried out in accordance with the Companies Act. The Minister of Finance may choose the auditor or direct the appointment of the Auditor-General.
- Annual and half yearly reports must also be provided.
• FEA must keep the Public Enterprise Minister and Minister of Works and Energy informed of its operations and financial performance and must provide financial reports and other information as the Public Enterprise Minister may require.

• The FEA Board is obliged to draw to the Ministers’ attention any matter that might affect the achievement of the objectives and targets set out in the Statement of Corporate Intent and Corporate Plan.

The general thrust of the accountability provisions is on corporate efficiency and accountability. Submission of Corporate Plans and Statements of Corporate Intent are forward looking in their nature and provide an avenue for GoF to monitor the proposed sequence of investments, source of financing and choice of PPP model if a private investment is proposed. Though lacking the forward perspective of the accountability provisions, the audit and reporting provisions also provide an avenue for monitoring PPP deals provided the Ministers’ are sufficiently specific in the information they seek.

The above analysis suggests that the legislative framework, though not prescriptive in the way PPPs should be planned, procured and managed, does define discretionary powers that, if used systematically, would provide for the regulation of all stages of PPP transactions from the choice of investment through to the negotiation and administration of project agreements.

### 8.2.3 PPP Procurement Procedures

From the Consultant’s consultations, there is a widespread perception that FEA is not sufficiently accountable in its dealings with the private sector. It would seem to be true that external scrutiny of FEA’s commercial relationships with its private partners has been weak, being limited to formal audit procedures and Board governance, but the explanation for this may lie as much with GoF as FEA. We have seen in Section 8.2.2 that GoF has a number of statutory powers that allow its agencies to oversee FEA’s PPP deals but these powers tend to be discretionary and are not exercised very often. Likely reasons for this are the limited resources of the key agencies and a lack of procedures to specify the nature and timing of the regulatory activities.

FEA has internal procedures for reviewing project selection and procurement processes and these should be complemented with external procedures to discipline GoF agencies to routinely conduct specific regulatory checks of FEA’s business arrangements with PPPs. It is understood that formal procedures for PPP procurement do not yet exist or lack the detail needed to regulate the process. For regulation to be effective, the procurement process and the documentation to be provided at each stage of the process should be

---

21 During the consultative phase of the Consultant’s assignment several people noted the large GoF representation on the FEA Board and expressed the view that this provided a level of regulation of FEA’s activities. Others felt that Board level scrutiny was not always an effective form of regulation because it did not necessarily bring specific skills to bear on particular issues at the appropriate time.
specified in clear and verifiable terms. Procedures for the development of PPP projects must be tailored for
the type of project and chosen approach – the PPP modality, solicitation method, etc.

Table 8 sets out some of the issues to be addressed in designing formal PPP implementation procedures. The
table contemplates a greenfield BOT model; for other PPP models and project types, the issues and
procurement options will be different and the procedures should reflect these differences. Examples are given:

- Management contracts, for instance, can be defined more tightly and therefore lend them better
to competitive solicitation. As the capital invested by a management contractor is small, it takes
less time to earn a reasonable rate of return than for a BOT project, allowing shorter contract
periods and intervals between re-bids.

- Thermal BOT concessions can also be defined more tightly than concessions for hydropower or
geothermal projects and are therefore better candidates for competitive solicitation.

The development of procedures and their effective implementation requires relevant expertise and experience.
Such skills may not be available to GoF agencies and in the short term the gap could be filled by support from
consultants. A longer term capacity should be developed by building in-house skills. Technical assistance
support from multilateral and bilateral agencies in building PPP capacity is a possibility.

The processes and documentation used in awarding concessions should be fashioned on international
tendering principles and adapted to accommodate the particular requirements of PPP procurement and the
generation technology employed. Competitive procurement should be used wherever projects can be
developed and defined to the detail needed for a meaningful bid. Where a non-competitive process is
employed, strict conditions should be stipulated to provide transparency in the determination of the commercial
arrangements and, most importantly, the project’s capital cost (e.g. competitive bidding of supply and
construction contracts).

If PPP procurement procedures are written too narrowly, they can be a straight-jacket to the detriment of all
parties. International Competitive Bidding (ICB) procedures provide useful principles but competitive
processes are not practicable for all project types. Both the size of the sector and the diverse nature of PPP
projects demand a degree of flexibility and the regulatory framework should be designed to accommodate
unconventional arrangements where they are demonstrably in the national interest and are justified in a
detailed and transparent manner. The primary objective in the design of PPP procedures should be to
establish an auditable paper trail that:

- binds the parties to a systematic procurement process;
- documents decisions and explains the reasoning behind them;

22 Recognised international procedures that establish principles for designing PPP procurement procedures include the World
Trade Organization GPA, UNCITRAL Guidelines on Procurement, EU procurement directives, ADB and World Bank
procurement guidelines, FIDIC procurement forms.
defines any decision points at which GoF approvals are required;
requires independent scrutiny by regulatory authorities (e.g. PPA review by Commerce Commission).

Table 8 - PPP Procurement Procedures (Greenfield BOT)

<table>
<thead>
<tr>
<th>Procedural Steps</th>
<th>Issues to be addressed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project selection</td>
<td>• Least-cost generation expansion plan</td>
</tr>
<tr>
<td></td>
<td>• Environmental and self sufficiency criteria</td>
</tr>
<tr>
<td></td>
<td>• System reliability and drought proofing criteria</td>
</tr>
<tr>
<td>Project preparation</td>
<td>• Feasibility studies, environmental studies and plans</td>
</tr>
<tr>
<td></td>
<td>• Project implementation program</td>
</tr>
<tr>
<td></td>
<td>• Environmental and financial studies</td>
</tr>
<tr>
<td>Selection of financing and procurement model</td>
<td>• Public vs. private financing; public sector comparator analysis</td>
</tr>
<tr>
<td></td>
<td>• PPP modality (BOT, concession, management contract)</td>
</tr>
<tr>
<td>Solicitation process</td>
<td>• Developer selection (exclusive, shortlisting, prequalification)</td>
</tr>
<tr>
<td></td>
<td>• Award process (direct negotiation or competitive solicitation)</td>
</tr>
<tr>
<td></td>
<td>• RFP documentation – bid document, model project agreements (PPA, implementation agreement, land usage agreement, etc. as appropriate)</td>
</tr>
<tr>
<td>Land acquisition</td>
<td>• Land title negotiations, compensation, resettlement</td>
</tr>
<tr>
<td>Evaluation of proposals</td>
<td>• Deviations to model project agreements</td>
</tr>
<tr>
<td></td>
<td>• Capital cost determination (competitive, open book negotiation)</td>
</tr>
<tr>
<td></td>
<td>• Financial model (tariff, rate of return, debt service criteria, discount rate)</td>
</tr>
<tr>
<td>Negotiation of project agreements</td>
<td>• Negotiation process for finalising project agreements (preferred bidder only, parallel negotiations, etc.)</td>
</tr>
<tr>
<td></td>
<td>• Negotiation format (parties present, GoF representation, time limits, etc.)</td>
</tr>
<tr>
<td></td>
<td>• Independent scrutiny of mandates and PPAs</td>
</tr>
<tr>
<td></td>
<td>• Review of agreements not involving GoF/FEA (e.g. FSA, shareholder’s agreement)</td>
</tr>
<tr>
<td></td>
<td>• Requirement to use competitive solicitation for EPC contracts where a concession is awarded by direct negotiation.</td>
</tr>
<tr>
<td>Monitoring during construction</td>
<td>• Enforcement of concession and PPA terms during construction</td>
</tr>
<tr>
<td></td>
<td>• Reporting standards to GoF (content, frequency, detail, etc.)</td>
</tr>
<tr>
<td>Monitoring during operation</td>
<td>• Enforcement of concession and PPA terms during operation</td>
</tr>
<tr>
<td></td>
<td>• Reporting standards to GoF (content, frequency, detail, etc.)</td>
</tr>
</tbody>
</table>

A local example of flexibility is found in FEA’s joint venture with Pacific Hydro. Though the arrangement sidesteps many ICB procurement principles, the partnership has practical advantages. FEA is pursuing indigenous generation, a market segment in which Pacific hydro operates exclusively. Also Pacific Hydro is not a trade investor and would therefore be open to ICB for awarding supply and construction contracts.
As part of the development of formal procedures, models should be drafted for the primary PPP agreements (e.g. PPA). The use of models avoids legal costs and reduces vulnerability in negotiations.

One issue of particular interest to all parties to a PPP deal is price. An effective regulatory framework should satisfy government, customers and other stakeholders as to the reasonableness of electricity prices agreed between seller and purchaser. Where they are competitively determined, the process is transparent but PPP concessions for some projects, notably hydro and geothermal projects, are difficult to tender competitively and price must be negotiated. Procedures must be designed to strike a balance between the commercial confidentiality of the buyer’s and seller’s information and the legitimate right of other stakeholders to be informed. Capital cost is the prime determinant of electricity price and where an IPP concession is awarded through exclusive negotiation, competition and transparency could still be built into the procedures by requiring the seller to use ICB principles in awarding its supply and construction contracts.

Another issue of possible relevance to FEA in the reporting of private sector investments is an appropriate treatment of PPP transactions in FEA’s accounts. Some jurisdictions allow “off-balance sheet” accounting while others recognise PPPs as “on-balance sheet” financing arrangements. It was reported recently in the Australian press that accounting standards promoted by the International Accounting Standards Board of London would force governments in Australia and elsewhere to recognise the debt and equity of PPPs in their financial statements rather than bury them in the books of the JV companies. The National Institute of Accountants is quoted as saying that the proposed change would end off-balance sheet arrangements in the public sector.

**8.2.4 Institutional Capacity and Responsibilities**

An effective regulatory regime must be supported by an institutional regime with the capacity, resources and impartiality to properly interpret and apply legislative provisions and procurement procedures.

The experience of public-private partnerships around the world is mixed; there are many successful projects but many others fail to materialise, become the subject of litigation or do not deliver services according to benchmarked norms. Explanations are not hard to find. PPP procurement is different from the more traditional forms of public procurement. Large capital sums are involved and a wide range of specialist technical, financial and legal skills must be coordinated in the preparation and negotiation of projects. Governments are more vulnerable because:

- Projects tend to be defined more in functional rather than prescriptive terms. More open project definition makes it harder to mobilise competition effectively.
- Documentation is more customised and requires the assistance of highly paid advisors that stretch the budgets of many government agencies.
Formal PPP procurement procedures, if they exist at all, are specified as tightly or in the same detail as ICB procedures and do not offer governments the same level of protection.23

Governments of small countries are generally at a disadvantage in negotiations because they lack the experience, resources and quality of advice of the private partner.

PPP procurement procedures should specify the agency responsible for each step of the process. A review of international practice shows that the choice of agency to bear primary responsibility for PPP procurement differs from one country to the next. The options in the context of the FEA system are discussed below:

(i) **Utility**: As the off-taker of a project’s output, the utility is a logical agency to take the lead role in PPP procurement. In a Fiji context, it can be argued that the purchase of electricity is a normal wholesale procurement process falling within FEA’s mandate as a GCC under the Public Enterprise Act to “operate as a successful business” and to “exercise its autonomy and authority to make commercial decisions”. The other argument in favour of FEA taking a lead role is that it has the technical understanding of the electricity supply industry and is experienced in major procurement. If any single agency in Fiji has the required multi-disciplinary capacity for PPP procurement, it is probably FEA.

(ii) **Government Ministry**: In some countries, a government ministry will take a lead coordinating role in PPP procurement. A couple of reasons can be advanced for this approach. Firstly, it is argued that the utility is competing in a market with private generators and that a conflict would be created if it has any discretion in the regulation of its competitors. The argument seems more theoretical than real in Fiji where there is no market competition between public and private generators.24 Private participation is actively encouraged by FEA for the capital it brings to the sector. Provided the regulatory framework provides for transparency in the financing decision, i.e. whether a project should be publicly or privately financed, it is difficult to see any practical conflicts in FEA’s current role in managing its own PPP procurement.

The second reason for locating PPP responsibility within a ministry is more pragmatic. Large PPP projects demand specialist skills in their preparation, solicitation and negotiation and it may be necessary to draw on the wider resources of government to assemble a team with an appropriate balance to coordinate advisors and vie with developers on equal terms. Especially in small economies, a single agency is unlikely to have the necessary depth to manage procurement of large PPP projects and may need access to specialist skills within government to assist in project preparation, coordination of advisors and negotiation of project agreements. In a Fiji context, this might involve the establishment of an *ad hoc* project committee under MWE or

---

23 Some countries are developing standardised procedures and documents to improve control and reduce costs of PPP procurement. The Private Finance Initiative (UK) and Partnerships Victoria (Australia) are two examples.

24 In Fiji as in other similar countries, off-take arrangements of PPP generation projects are secured by PPAs that lock in quantity, quality and price of off-take for the duration of the PPA, typically 20 years or more.
MPE with committee members drawn from FEA, Ministry of Justice, MFP and other agencies as appropriate.

(iii) **Major Projects Unit:** An extension to the idea of assembling specialist *ad hoc* teams within government for large PPP projects is the establishment of a permanent Major Projects Unit (MPU) as a small but permanent kernel of perhaps 3 or 4 specialists to build capacity and manage major projects. This is a plausible strategy only if a country is planning a program of large infrastructure projects and has a cross-sectoral pipeline of major PPP projects offering workload continuity.

Where large PPP projects are concerned, a higher level of specialisation and resources may need to be applied to the procurement process. One might distinguish between “large” and “small” projects according to their capital value, their complexity, their importance to the economy, or the method of financing (balance sheet or project financing). With large projects, more parties are involved and there is more at stake; negotiations are contested more vigorously and issues are visited in greater detail. Management of procurement is a larger and more specialised exercise and outside the experience of most small utilities. Bringing appropriate resources and skills to bear might be better achieved if it was coordinated under a Major Projects Unit.

The unit would coordinate between GoF agencies and manage hired advisors to:

- review planning processes giving rise to recommendations to proceed for major projects;
- prepare major projects for the market (coordinate studies, RFP preparation, etc.);
- solicit private interest;
- evaluate proposals and negotiate project agreements;
- raise government equity, if appropriate; and
- administer implementation.

The unit could be located in a central Ministry so that it would have coverage over all infrastructure ministries and would provide the Unit with a direct reporting line to the Prime Minister to swiftly resolve inter-agency issues that might otherwise frustrate the timely satisfaction of GoF obligations, including the issuing of project consents, approvals and licences. The Project Planning and Evaluation Unit of the National Planning Office would be a candidate.

Experience of centralising of major project procurement has exposed some risks. Competent members of the unit are attractive on the employment market and staff retention is a problem. Also, centralised units in some countries have become magnets for corruption.

Another means of assembling and coordinating the specialist skills for PPP procurement is to hire an advisory team (rather than individual advisors that must then be coordinated by the lead GoF agency). Competitively bidding the advisory team assignment adds transparency to the whole PPP procurement process. A team
would typically comprise a team leader with broad technical and PPP skills, a specialist PPP lawyer and an infrastructure finance specialist with project modelling skills. The advisory team’s tasks would generally be to:

- Prepare a PPP shortlisting or prequalification document and assist the lead GoF agency with the advertising and evaluation of applications.

- Take market soundings on behalf of GoF to determine investor and lender expectations and risk tolerance in the current market.

- Based on the information obtained from the market soundings, prepare bankable drafts of project agreements (concession agreement, PPA, shareholders’ agreement, land conveyance agreement, direct agreements, etc., as appropriate) and respond to FEA/GoF comments on the drafts.

- If a competitive approach is used, prepare a PPP bidding document and assist the lead GoF agency in issuing the request for proposals.

- Assist the lead GoF agency with the evaluation of proposals and negotiation of project agreements.

### 8.2.5 Proposed Reform Measures

Changes proposed in the strengthening of regulation in the procurement and operation of PPP projects in Fiji are summarised below:

- FEA is the agency best equipped to cost-effectively and efficiently manage PPP procurement in the electricity sector and should continue to carry the institutional responsibility for PPP projects. It has the resources and experience to better manage solicitations and evaluate proposals submitted in response to such solicitations.

- Though responsibility for procurement should remain with FEA, responsibility for issuing PPP licences should be transferred to the Commerce Commission. The Commission’s tariff setting decisions must be based on an understanding of FEA’s marginal cost of capacity and energy; this, in turn, provides it with an understanding of FEA’s generation requirements and puts it in a position to judge the merit of applications for private generation licences. The Commission should also be responsible for monitoring compliance with licence conditions.

- At present, GoF overview of FEA’s PPP activities is lacking and this could be remedied by the introduction of transparent PPP procurement procedures. The procedures should be drafted in a legal style and should be based on international procurement standards and conventions. The procedures should specify procurement processes and define requirements in respect of information sharing, legal documentation, reporting and independent review. They should nominate responsible agencies and stipulate timelines, prerequisite submissions, implementation
standards, required approvals and consents, etc. The Commerce Commission should be responsible for formulating and updating the procurement procedures and for monitoring compliance with them. It should also monitor compliance with licence conditions.

For large PPP projects beyond the experience and competence of FEA, consideration should be given to other arrangements that will bring appropriate skills and resources to bear. This might involve a more coordinated GoF approach supported by a multi-disciplinary consultant team.

8.3 Private Distribution

Expansion of electrification in rural areas through MV, SWER and low voltage grid extensions or through off-grid development is a vital part of reducing poverty, promoting economic development and improving health and education in rural areas. At present, rural electrification in Fiji is provided by:

- **Grid extension**: Communities at the fringes of FEA’s grids are electrified by extensions to the grid implemented by FEA and paid by GoF (90%) and the recipient community (10%). The supply is operated and managed by FEA.

- **Off-grid electrification**: Remote communities are electrified using small diesel systems, photovoltaic home systems and small-scale hydro installed by the Department of Energy and operated under a cooperative or RESCO arrangement.

The private sector could be encouraged to channel investment into rural electrification to accelerate progress towards GoF’s electrification goals. Investments in individual distribution and off-grid schemes are often modest and this opens the door to local investors. The Electricity Act already permits private participation in grid electrification and this could be promoted through the use of a concession model in which a concessionaire is mandated for a stated period of time to supply electricity within an area beyond the present reach of the grid. The concession would allow the concessionaire to tap off from an FEA substation, build a distribution system and purchase bulk electricity from FEA, or generate power itself, to reticulate and retail within the concession area.

The enabling provisions in the Electricity Act have proven adequate for the low level of activity in this area to date. If an expansion of the role of the private sector were planned, these would need strengthening. Issues to be considered would include the following:

- Exemption from FEA’s uniform tariff in a concessionaire’s supply area;
- Regulation of connection fees, initial tariff and tariff adjustments within the concessionaire’s supply area;
- Price at which the concessionaire buys bulk electricity from FEA;
- A mechanism for channelling donor and GoF funds into capital subsidies to allow concessionaires to levy tariffs at affordable levels;
• Electrification obligation of the concessionaire (e.g. the number of connections the concessionaire is obliged to make and the schedule for completing them);
• Duration of the term of the concession, right of renewal, and transfer of assets when the concession expires and is not renewed;
9.0  FEA Performance

9.1  General

FEA plays a major role in the Fiji economy as a retailer of electricity, investor and employer. It touches the lives of Fijians in a number of ways and there is therefore a legitimate interest in FEA’s commercial and technical performance.

As a CSA, FEA comes under Part 4 of the Public Enterprise Act which stipulates certain reporting and accountability requirements (e.g. §79). When FEA is eventually re-organised as a GCC, it will fall under the wide reaching provisions of Part 3 of the Public Enterprise Act. This gives the Minister of Public Enterprises and Public Sector Reform an even wider mandate to monitor the affairs of FEA. For instance:

- The Public Enterprise Act under s50 (Division 4 Accountability) and Part 5 (Reporting and Accountability) sets out the obligations of GCCs in preparing and submitting corporate plans, statements of corporate intent, audits, half-yearly and annual reports, financial accounts and other information as may be required under other sections of the Act.

- s109 of Public Enterprise Act allows the Minister of Public Enterprise and the Minister of Works and Energy to request the Permanent Secretary to “investigate and report to them on any matter relating to the GCC. The legislation specifies the Ministers’ rights to information and documents, and authorises the investigating officer to “take steps considered necessary or desirable for the purposes of the investigation”.

In addition, the Minister of Works and Energy is accorded significant discretion to intervene in FEA’s affairs under s14 of the Electricity Act which states, “The Minister may, from time to time, after consultation with the Authority, give the Authority directions of a general character not inconsistent with the provisions of this Act as to policy to be followed in the exercise of the powers conferred .....”

Regulation of FEA’s performance is discussed under the following headings:

- Power system reliability
- Commercial performance
- Consumer protection

9.2  Power System Reliability

9.2.1  Reliability Performance

FEA’s function is to provide and maintain a power supply that is financially viable, economically sound and consistent with the required standards of safety, security and quality. The regulatory regime should be
designed to measure FEA’s performance against these standards and to provide incentives for improved performance. In its Annual Report FEA publishes values of international benchmarks of system reliability that indicate a high number of outages in the Fiji system. This is explained largely by meteorological conditions in Viti Levu, bush fires, vandalism and a lack of reinforcement in the transmission system at this stage of its development. 2003/2004 was a difficult year. Supply quality problems were blamed for damage to home appliances in the Lami area and FEA chose to compensate customers for the damage.

9.2.2 Regulation of System Reliability

MPE is authorised under the reporting and accountability provisions of the Public Enterprise Act to review FEA’s technical performance. In addition, FEA reports on its technical performance in its Annual Report. Selected statistics are published in the report that measures the level of technical performance in delivering electricity to its customers. These include:

- generation statistics
- generation and transmission development summaries
- system reliability indicators (e.g. SAIDI, SAIFI, CAIDI)
- safety and risk statistics
- maintenance issues
- system performance indicators.

FEA answers through its board to GoF for its technical performance. Although the Electricity Act is largely silent on monitoring and enforcement of technical performance, there are adequate powers in the Public Enterprise Act to measure technical performance against stated benchmarks in the Corporate Plan and Statement of Corporate Intent.

The technical capacity of MPE to exercise these powers is another issue. It would perhaps be more appropriate if DoE were responsible for overseeing such matters as:

- consistency of system development and operation with GoF’s goals;
- reporting of performance problems;
- identifying any weaknesses in the FEA system or looming threats.

However, institutional capacity of DoE is also an issue. If DoE were to monitor FEA in any meaningful way, it would require additional skilled resources.

In summary, the statistics routinely provided by FEA in its Annual Report provides sufficient feedback to stakeholders to assess FEA’s technical performance in the preceding year. Should there be a need for more immediate information, GoF’s powers under the Public Enterprise Act provide the necessary authority to probe FEA’s operations.
9.3 Commercial Performance

The commercial performance of FEA is subjected to greater scrutiny. The regulatory framework is examined under the separate headings of financial performance and institutional efficiency.

9.3.1 Financial Performance

As a GCC, FEA will come under the Companies Act. In addition, financial scrutiny by of FEA’s affairs is authorised under the Electricity Act and Public Enterprise Act:

- Under s25 of the Electricity Act, FEA is obliged to submit an annual report to Parliament. The report is audited by an auditor appointed by FEA, currently PriceWaterhouseCoopers.

- Under s100 of Public Enterprise Act the following requirements will apply to a GCC:
  - Audits will comply with the Companies Act
  - The Minister of Finance and Planning may direct the Board in the selection of the auditor
  - The Minister of Finance and Planning may direct the appointment of the Auditor-General to investigate, in which case the audit also comes under the Audit Act
  - The Board is under an obligation to keep the Minister of Public Enterprise and the Minister of Works and Energy reasonably informed
  - The annual report must contain such information as is necessary to provide a comparison with its statement of corporate intent.

- Payment of dividends must comply with the provisions of s52 and s53 of Public Enterprise Act

These existing powers are sufficient to allow effective regulation of FEA’s financial affairs. The institutions and procedures for exercising these powers also appear to be adequate.

9.3.2 Institutional Efficiency

The overriding objective of the Public Enterprise Act is to improve the institutional efficiency of public enterprises such as FEA. MPE is responsible under the Act to oversee FEA’s reform as a Re-organisation Enterprise and to transform it into a GCC. Under s32, the Minister is to ensure that FEA performs its functions “in a proper, efficient and effective way” and is given a number of powers to execute this commission.

When FEA becomes a GCC, Part 3 of the Public Enterprise Act gives the Minister the power to regulate FEA and to “regulate the relationship between GCCs and their boards”. Part 5 of the Act also gives MPE powers “to ensure that [GCCs] are accountable for their actions, that they report to government regularly and uniformly, and that they are properly managed and planned”. These include an obligation to:
• develop a corporate plan and act in accordance with it. The Minister can issue guidelines for this task.

• prepare a Statement of Corporate Intent to be provided annually setting out the main elements of the corporate plan, an outline of the GCC’s objectives, the activities to be undertaken during the coming year, borrowings made and proposed, acquisition and disposal of major assets, accounting policies, etc. (s98(2)). If the Minister disagrees with the Statement of Corporate Intent, action can be taken.

• Undertake audits (Division 4)

The Electricity Reform Bill (not enacted) would have further strengthened the regulatory avenues by giving the Minister the power to refer to the Commerce Commission any matter related to the generation, transmission or sale of electricity that may be contrary to the public interest.

Even without the additional powers proposed in the Electricity Reform Bill, the powers provided under existing legislation, the Public Enterprise Act in particular, are adequate for overseeing FEA’s institutional efficiency. Also, the agencies charged with monitoring responsibilities under current legislation, though under-resourced, have the capacity to put apply the legislative requirements.

9.4 Consumer Protection

9.4.1 Development of Consumer Focus

Historically, government-owned monopoly utilities saw little benefit in a responsive service-oriented public image. People have higher expectations now and a greater understanding of their collective political power. Service quality and performance standards are expected, together with an effective consumer protection procedure to give voice to aggrieved customers. Minimum service standards need to be stated. FEA is part of the global trend towards a greater consciousness of consumer service and this is evidenced by its customer satisfaction surveys and use of the media.

The results of FEA’s most recent customer satisfaction survey suggest a level of contentment with the service provided. A small drop in the results of previous years was attributed in the 2003 Annual Report to rising expectations of customers.

Perhaps the most effective means of managing consumer issues is through public education. In most situations, the customer understands very little about how utilities operate or how prices are determined and the use of media to explain such things as tariff increases can play a major part in minimising adverse reaction.
9.4.2 Responsibility for Consumer Protection

FEA has staff who provide a first line of defence for consumer protection. Final recourse for a customer with a complaint is through the Department of Fair Trading (Ministry of Trade and Commerce) and the Commerce Commission. There do not appear to be any glaring gaps in the protection of consumers.

A customer seeking redress for a perceived problem with one GoF agency (FEA) does not want its last recourse to be in the hands of another GoF agency. In many countries, this conflict is resolved by removing consumer protection functions from government and merging them with other regulatory functions under an independent regulatory agency. In Fiji, the Commerce Act provides for the Commerce Commission to look into offences relating to Part 3 (Restrictive Trade Practices) of the Fair Trading Act. The Commerce Commission is not subject to the control or direction of its Minister in such matters and provides a suitable independent forum for hearing disputes.
10.0 System Expansion and Resource Planning

10.1 Integration of Electricity Sector Planning with National Priorities

Modern system expansion planning is evolving from simple supply-side expansion of generation and associated transmission to a more integrated optimisation of available resources and technologies on both supply-side and demand-side. Integrated planning considers the combined development of electricity supplies and energy-efficiency improvements to provide electricity to customers at minimum total cost. The process should look beyond the technical and commercial concerns of the utility and embrace the wider economic effects that power system development will have on a country.

A utility such as FEA has statutory responsibilities to its customers in providing a reliable supply at least-cost, and to GoF and other sector stakeholders in prudently managing its commercial affairs. It is bound by these responsibilities to plan according to least-cost principles within the constraints of its governing legislation. A government, though, has broader economic and social responsibilities and its perspectives and priorities may therefore differ on some aspects of power system planning, for instance:

- Environmental effects (e.g. GHG emissions, international treaties, biodiversity impacts)
- Social impacts (e.g. land issues, resettlement);
- Demand management (e.g. Demand Side Management options);
- Self-sufficiency / development of indigenous renewable energy sources;
- Expansion of grid supplies to unserved areas and islands;
- Time value of money (discount rate);
- Effect of taxes and subsidies in distorting economic costs;
- System reliability targets, in particular loss of load probability (as the losses to an economy caused by load shedding are deeper than the commercial losses to the utility).

Factoring such issues into an optimised system planning exercise is not straightforward and may involve subjectivity. For instance, most social and environmental matters are not traded and there is therefore no objective price. Also, the benefits of energy efficiency are not fully captured by the market. Thus, regulation is needed to align system planning with national priorities. This may translate into higher electricity prices.

Successful regulation of integrated system planning requires a government to articulate clearly the goals to be achieved. The overarching goal should be economic efficiency \(^{25}\) rather than utility efficiency (though the two overlap substantially).

\(^{25}\) Economic efficiency in this context is the most efficient, reliable and least cost combination of energy resources consistent with a government’s stated goals.
10.2 Power System Planning in Fiji

Though small, the Fiji power system, with its reliance on hydropower, is a complex system to simulate for the purposes of least-cost expansion planning. Power system expansion planning is conducted by the Major Projects and Strategy Group of FEA. No other GoF agency has the expertise or software to conduct load forecasting, generation expansion simulations and power system planning to a professional standard. The organisation and functions of the group are explained in Attachment 2. For a small utility, the group’s planning capabilities are impressive.

The planning processes allow GoF several opportunities to influence the objectives and direction of planning. The opportunities arise firstly through the annual Corporate Plan and Statement of Corporate Intent prepared pursuant to the Public Enterprise Act. Planning must conform to these documents. The Statement of Corporate Intent contains a summary of the main elements of the Corporate Plan and must, amongst others, outline:

- FEA’s objectives;
- The nature and scope of activities to be undertaken during the financial year;
- Proposed borrowings;
- FEA’s policies and procedures relating to the acquisition and disposal of major assets;
- Financial and non-financial performance targets;
- Procedures to be followed for purchases of shares in any company or organisation.

The Corporate Plan and Statement of Corporate Intent must first be approved by the FEA Board with its GoF appointments. The Board must then submit the draft Statement of Corporate Intent to the Public Enterprise Minister and the Minister for Works and Energy, who are to consult before responding. The Corporate Plan is then tabled in parliament and any comments must be reconciled at government level.

Opportunities for GoF to steer the planning process also arise through a stakeholder consultation process at the start of a planning cycle. The consultations seek, amongst other things, data on new point loads in the system (e.g. hotels, industrial sites), requirements of customers, planning constraints, and the like. The consultations include discussions with the national planning staff in the MFP.

The tabling of the Corporate Plan, submission of the Statement of Corporate Intent and stakeholder consultation process clearly provide GoF with opportunities to control the direction in which planning proceeds and in this sense it can be said that the regulatory provisions are adequate. In practice, though, it is less clear whether GoF uses these opportunities to articulate clearly the national planning priorities.

This observation is a general one but it is prompted by specific concerns expressed by several parties during the consultative phase of the Consultant’s assignment about the vulnerability of the FEA system to El Nino
drought cycles. This example illustrates possible weaknesses in the way in which national priorities are communicated to FEA for factoring into its system planning. Questions prompted by this are: (i) was this issue raised within GoF and a formal position taken; and (ii) was this position (if any) made known to FEA? These same questions apply equally to any other national priority that should be reflected in FEA planning.

10.3 Regulation of Resource Planning

10.3.1 Institutional Planning Options

Power planning in other countries sometimes distinguishes between strategic planning conducted by the government, and tactical planning conducted by the utility. This overcomes any mismatch, perceived or real, between national and utility objectives. Government strategic planners would determine the least-cost expansion plan and utility tactical planners would plan the implementation of the projects. If such a model were introduced in Fiji, the strategic planning responsibility would probably fall to DoE, leaving the tactical planning and project implementation with FEA.

This might seem an improvement from a purely institutional point of view but in a small system the fragmentation of Fiji’s power planning capability may have adverse effects in practice. DoE has no power system planning capability and shifting strategic planning to DoE would have the effect of removing them from the institutional knowledge and technical support resident in FEA. In a larger economy, government agencies would be better able to support such functions but in Fiji it would be pragmatic to have one power planning group and to build its expertise and critical mass. The natural home of such a group is FEA.

10.3.2 Strengthening Planning Regulation

There are other ways of improving regulation without splitting the country’s planning expertise. The legislative and institutional framework is already adequate; if there is a problem, it is in the way in which planning consultations are conducted and recorded. GoF input into the planning process could be formalised by drafting formal procedures that specify the following:

- The lead GoF agency responsible for coordinating GoF input. The likely options are MTP and DOE.
- The nature of the consultations between GoF agencies and FEA including their timing, hold points and approvals, scope of consultations (planning objectives and parameters), meeting procedures, etc.

The issue is raised to examine the effectiveness of the link between national and utility planning. FEA are, in effect, on the horns of a dilemma in planning its next major capacity addition. National and utility objectives point to renewable energy technologies to avoid volatile pricing in world energy markets but least-cost renewable options for significant capacity increments tend to be hydro and these are unhelpful in furthering the drought-proofing objective.
• Formal communication between the lead GoF agency and FEA agreeing the parameters and assumptions to be used in the planning. The communication could take the form of a TOR and would give specific direction on input parameters such as loss of load probability, discount rate, treatment of taxes and subsidies, self-sufficiency objectives, internalising environmental and social constraints, etc. It could also specify sensitivity tests and reporting requirements.

• Occasional progress communications or meetings between FEA and the lead GoF agency during the course of the planning with a procedure for GoF to make comments and monitor the responses.

• Involvement of the lead GoF agency in a formal review of the draft plan when it becomes available and before it is presented to the FEA Board.

Tight planning procedures would add form to the existing legislative framework in facilitating GoF overview of national objectives. However, while power system planning capacity in government is weak, GoF input will remain ineffective. A program designed to build capacity in the lead GoF agency should be instituted to provide the GoF lead agency the capacity and resources to allow it to participate constructively in the process.
11.0 Environmental Regulation

11.1 Electricity Sector Impacts in Fiji

Environmental impacts of electricity generation, transmission and distribution can be large and are generally not internalised into the cost of production. Economic and environmental policies should be coordinated so that social and environmental costs of power generation are factored into system expansion planning. This would mean that generation alternatives are compared equally against each other and system development follows a least-cost path in both an economic and environmental sense.

FEA is pursuing an objective of reliance on renewable energy, a policy that is at the same time environmentally enlightened and mindful of the need for self sufficiency in a time of energy price volatility. Investments in renewable energy sources and in energy efficiency (DSM, low energy lighting, building design, etc.) will reduce the all-inclusive long term cost of electricity.

The primary source of generation in the FEA system is hydropower and, though renewable, it is often associated with social and environmental impacts. Other potential renewable energy sources such as wind, geothermal and coconut oil also have impacts but are generally less controversial.

With environmental effects only partly built into the pricing of electricity, the market is a poor regulator of environmental responsibility. It is therefore desirable to establish a regulatory framework to direct behaviour in project selection and development, system dispatch and electricity consumption. Regulation of power system planning discussed in Section 10.3 would go much of the way to providing this control on the supply side. Demand side regulation also has a part to play.

11.2 Environment Management Act

The recently enacted Environment Management Act (2004) provides an effective framework for regulating environmental and social impacts of FEA activities in operating and extending its system. The Act is strongest in assessing and controlling impacts from capital works but is not designed to regulate the environmental effects of power system operation.

Essential features of the legislation include:

- Establishment of a National Environment Council;
- An EIA process designed to assess the impacts of a development. An EIA is to be prepared by an accredited consultant and reviewed either by a committee appointed for the purpose or by an independent consultant;
- Public consultation through public hearings or by inviting public comment on the EIA report;
• The lodgement of a cash bond with an Environmental Trust Fund as a surety against breach of the EIA conditions;

• Monitoring and enforcement of the conditions of the EIA report;

• A system of remedies (including penalties) to be invoked in the event of a breach of the EIA conditions;

• A requirement to implement a system of natural resource accounting designed to quantify in money terms the exploitation of natural resources;

• Powers to conduct environmental audits on FEA.

11.3 Environmental Compliance

The application of the provisions of the Environment Management Act will be overseen by the National Environment Council and the Department of the Environment. Powers of the National Environment Council may also be delegated to an environmental unit established within line ministries and FEA. These may include:

• processing of EIAs;
• scoping development proposals;
• reviewing completed EIAs;
• monitoring and enforcing any environmental conditions contained in an approved EIA.

The provisions of the Environment Management Act provide an effective framework for regulating the environmental effects of FEA’s operations and projects. However, effective legislation is only one element of effective environmental regulation. A number of countries have adequate environmental legislation but are unable to regulate behaviour because of a combination of factors including lack of institutional capacity and resources, and lack of political will.

As with all aspects of regulation, those charged with administering the Act should be able to carry out their duties independently. The Department of Environment is a GoF agency and potential conflicts arise where it is required to monitor and enforce conditions and perhaps suspend work on priority government projects. This situation is not uncommon, and in some countries the independence of environmental agencies is compromised, but in most the arrangement works satisfactorily.

To separate the regulator from the regulated it would be necessary to establish an environmental compliance unit within an independent agency, perhaps an augmented Commerce Commission. This would, however, involve duplication of environmental capacities and in a small country such as Fiji, this is best avoided. It is proposed that the status quo is maintained for the time being: i.e. environmental regulation should remain with the Department of Environment. The situation could be reviewed periodically.
12.0 Labour Regulation

12.1 Labour Issues in the Electricity Sector

Restructuring, commercialisation, private participation in utility services and labour market reform have enabled many governments to improve labour productivity in public services. De-regulation of the labour market has often been a necessary precursor to institutional restructuring, “downsizing” and outsourcing initiatives.

The staff of FEA has seen significant changes over the past few years. In 2003, staff numbers reduced from 740 to 640, primarily through the transfer of staff to Telesource, the private operator of the Vuda and Kinoya stations, but also through voluntary redundancy and natural attrition. A number of staff issues have arisen as a result of these changes and FEA has put a submission to the Fiji Electricity Workers Association and Fiji Electricity and Allied Workers Union. An agreement was signed in March 2004 between FEA and the Electrical Trade Union Industrial relations within FEA.

Skills shortages are emerging in countries such as UK and Australia where electricity sector training has been neglected. To fill this demand for skilled workers, these higher remunerating countries are recruiting in places like Fiji creating staff retention problems for local utilities. This trend emphasises the importance of training and retaining staff. It also underlines the importance of maintaining depth in electricity sector institutions to reduce dependence on key individuals.

12.2 Regulation of Industrial Relations

The labour market in Fiji is unionised and regulated by legislation. Employees can be employed pursuant to an industrial award or under an employment contract.

As a GCC, FEA will be obliged under the Public Enterprise Act to prepare an Employment and Industrial Relations Plan which must specify FEA’s major employment and industrial relations issues. The plan must be submitted to the Minister of Public Enterprise together with its Statement of Corporate Intent. The plan must disclose the following:

- Remuneration of senior executives (including stock option schemes);
- Employment conditions of employees;
- Breakdown of staff according to whether they are employed under an award or employment contract;
- Employment policies to maintain staff numbers at levels reasonably required by the requirements of the work.

A new Industrial Relations Bill is before Parliament. The Ministry of Labour, Industrial Relations and Productivity is reviewing the Bill which consolidates amendments from workers’ and employers’ organisations with existing employment and industrial relations legislation. The Bill’s provisions bring labour legislation into
line with Fiji’s 1997 Constitution and with international agreements ratified by Fiji such as the UN and ILO Conventions. It addresses such matters as gender equality and sexual harassment, and provides for the setting up of an independent Labour Tribunal and Labour Court.

On the basis of the documents studied and the Consultant’s consultations, the industrial relations legislation and labour institutions provide an adequate framework for regulating employment and staff issues in the sector.
13.0 Regulatory Framework Development

13.1 Strategy for Regulatory Development

In Fiji, as elsewhere, a number of new trends in the electricity sector are testing the existing system of regulation. The sector generally continues its record of sound performance but the regulatory structures must adapt to meet tomorrow’s challenges. Development of “best practice” regulation is a long-term and ongoing process. Strategies for improving regulation in Fiji should consider:

1. Long term goals based on the objective of building into the regulatory framework those best practice principles applicable to small systems;

2. Interim goals achievable in the shorter term (say, a 5 year horizon) using resources that are or could be made available to address particular priority areas.

In recent years, GoF has taken a number of important steps in building a multi-sectoral model of regulation. The centrepiece of its reforms has been the establishment of the Commerce Commission under the Commerce Act as an independent regulatory agency. The multi-sector model is better suited for Fiji than an energy sector model as it recognises the constraints of a small market and commonalities between network industries.

In the main, existing legislation and institutions are suitable for regulating the present sector; they also provide an adequate platform for the further development of the regulatory environment. Many of the present regulatory issues can be traced to a lack of procedures to define the regulatory processes, and to a lack of staff and resources in the responsible agencies. Structuring regulation in Fiji around a single agency maximises the ability to build institutional capacity, depth and independence into the regulator. However, it is imperative that the pace of regulatory reform does not outstrip the capacity of key regulatory agencies to meet their changing responsibilities, and in the case of Fiji, the pivotal agency is the Commerce Commission. The long-term development of electricity sector regulation should therefore be coordinated with the development of regulation in other sectors and with the building of capacity within the Commerce Commission to equip it for its wider role.

This cannot happen overnight; new regulatory powers can only be transferred to the Commission as it develops the capacity to absorb them. A progressive strengthening of the regulatory system tailored to available resources is proposed in Section 13.3. The transitional strategy would involve the introduction of immediate, low cost improvements to strengthen the existing system of regulation while continuing to build on GoF’s existing long term initiatives in the development of a model framework. A practical compromise between cost and efficacy will involve some GoF agencies continuing for a time to perform regulatory roles that should ideally fall to an independent agency.

The short term improvements and longer term development strategies are discussed in the following sections.
13.2 Short Term Improvements in the Regulatory Regime

Relatively minor changes could be introduced quickly and at little cost to ease perceived and actual shortcomings. These steps should be considered to be transitional – designed to work largely within existing legislation and institutions and thereby avoiding the cost, delay and dislocation associated with purer reforms and institutional restructuring. With time, the sector will grow and institutions capacity will develop; as this occurs, the further development of the regulatory framework discussed in Section 13.3 should be pursued.

Proposed short term transitional adaptations that could be introduced within, say, the next five years are outlined below (and described further in the relevant preceding sections):

(i) Retail Tariff Setting

- Increase the frequency of tariff adjustments with the objective of allowing FEA a revenue base that: (a) better tracks FEA’s reasonable production costs (based on competent management and efficient planning and operation), and (b) conditions customers to the reality of the variable nature of these costs.

- Introduce clear, objective and verifiable procedures for managing each tariff review, including the adoption of an objective pricing model or template that transparently determines a fair price for electricity based on recovery by FEA of its operating and system development costs (e.g. rate of return or price cap performance-based pricing models).

- Provide the Commerce Commission with the budget, resources and autonomy it needs to develop a pricing template, conduct periodic tariff reviews and hire consultants to prepare tariff studies from time to time in accordance with the requirements of relevant legislation.

- Agree a procedure for annually quantifying and reimbursing FEA’s social obligation costs. The procedure should include a transparent calculation procedure and template to eliminate subjectivity to the extent possible.

(ii) Technical Regulation

- Enhance perceptions of independence of the FEA Regulatory Unit in licensing FEA equipment by strengthening the “ring-fencing” through such measures as outside reporting lines and external budget support.

(iii) Licensing of Electricity Enterprises

- Strengthen and formalise procedures for licensing electricity enterprises to provide transparency of process and provide stakeholders with adequate and timely information;
• As part of a coordinated centralising of administration of licensing functions for private sector services across key infrastructure sectors, transfer the licensing of electricity enterprises (including PPPs) to the Commerce Commission when practicable. The transfer should occur only when the Commission has developed the institutional capacity to properly manage multi-sectoral licensing.

(iv) Project management of PPP Procurement

• As the agency best equipped to manage PPP procurement, FEA should retain responsibility for the procurement process. Responsibility for formal PPP licensing and monitoring of compliance with licence conditions should be assumed by the Commerce Commission as soon as practicable.

• Where large PPPs of macroeconomic significance are concerned, consideration should be given to enlisting wider support from Government and from coordinated consultancy teams to bring together the skills needed to manage complex projects and negotiate on equal terms with experienced developers and their advisors.

• Clear and verifiable procedures drafted in legal style should be introduced to: (a) bind all parties to a systematic and transparent PPP procurement process; (b) nominate the agencies responsible for procurement activities; (c) specify GoF approval milestones and information to be provided; and (d) document and explain processes and decisions.

(iii) System Expansion and Resource Planning

• FEA should remain the agency responsible for power system expansion planning; formal procedures should be introduced to define GoF involvement in setting FEA power system planning criteria and in planning review processes aimed at reconciling national and utility objectives in the expansion of the FEA system (e.g. system reliability, self-sufficiency, environmental constraints).

Proposed adaptations that could be introduced in the short to medium term are summarised in Table 9. Also to be included in any short to medium term action plan is planning for longer term reforms. This will involve detailed studies to:

• Review power sector policy in a number of areas such as the status of FEA under the Public Enterprise Act (reorganisation from CSA to GCC), private sector involvement in the sector, licensing of electricity enterprises, technical regulation and power system planning;

• Highlight the need for accompanying changes in the legal framework (including a review of the Electricity Law);
• Plan the extent, sequencing and timing of future regulatory reforms, including cross-sectoral coordination, as appropriate, in the transfer of regulatory functions to the Commerce Commission;

• Examine the institutional issues involved in the transfer of functions and building of capacity.

Table 9 – Proposed Short Term Strengthening of Existing Regulatory Framework

<table>
<thead>
<tr>
<th>Regulated Function</th>
<th>Existing Regulator Responsibility</th>
<th>Proposed Short Term Strengthening</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Tariff Setting</td>
<td>Commerce Commission</td>
<td>Introduce clear and verifiable procedures; Increase frequency of tariff adjustments; Use transparent methodology – e.g. pricing model, template, periodic marginal cost tariff studies.</td>
</tr>
<tr>
<td>2. Technical Regulation</td>
<td>Licensing installations: FEA - Regulatory Unit Licensing contractors: FEA - Regulatory Unit</td>
<td>Strengthen ring-fencing of Regulatory Unit</td>
</tr>
<tr>
<td>3. Licensing Electricity Enterprises</td>
<td>FEA</td>
<td>Strengthen reporting requirements and licensing procedures. Transfer to Commerce Commission as soon as practicable.</td>
</tr>
<tr>
<td>4. PPP Development</td>
<td>Small and Medium Projects: FEA</td>
<td>Introduce clear and verifiable procedures governing all stages from project selection to execution of agreements and construction.</td>
</tr>
<tr>
<td>5. PPP Development</td>
<td>Large projects: FEA</td>
<td>Large projects of macroeconomic significance may justify a coordinated GoF/FEA project approach.</td>
</tr>
<tr>
<td>6. Regulation of FEA:</td>
<td>System reliability: FEA</td>
<td>None</td>
</tr>
<tr>
<td></td>
<td>Financial performance: PWC audit / MPE scrutiny</td>
<td>None</td>
</tr>
<tr>
<td></td>
<td>Consumer protection: Commerce Commission</td>
<td>None</td>
</tr>
<tr>
<td></td>
<td>Institutional efficiency: MPE</td>
<td>Introduce clear and verifiable procedures and strengthen MPE’s capacity to apply them.</td>
</tr>
<tr>
<td>5. Resource Planning:</td>
<td>System expansion planning: FEA</td>
<td>Introduce procedures to formalise input of national priorities (e.g. system reliability, self-sufficiency, environmental constraints).</td>
</tr>
<tr>
<td>7. Environmental Regulation</td>
<td>Dept of Environment</td>
<td>None</td>
</tr>
<tr>
<td>8. Labour Regulation</td>
<td>Ministry of Labour</td>
<td>None</td>
</tr>
</tbody>
</table>
13.3 Longer Term Regulatory Development

It is generally acknowledged that the faith of investors, customers and other stakeholders is greater if an effective, transparent and independent system of regulation is in force in a sector. The objective in Fiji should therefore be to increase the level of regulatory independence in the longer term (within, say, fifteen to twenty years) as growth and development within the Fiji system allows.

In larger economies, independence is often built around single-sector regulators but in small economies the creation of a multi-sector regulator is preferred to several single-sector regulatory agencies as it avoids unnecessary duplication of posts and better employs scarce resources. In Fiji, neither the electricity sub-sector, nor the energy sector, is large enough to support a dedicated regulatory bureaucracy and in the circumstances the multi-sectoral model adopted by GoF is sensible.

The Commerce Commission has been created as an independent commission to regulate specified activities across a number of sectors. Enabling legislation is in place, the Commission has been established is building a track record. The Commission therefore provides a natural focus for progressive strengthening of the scope and autonomy of the regulatory framework. In respect of the electricity sub-sector, the Commission currently regulates electricity pricing and is taking on other duties with the absorption of the regulatory functions of the Department of Fair Trading and the Prices and Incomes Board. This process should be continued into the longer term by progressively transferring other regulatory functions to the Commission as and when the Commission is ready to receive them. The longer term development strategies in respect of the sector’s key regulatory functions are discussed in Sections 5.0 to 12.0.

It is believed by some that the Commission is under-resourced and its independence is brittle. Resources within GoF are scarce and these problems may take time to resolve without external assistance. The involvement of a multilateral or bilateral agency in the development of the regulatory framework would accelerate the pace of progress.

With the benefit of time, the capacity of DOE, MPE and other agencies could be bolstered to improve separation of regulatory roles by taking a more active role in reviewing activities such as generation expansion planning, electricity enterprise applications, power system performance, commercial performance, etc. Long term institutional strengthening programs should be implemented with this objective in mind.

---

27 Fragility in a regulators’ independence is not uncommon in newly created institutions. A recent World Bank paper, Public and Private Sector Roles in the Supply of Electricity Services (Operational Guidance for World Bank Staff, 2004) made the following observation: “Experience shows that developing robust regulatory frameworks and strong institutions to manage them can be hampered by a variety of constraints, in particular under-funding and a reluctance by governments to transfer real independence in decision-making to regulatory authorities even when required to do so by law. Therefore, it is not surprising that private sector investors contend that a credible regulatory system requires more than a formally independent regulatory entity, especially in the critical early years right after it is created.”
13.4 Regional Regulation

A recurring constraint in building effective regulation in Pacific countries is size. The ability of small Pacific nations to create credible and efficient regulatory structures is limited by small budgets and scarcity of skilled staff. It has been argued that the way to overcome these constraints is to adopt a regional approach in regulating monopolistic network industries. This model has been adopted with some success among small island countries of the Caribbean. The Forum Secretariat has had some success in overseeing a harmonising of policy in the Pacific in such areas as economic management, petroleum pricing and civil aviation safety.

If a regional approach were adopted, Fiji, by virtue of its location, accessibility and strength of its institutions, would be the logical host for the regional regulatory agency.

A World Bank funded study, Regulatory Framework and Transaction Models for PPI in Pacific Island Countries (Meritec, 2001), examined the possibilities for regional cooperation in network industries. Several models were studied and a summary table from the report is presented as Table 10.

<table>
<thead>
<tr>
<th>Type of Agency</th>
<th>Pros</th>
<th>Cons</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regulatory Adviser</td>
<td>Easy consensus amongst national participants, no pooling of sovereignty • Contribution to capacity building • Suitable as an initial step towards regional regulation (institution building) • In line with current practice of regional organisations • Possibility to use existing regional organisations as host</td>
<td>Low credibility amongst investors and consumers • No regulation • No enforcement of regulatory decisions • Risk of failure if not developed into an arbitrator</td>
</tr>
<tr>
<td>Regulatory Arbitrator</td>
<td>Arbitration procedures in place • Enhanced investors credibility • Potential reduction in transaction cost through harmonisation • Suitable as intermediate step towards regional regulation</td>
<td>Risk of resistance at national level • Unequal benefits and high specific cost if not all PMC agree • Risk of failure if not developed into a regulator</td>
</tr>
<tr>
<td>Regulator</td>
<td>Reliable regulatory framework • Effective use of specialists • High credibility • Enlargement of PPI market through harmonisation • Scale economies • Reduction in transaction cost</td>
<td>Requires empowerment legislation to be enacted in each participating country • Risk of high resistance at national level • Long preparation/consultation period • Risk of financing problems • Possible conflict with existing legislation</td>
</tr>
</tbody>
</table>
A detailed study of regional regulation is outside the narrow focus of this assignment. It is also an approach whose time may not yet have arrived but the idea should be kept alive for a possible time when mutual self-interest draws Pacific Island nations closer together politically and economically.

13.5 Commerce Commission and Sector Reform

13.5.1 Role of the Commerce Commission

The strategy for short term development of the regulatory framework is to build on GoF’s past initiatives in establishing the Commerce Commission as the independent agency for setting prices for infrastructure services and overseeing consumer rights. Other regulatory functions currently carried out by FEA (and other regulatory functions carried out in other sectors) could be transferred to an expanded Commission, as appropriate. For the transition to be effective, the transfers would need to be coordinated carefully over a period of time as the capacity and resources of the Commission grow.

Table 11 sets out a suggested program for expanding the role of the Commission to improve the standard and independence of regulation. The table focuses on the electricity sub-sector but it is recognised that broader multi-sectoral development should progress in parallel with any electricity regulation.

Expansion of the Commerce Commission’s role would need to be planned and coordinated. Changes in legislation must be introduced to add to the Commission’s powers according to the preferred realignment of institutional responsibilities. The expansion of the Commission’s role could be progressive to reduce the risk of transitional weaknesses causing problems in the industry. With the imminent transfer of functions from PIB and the Department of Fair Trading, the process is underway.
### Table 11 – Proposed Expansion of Role of Commerce Commission as Multi-Sector Regulator

<table>
<thead>
<tr>
<th>Option</th>
<th>Function</th>
<th>Suggested Timeframe</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Tariff and Prices</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Responsibility for price reviews to cover all “controlled” infrastructure services (e.g. telecoms, water &amp; wastewater, gas)</td>
<td>Existing</td>
</tr>
<tr>
<td>2</td>
<td>Multi-sector price reviews – transfer responsibility for price reviews for other regulated commodities (e.g. petroleum, rice, sugar, flour) from the Prices &amp; Incomes Board.</td>
<td>Cabinet Decision 557/2004</td>
</tr>
<tr>
<td><strong>Technical Regulation</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Feasibility of a coordinated transfer of technical regulatory role for the energy sector to Commerce Commission to be explored – e.g. electricity, petroleum, gas, coconut oil, etc.</td>
<td>Long term</td>
</tr>
<tr>
<td>4</td>
<td>Feasibility of transferring technical regulation of other sectors to Commerce Commission, as appropriate, to be explored – e.g. hazardous materials, wastes, explosives, etc.</td>
<td>Long term</td>
</tr>
<tr>
<td><strong>Licensing Private Infrastructure Services</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Transfer to Commerce Commission authority for licensing electricity enterprises (including PPPs) and monitoring compliance with licence conditions. (For project management responsibility for PPPs – refer Section 8.2.)</td>
<td>As soon as practicable</td>
</tr>
<tr>
<td>6</td>
<td>Authority for licensing enterprises to provide infrastructure services in other sectors (e.g. water &amp; wastewater, telecoms)</td>
<td>Medium to long term</td>
</tr>
<tr>
<td><strong>Consumer Protection</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Transfer regulatory role of Dept of Fair Trading to the Commerce Commission to consolidate multi-sector consumer protection responsibilities.</td>
<td>Cabinet Decision 557/2004</td>
</tr>
<tr>
<td>8</td>
<td>Expand consumer protection responsibilities to cover other commercial sectors, as appropriate.</td>
<td>Medium to long term</td>
</tr>
</tbody>
</table>

The Commission’s independence should be reinforced. The Commission already has a legal mandate to carry out certain functions free of ministerial influence, but other improvements would reinforce this independence; for example:

- Removing GoF influence in the setting of Commission budgets (e.g. earmarked budgets, deriving revenue from fees levied on regulated entities);
- Putting in place a salary structure that is de-linked from public service scales to allow adequate remuneration for Commission staff;
- Maintaining arm’s length relationships with regulated entities and Government;
- Publishing appointment procedures for members of the Commission that reduce the potential for stacking, e.g. staggered terms.
13.5.2 Strengthening of the Commerce Commission

The Commerce Commission must be properly strengthened to undertake new functions. A regulator cannot operate independently with inadequate resources and the resourcing of the Commission is a pivotal aspect of any institutional strengthening program. Crucially, the Commission’s budgets, staff and resources would need to be expanded. To the extent possible, funding should be derived from industry revenues (fees, licences, etc.) and reliance on government budgets should be minimised.28 The budget should provide for:

- Administrative staff (staff administration, finance, records)
- Staff specialists (lawyers, financial analysts, economists, accountants)
- Consultancy budget (lawyers, financial analysts, economists, accountants, engineers)
- Budget for legal processes and proceedings
- Office establishment (rent, furniture, transport, utilities, consumables, etc.)

A program of capacity building within the Commission should be prepared and executed as a priority. The program should include:

- Establish an Electricity Unit with the authority and capacity to review licence applications, monitor licence compliance, calculate interim template-based tariff adjustments and manage technical consultants carrying out tariff studies and other technical assignments;
- Increase staff, resources and consultancy budgets to accommodate increases in Commission workload caused by reforms (e.g. more frequent price reviews, progressive broadening of regulatory responsibilities);
- Conduct a program of targeted training and human resource development to build specific in-house skills. Multilateral and bilateral agencies such as ADB, World Bank and PPIAF could be approached to support such a program.

To some extent, staff may be drawn from existing agencies and measures may be needed to ensure that the source agencies are not undermined as a result. A gradual transfer of functions to the Commission should allow the Commission and the source agencies time to adjust.

The expansion of the role of the Commerce Commission will need to be carefully planned. A detailed study of the transition process should be undertaken to assess the required staff, resources and budgets for each step of the process, but such a study should be deferred until GoF has decided on the pace and direction of reform; i.e. until more is known about:

- which power sector regulatory functions are to be transferred to the Commission;
- the timetable for each transfer;

28 This is provided for in s16 and 53(3) of the Commerce Act which allows for the levying of fees on regulated entities, but s16(2) requires the Commission’s salaries and expenses to be met from money allocated by GoF.
which transfers are to be made from other sectors, and the timing of each transfer;
• the level of activity in the power sector and likely workload on the Commission; i.e. the number of licence applications, licence compliance activities, frequency of tariff reviews, etc.

Though premature to speculate on the Commission’s resources and budgets for full multi-sectoral regulatory reform, some consideration of the resourcing needs for the next steps is included in Section 13.6.

13.6 Next Steps

13.6.1 Priority Activities

The reform of regulation in the Fiji power sector should be undertaken in stages to allow time for the Commerce Commission and other agencies to progressively adjust to their changing roles. A practical progression of events was discussed in the Second Stakeholder Consultation Meeting and a general view was expressed that immediate attention should focus on two or three priority functions, to be followed later by others only as resources become available and after the initial reforms have been consolidated. The regulatory functions nominated as those to be considered first are:

• Tariff reviews and tariff adjustments
• PPP procurement
• Power system planning

Accordingly, the suggested next steps are (refer Table 12):

1. Establish an Electricity Unit within the Commerce Commission.

2. Commission a consultant to prepare a framework for reviewing tariffs and determining tariff adjustments. The consultant’s TOR should include the following tasks:
   - Review FEA’s power system expansion plan and prepare marginal cost estimates;
   - Propose tariff structure and prices;
   - Benchmark proposed tariff;
   - Prepare template to be used by the Commerce Commission for interim tariff adjustments.

3. Commission a consultant to develop procedures for procuring and administering PPP projects. The regulations should be drafted in a legal style to allow GoF the option of giving them legal status through incorporation in a PPP law or in regulations. The procedures could include model PPP documentation (RFP, implementation agreement and model PPA, as appropriate) and a PPP procurement manual.
4. Prepare formal procedures for preparing and reviewing power system plans, including generation and transmission system expansion plans. The procedures should define a framework by which GoF’s national priorities are reflected in FEA’s system planning. The procedures should allow GoF agencies the opportunity to provide input on planning criteria of national relevance such as system reliability, self-sufficiency targets, discount rate and environmental constraints. Once the planning criteria are agreed, FEA should then be allowed to prepare its plans without interference subject to satisfying defined reporting, consultation and review requirements.

Table 12 – Next Steps: Implementation Plan

<table>
<thead>
<tr>
<th>Reform Initiative</th>
<th>Implementation Plan</th>
<th>Agent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tariff Reviews / Adjustments</td>
<td>Develop formal tariff review and price adjustment procedures</td>
<td>CC / Consultant</td>
</tr>
<tr>
<td></td>
<td>Develop template for determining interim tariff adjustments</td>
<td>CC / Consultant</td>
</tr>
<tr>
<td></td>
<td>Commission Tariff Study (every 3 to 5 years)</td>
<td>Consultant</td>
</tr>
<tr>
<td></td>
<td>Manage public education program to explain tariff adjustments</td>
<td>CC / Consultant</td>
</tr>
<tr>
<td>PPP Procurement:</td>
<td>Develop PPP regulations governing all stages of procurement</td>
<td>Consultant</td>
</tr>
<tr>
<td></td>
<td>Prepare model RFP and model PPA documentation for use, as appropriate, in competitively soliciting PPP bids.</td>
<td>Consultant</td>
</tr>
<tr>
<td></td>
<td>Prepare a PPP procurement manual setting out GoF requirements with respect to procurement processes, responsible agencies, required studies, approvals and consents, contract documents, review processes, etc.</td>
<td>Consultant</td>
</tr>
<tr>
<td>System expansion Planning:</td>
<td>Prepare formal procedures by which national priorities are accounted for in power system planning, including specification of inputs, assumptions and criteria (e.g. system reliability, self-sufficiency targets, environmental constraints).</td>
<td>CC / FEA / DOE</td>
</tr>
</tbody>
</table>

13.6.2 Commerce Commission – Priority Strengthening Measures

An estimate of the resources needed to develop the Commerce Commission’s capacity and readiness to undertake the priority steps outlined in Section 13.6.1 is provided in Table 13.
Table 13 – Commerce Commission: Resources for Initial Steps

<table>
<thead>
<tr>
<th>Budget Item</th>
<th>Implementation Plan</th>
<th>Est. Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Electricity Unit:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Staff:</td>
<td>Initially 3 permanent staff (including admin support)</td>
<td>USD [ ] k</td>
</tr>
<tr>
<td>Office establishment:</td>
<td>Office equipment, computers, furniture, etc</td>
<td>USD 25 k</td>
</tr>
<tr>
<td>Transport:</td>
<td>One vehicle</td>
<td>USD 30 k</td>
</tr>
<tr>
<td>Office recurrent costs:</td>
<td>Annual budget for communications, utilities, consumables,</td>
<td>USD [ ] k pa</td>
</tr>
<tr>
<td></td>
<td>vehicle running costs, etc.</td>
<td></td>
</tr>
<tr>
<td><strong>Consultancy Budget:</strong></td>
<td></td>
<td>USD 150 k to</td>
</tr>
<tr>
<td></td>
<td>Tariff consultancy to:</td>
<td>USD 300 k</td>
</tr>
<tr>
<td></td>
<td>• Develop tariff review procedures;</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Review FEA system expansion plan and prepare marginal cost</td>
<td></td>
</tr>
<tr>
<td></td>
<td>estimates;</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Propose tariff structure and prices;</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Benchmark proposed tariff.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PPP consultancy to develop PPP procedures, PPP procurement</td>
<td>USD 300 k</td>
</tr>
<tr>
<td></td>
<td>manual and PPP model documentation</td>
<td></td>
</tr>
<tr>
<td><strong>Miscellaneous:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Capacity building:</td>
<td>Courses, workshops, conference attendance, etc.</td>
<td>USD 20 k pa</td>
</tr>
<tr>
<td>Litigation proceedings:</td>
<td>Revolving fund for court/arbitration costs, legal representation, expert witnesses</td>
<td>USD 500 k</td>
</tr>
<tr>
<td>Advertising / promotion:</td>
<td>Public relations, public awareness programs, etc.</td>
<td>USD 50 k pa</td>
</tr>
</tbody>
</table>

13.7 Concluding Remarks

It is clear that an adequate framework for regulating the power sector is already provided in the laws and institutional structure already in place in Fiji. Existing legislation, particularly the Commerce Act and Public Enterprise Act, provides broad regulatory powers to scrutinise FEA’s planning, operations and transaction, and the Commerce Commission has been established with the authority to independently review the retail tariff and examine PPAs. The Minister of Public Enterprise has wide powers to control and probe most aspects of FEA’s commercial activities.

The existing laws, though, are not specific and the agencies with the regulatory powers lack the staff and resources to act on their largely discretionary powers. The same situation is found in other countries where legal and institutional changes have been implemented relatively quickly using technical assistance grants and internal funds, but the effective implementation of the new arrangements is constrained by shortage of resources, inadequate annual budgets and lack of capacity in the responsible agencies. Overcoming these handicaps is a long term mission.

Some measures can be introduced without significant expense or disruption to improve real and perceived gaps in electricity sector regulation. Formal procedures can be written to specify the information required of the
regulated entities and to guide regulatory inquiries. However, without adequate resources and training support, the effectiveness of regulating authorities must remain doubtful.

In the longer term, the independence of regulatory structures in the electricity sector could be strengthened by building capacity in the regulating agencies and expanding the multi-sectoral regulatory role of the Commerce Commission to include wider functions of the electricity and other infrastructure sectors.

The first reforms, though, should be manageable. Initial steps are specified to address regulatory reform in respect of the following:

- Tariff reviews and tariff adjustments
- PPP procurement
- Power system planning
ATTACHMENTS

Attachment 1: Terms of Reference
Attachment 2: FEA Major Projects and Strategy Group
Attachment 3: References
Attachment 4: Stakeholder Comments and Responses
Attachment 5: Rural Electrification Models
South Pacific Applied Geoscience Commission
Pacific Islands Energy Policy and Strategic Action Planning

Terms of Reference: Review of FEA’s Regulatory Functions

1. Introduction

The Strategic Development Plan for 2003-2005 of the Fiji Government sets the energy sector goal as “to facilitate the development of a resource efficient, cost effective and environmentally sustainable energy sector.” Specific objectives include:

a) Formulation of “a comprehensive national energy policy to address renewable energy, efficiency and affordability, and environmental sustainability”;

b) Reform of the power sector “through internal restructuring of FEA and the encouragement of private sector participation through Independent Power Producers (IPP’s) and Renewable Energy Service Companies (RESCOS) in electricity generation”, and

c) Increased funding over the next three years for the DoE’s rural electrification programme.

Against this background The Acting Director of Energy together with the Chief Executive Officer of the Department of Public Enterprises requested PIEPSAP to include a review of FEA’s functions as a regulator in electricity industry. The assignment will be part of PIEPSAP’s support to the DoE in developing a national energy policy and plan.

2. Objectives

The objectives of the assignment are as follows:

(i) Provide inputs for a government decision on restructuring the regulatory functions in the electricity industry

(ii) Facilitate consultation between stakeholders on the issue of electricity sector regulation

(iii) Propose a regulatory framework that creates an enabling environment for private sector participation in the electricity industry.
3. Background

An important feature in the Fiji Government’s economic and social development strategy is an efficient low cost and reliable supply of electricity. There is an awareness that private enterprise can contribute significantly to this objective through encouragement of competition, mobilisation of capital, and introduction of technical and commercial expertise in new technologies.

The FEA is a 100% government-owned utility established under the provisions of the Electricity Act of 1966, with a board of directors appointed by the minister responsible for energy. The CEO is an ex officio member and is responsible to the board for implementation of board policies. FEA has responsibility for development and extension of electricity nationally where financially viable and economically sound. The 1966 Act specifies that it is FEA’s duty to promote and encourage the generation of energy (i.e. electricity) for Fiji’s economic development and to secure electricity supply at reasonable cost. The Fiji Government has embarked on a program of power sector reform based on a partnership with private enterprise. Steps taken to date are the enacting of the Public Enterprise Act in 1996, declaration of the Fiji Electricity Authority (FEA) as a reorganisation enterprise in July 1997, and the call for expressions of interest from the private sector in September 1997.

Since 1987 successive Fiji governments have had different policies regarding public enterprises and their restructuring involving different policies, legal reforms and implementation. Under an FEA Reorganisation Charter of 1998, FEA was divided for a time into three distinct companies responsible for generation, distribution and sales (PowerGen Fiji, PowerLines Fiji and MegaPower Fiji). The charter was repealed in 1999, with the companies reconsolidated into FEA.

FEA is currently at a crossroads in its development of generation resources. The Wailoa hydropower scheme is fully utilised and ongoing load growth now requires supplementary diesel generation. The development of additional hydropower capacity has been started in co-operation with an Australian partner. Other IPP projects such as wind farms and biomass utilization are being considered. GoF is considering restructuring of state owned enterprises including FEA. FEA had 640 staff in 2003 (FEA Annual Report for 2003) and has some staff working on technical regulation and monitoring of technical standards. The Commerce Commission regulates tariffs. The actual regulation of independent power producers seems to be performed by FEA through contractual arrangements. FEA is also a single (monopsonistic) buyer for independent power producers.

4. Scope of Work

The urgency of the regulatory review is recognised and it is assumed that the PIEPSAP services would begin shortly after agreement on ToR have been reached. PIEPSAP would be able to mobilise very quickly and our familiarity with Fiji will allow us to complete the services in minimum time.
4.1 Inception Meeting

- Identify relevant stakeholders and analyze their interests and expectations;
- Propose a stakeholder list to GoF
- Arrange and facilitate a kick off meeting involving all Stakeholders

4.2 Review all Relevant Documentation

- Review all relevant existing studies, reports and other documentation on regulatory issues in Fiji’s electricity industry;
- Identify and Review all relevant Fijian laws and regulations which may impact on power project development
- Review the relevant legal documents and determine current legal status of FEA as a regulator;
- Extract and summarize information relevant to achieving the Study objectives.

As part of our background preparation for the assignment we will review all significant reports produced in recent years on the form, status and direction of the power sector in Fiji. It is assumed that we will have access, as appropriate, to people and information in the Government and FEA to enable PIEPSAP to assemble the data needed for the review.

4.3 Identify and Review all Technical Regulatory Functions of FEA

- Technical regulation
- Grid connection codes
- Monitoring of standards
- Enforcement of safety standards
- Other technical regulation

Included as part of the review of the technical regulatory framework will be an examination of the permits and licenses regime. Permits and licenses presently required for electrical installation will be listed and reviewed. Current resources (financial and human) allocated to the execution of technical regulation functions will have to be quantified.
4.4 Review Tariff and Commercial Regulatory Functions

The review will focus primarily on the regulatory and institutional environment in the power sector and its suitability for private sector participation i.e. IPP/BOT implementation. FEA’s current role as a regulator of such projects will be analysed in detail. In addition, the broader legal framework will be reviewed including laws and regulations as they apply to private sector power projects (BOT/IPP) including:

- Electricity law, regulations governing FEA;
- Environment Regulation;
- Tax law;
- Insurance law;
- Foreign investment law;
- Contract law, current PPA/IPP contracts and concessions
- Land rights;
- Labour law;
- Water law etc.

The analysis will highlight problems and constraints on private sector participation imposed by current practice and by existing legislation, decrees, loan covenants and charters, with particular reference to FEA’s authority to set tariffs for independent power producers and its role as a single buyer of electricity. The issue of how an appropriate structure for IPP project is determined is central to the allocation of risks and rewards and, consequently, is an important determinant of lender and developer interest.

The capability or current practice to effectively manage project risks will also be analysed. (Regulation or contractual arrangements must allocate risks associated with fuel prices, foreign currency movements and other variables.)

Current FEA resources (financial and human) allocated to the execution of commercial regulation and functions related to the development of IPP projects will have to be quantified.

4.5 Recommend Regulatory Framework

Changes (if any) to the institutional and regulatory structure of the power sector to encourage private investment in power in both urban and rural areas of Fiji should only be suggested if they provide substantial efficiency gain for both the Government and the private sector. In line with this approach we will:

- Recommend how a level playing field between private power investors and State-owned projects can be created to provide an investor-friendly environment;
- Recommend changes in law that would provide the basis for necessary allocation of regulatory function;
- Identify a suitable institution to perform independent regulatory functions in the electricity industry;
• Quantify required resources to be allocated to the agencies to perform regulatory functions

• Describe a transition model that would allow a smooth transfer of responsibilities from one institution to the other (human resources, labor aspects, skills and knowledge etc)

As experience in Fiji has demonstrated, there should be no fundamental difficulty in attracting potential sponsors to a power sector project. However, if the legal, regulatory and institutional framework and contractual arrangements are insufficiently developed, there may be problems in, firstly, attracting developers of substance and reputation and, secondly, of providing the investment climate and security arrangements that will enable developers to mobilise finance on reasonable terms. A sub-optimal regulatory framework and unbalanced contracts can cause sub-optimal development of resources such as hydropower sites, misallocation of resources, and inequitable sharing of risks and rewards between the parties to a project.
The Major Projects and Strategy Group within FEA is the repository of expertise in Fiji for power system planning. The group comprises four units as shown in Figure 1.

Figure 1 – Organisation Chart: FEA Major Projects & Strategy Group

The planning expertise is located in the System Planning and Control unit and the Policy, Strategy & Business Development unit. The functions of these units are summarised below:

**System Control and Planning**

The System Planning and Control unit undertakes the functions listed below:

- Analysis of network performance & system element conditions
- Generation dispatch planning & implementation
- Maintenance & outage planning & implementation
- Operation procedures development
- Event investigation & analysis
- Protection coordination
- Network performance reports
- Network management
- Long term planning

**Policy Strategy and Business Development**

The System Planning and Control unit undertakes the functions listed below:
• Long-term forecasts & development plans
• Monitoring & maintenance of capital program
• Cash-flows projections & economic analysis of major projects & SBA performance
• Development & approval of FEA business cases
• Negotiation & ongoing operation of Power Purchase Agreements (PPA’s)
• Client Relationship Management with Independent Power Producers (IPP’s)
• Development, monitoring & implementation of Corporate Scorecards & Action Plans
• Representation & support for FEA involvement in Pacific Power Association & other forums
• Develop model for alliancing & other strategic partnerships
• Identify R&D issues / technologies & any other business opportunities
• Compile FEA Greenhouse inventory & develop greenhouse profile / forecast
• Develop Environment Policy
• Implement an ISO 14001 – compatible Environmental Management System (EMS)
• Identify monitor & assess International Benchmarking standards on environmental issues
• Support FEA representation in Sustainable Management Bill & other appropriate issues
• Conduct clean-ups & remediation as appropriate
• Provide advice & recommendations on energy efficiency, demand side management & energy audits
• Obtain accreditation for projects under the Clean Development Mechanism (CDM)
• Monitor issues on Kyoto Protocol & other international greenhouse debates
• Repository of Knowledge on international energy issues
Attachment 3 – References

1. *Best Practice Utility Regulation*, Utility Regulators Forum discussion paper, Office of Water Regulation, Western Australia, July 1999


6. Government of Fiji Legislation, Government Printer, Suva, Fiji Islands:
   - *Electricity Act* (1966)
   - *Fair Trading Decree* (1992)


17. Rural Electrification Frameworks Study, Final Report, Maunsell, for Department of Electricity, Lao PDR, September 2004

18. Sovereign Credit Ratings: A Primer, Standard and Poor's, March 2004


Attachment 4: Stakeholder Comments and Responses

1. STAKEHOLDER COMMENTS:

   1.1 FEA Comments
   1.2 DOE Comments
   1.3 MPE Comments

2. CONSULTANT RESPONSES:

   2.1 Response to FEA
   2.2 Response to DOE
   2.3 Response to MPE
1.1 FEA COMMENTS

[INSERT FEA LETTER OF 20 MAY 05]
21 July 2005
Our ref: 123/01
118/05

Mr. Gerhard Zieroth
Manager PIEPSAP
SCPAC
Private Mail Bag
General Post Office
Suva

Dear Gerhard

Request for Additional Information on the Draft Final Report

In response to your email correspondence dated 6th July 2005 in which you have requested for further information from all parties with regard to the second draft report, we write to confirm that the Authority has submitted its comments to the Chief Executive Officer for Works and Energy on 20th May 2005 highlighting the weaknesses in certain sections of the draft-final report.

A copy of this letter was sent to the Director of SCPAC. Please find attached a second copy of the same for ease of reference.

During the second consultation meeting with the stakeholders, FEA had raised other concerns in addition to our submission as per our letter dated 20th May 2005 attached.

The Authority is prepared to provide any assistance that may be required to put in place the appropriate regulatory framework that would suit Fiji’s situation.

We look forward to receiving the final report.

Yours sincerely

[Signature]

Rokoseu Nabelana
CHIEF EXECUTIVE OFFICER

Fiji Electricity Authority: Head Office 2 Marlow street
Private Mail Bag
Suva Fiji Islands
T(679) 331 3333
F(679) 331 1882
1.2 DOE COMMENTS

DEPARTMENT OF ENERGY

COMMENTS ON THE APRIL 2005 DRAFT FINAL REPORT ON FEA REGULATORY REVIEW

1.0 The Draft Final Report:

The report has covered all the different areas that need to be looked at in a regulatory review. In doing so it has included experiences from overseas, the local situations and options for improvement. However the report includes a lot of generalizations, without providing details of how the identified issues or options/proposals will actually work in Fiji.

The report is rather weak in terms of marrying the issues/options identified in the earlier parts of the report with that of Section 13.0. Some issues discussed earlier on in the report were left out in Section 13.0, the reasons of which are not clear.

The current draft does not provide Government with the much needed informed decision and clear strategy on the way forward for restructuring the regulatory functions in the electricity industry. The current review was supposed to come up with detailed proposals/recommendations (not superficial ones). As it stands the report creates another work for someone else to come up with the end result and which was not the intention of this review in the first place.

2.0 The TOR:

Our comments on the work done in relation to the TOR are provided in the table below.
### TERMS OF REFERENCE

#### Inception Meeting
- Identify relevant stakeholders and analyze their interests and expectations;
- Propose a stakeholder list to GoF
- Arrange and facilitate a kick off meeting involving all stakeholders

#### Review all Relevant Documentation
- Review all relevant existing studies, reports and other documentation on regulatory issues in Fiji’s electricity industry;
- Identify and Review all relevant Fijian laws and regulations which may impact on power project development
- Review the relevant legal documents and determine current legal status of FEA as a regulator;
- Extract and summarize information relevant to achieving the Study objectives

#### Identify and Review all Technical Regulatory Functions of FEA
- Technical regulation
- Grid connection codes
- Monitoring of standards
- Enforcement of safety standards
- Other technical regulation

#### Review Tariff and Commercial Regulatory Functions

The review will focus primarily on the regulatory and institutional environment in the power sector and its suitability for private sector participation i.e. IPP/BOT implementation. FEA’s current role as a regulator of such projects will be analysed in detail. In addition, the broader legal framework will be reviewed including laws and regulations as they apply to private sector power projects (BOT/IPP) including:

### REMARKS

Stakeholders identified but their interests and expectations were not specified in the report.
Stakeholder list was done in consultation with DOE.
Wrap up meeting held on 22 March 2005

Provide an addendum on the relevant reports reviewed.
Provide an addendum on the relevant laws and regulations reviewed
Provided in the report
Provided in the report

Section 6.0 of the report on Technical Regulation is very brief and it does not provide sufficient information. It has not addressed grid connection codes, enforcement and monitoring standards. Further in terms of regulation proposal it is silent on Technical Regulation moving or becoming part of the responsibilities within the Commerce Commission. How it intends to treat technical regulation. This needs to be clarified. However, it can also be taken that the two are synonymously considered when it refers to regulation. Clarification is sought on this.

The report has not addressed this.

A very important component which the report has not addressed.

The report has

Is discussed in the report.
TERMS OF REFERENCE

- Electricity law, regulations governing FEA;
- Environment Regulation;
- Tax law;
- Insurance law;
- Foreign investment law;
- Contract law, current PPA/IPP contracts and concessions
- Land rights;
- Labour law;
- Water law etc.

REMARKS

The analysis will highlight problems and constraints on private sector participation imposed by current practice and by existing legislation, decrees, loan covenants and charters, with particular reference to FEA’s authority to set tariffs for independent power producers and its role as a single buyer of electricity. The issue of how an appropriate structure for IPP project is determined is central to the allocation of risks and rewards and, consequently, is an important determinant of lender and developer interest.

Current FEA resources (financial and human) allocated to the execution of commercial regulation and functions related to the development of IPP projects will have to be quantified.

Recommend Regulatory Framework

- Recommend how a level playing field between private power investors and State-owned projects can be created to provide an investor-friendly environment;
- Recommend changes in law that would provide the basis for necessary allocation of regulatory function;
- Identify a suitable institution to perform independent regulatory functions in the electricity industry;
- Quantify required resources to be allocated to the agencies to perform regulatory functions
- Describe a transition model that would allow a smooth transfer of responsibilities from one institution to the other (human resources, labor aspects, skills and knowledge etc)

The report is structured in such a way that it leaves the reader questioning what the recommendations are; recommendations are not clear and at times appear to be contradictory. There is a need to have separate section for this outlining the (recommended) ‘way forward.’ otherwise as it is it is rather unclear. On the same note highlighting the reasons for such recommendations (pros & cons).

Where is the recommendation?

The Commerce Commission has been identified but it does not provide an indepth analysis looking at the existing roles of the Commission and the suitability of locating the regulatory role with them.

This has been referred to in the report but more detailed information is required in terms of financial and human resources

Not done
3.0 Specific Comments

The executive summary neglects the needs other GoF stakeholders in terms of capacity building, increased resources and formalised procedures. E.g. it is recommended that the Dept of Energy to assist in System Expansion and Resource Planning. The detailed section on this topic recommends significant work be done, however this is impossible without a similar capacity building exercise as with the Commerce Commission, although on a smaller scale.

a. Page 3 – on Regulation of PPP Projects,

“The legal system …..and land disputes are potential areas of concern…” It needs to be noted the land problems arising now is the result of dubious deals that were done in the past and also on the other hand traditional owners now having a fair comprehension of property rights have taken up these particular. We now have a legitimate way of dealing with land through the proper custodian – the Native Land Trust Board. Therefore concerns as a result of land could be better classified as a thing of the past.

b. Page 12 – Table 1 Consultations

Mr. Aisake Taito is also the Ministry of Finance representative to the Board.

c. Page 19 – 2nd Bullet Point / Page 47, 8.1.3 / Page 52, 8.2.3

The report makes reference to capacities in Vuda and Kinoya are locked to into a fixed 20 year – energy conversion arrangement by a management contract awarded to Telesource. This is a typical scenario why we need an element of GoF or other bodies to oversee PPP arrangements or other such contracts entered into by FEA for that matter. Typically such management contracts extend for 5 and in some cases not more than 10 years. Here you have FEA locking itself in a 20 year agreement. Telesource does not invest much in this partnership but it is there to gain for 20 years. Even the workers are provided by the FEA. What happens when you have fluctuations in terms of oil prices and exchange or interest rates along the way, the company does not feel a thing. But yet the Fiji taxpayer is made to pay for these deals (the benefits that might arise out these is locked). For short term contracts such anomalies are quickly fixed, but certainly not in this case.

The consultant should outline its views regarding these deals rather than just mentioning it..

d. Page 24 – Section 4.2
The existing regulatory framework (Table 3) indicates that the Minister for Energy (ME) does not have any regulatory role. However in other sections of the report (page 50) it states that the “FEA’s board is accountable to the Public Enterprise Minister and Minister for Works and Energy for FEA’s performance: FEA must keep the Public Enterprise Minister and Minister for Works and Energy informed of its operations and financial performance.” Further the Electricity Act has provisions for the Minister for Energy’s regulatory role but not highlighted in the report.

The role of the Minister for Energy in as far as regulation of the power sector is concerned needs to be highlighted. What is the consultant’s view on the Minister for Energy’s role? Is their a regulatory role that the ME performs? If there is or there is not then it needs to be highlighted.

e. Page 26 – Section 4.3.1 (FEA to be allowed to operate commercially and be reimbursed for social activities)

One of these so called social activities is rural electrification. For this there is a need for quantifying what is really meant by Rural Electrification. FEA networks traverses the rural mainland to get to those big consumers either it is manufacturing / industry or Hotel Development. With our centralized Monasavu / Vuda / Kinoya system, the FEA cannot live without the rural networks as they are the very ones that convey electricity to the “big consumers.” To classify these ‘conveyance’ act of rural networks as not commercially inherent with the system is rather way of the mark.

Further, to compensate or reimburse for these rural networks once again certainly warrants to be thoroughly examined. You have rural consumers that pay for the **FULL** cost of extending the lines to these rural areas. (There is a need to examine FEA’s rural extension cost structure to realize what is being referred to.) The people also pay their tariffs (even though it may be subsidized), the FEA rural extension cost structure also accounts for conveying power through their lines. And to call for reimbursement of these extensions certainly needs to be verified.

As much as there is a need to allow FEA to operate commercially, there is a real need to quantify all these costs.

f. Page 29 – Section 5.2

It would have been more interesting if the last FEA Tariff Review was dealt with more openly or provided as a ‘case study’. Surely, it would have been improper to have obtained the whole mechanics / dynamics of the increase from the Commerce Commission but this should have been obtained from the FEA. Only than we can provide recommendations for improvement in the future and build in the necessary confidence of the whole process as we go along. It is noted that you have dealt with the issue of transparency or tariff setting on page 31 of the document.

g. Page 29 Section 5.2.2

Last para “the relevant legislation therefore seems clear on two important points…” What does the consultant recommend to improve the current legislation regarding tariff setting?
h. Page 31 Section 5.2.3

Second para states “From the consultant’s review of relevant legislation and consultations with stakeholders, it would appear that procedures and pricing models to be followed by the Commission in the conduct of its reviews of electricity prices are either not fixed, not disclosed or not widely disseminated”

What is the consultant recommending in terms of review procedures and pricing models that could be used by the Commission?

i. Page 31 Section 5.2.4

Second para states “The Consultant’s assignment did not allow for a detailed evaluation of the Commission’s practices in conducting tariff reviews” This is part of the TOR and should be done.

j. Page 33 Section 5.3.2 / Page 49 Section 8.2.2 (ii)

Much has been said that the Commerce Commission is to assume the role of the regulator and also there are timelines in terms of assuming this role. Within the current context the Commerce Commission can officiate or arbitrate in respect to access agreements. This particular role is rather optional in that parties can even conduct their business without the Commerce Commission. Hence an important aspect is to ensure that it is mandated that all parties should go through them.

k. Pages 33 & 34 Section 5.3.2

Second sentence of first paragraph contradicts with second bullet point under Independent Option (page 39)

The report proposed, in second paragraph, the strengthening and broadening of Commerce Commission’s role. However in the ensuing discussions it provided general statements on the principles of building capacity that is applicable to any regulatory commission. What we would like to see is the specific requirements for the Fiji’s Commerce Commission in terms of building capacity, that is, how many additional staff are required, finances required, etc.

l. Page 34 Section 5.3.3

Again this section provides generalized statements. In terms of the pricing models, what does the consultant recommend for Fiji’s case?

m. Page 36 Section 5.3.4
The report proposes a mechanism for calculating the social costs should be developed but did not discuss the mechanism. What is the mechanism?

**n. Page 39 Section 6.2**

The report provides two options to address gaps in the current regulatory unit within FEA. However it has not provided details in terms of quantifiable resources required for each option.

**o. Page 41 Section 7.1**

In the preceding chapters, the document continues to toy with the idea of leaving the regulatory aspects (technical & licensing) with the FEA. Than on this chapter it says ideally ......it should be with an independent agency. The fact is we cannot have the best of both worlds, whether it is with the FEA or moved to another place. It is recommended that we need to be firm on such issues as it is very central to the study. Otherwise readers will continue to see a future in having both of them and ten years down the line we still have not made any decision or take concrete actions in terms of regulation in the power sector.

Having raised the above, the question arises whether we want IPP participation in the Power Sector or we are fine where we are. Also it questions whether we are really committed in this regard. The answer is yes! Our sanctioning the study itself is an overwhelming sign of our commitment. And if that is the case, than that is the direction that we should be looking at rather than trying to dance in between. It needs to be noted the recommendation of having a short term and long term solution / road map is fine. All that is intended is to have a firm destiny.

**p. Page 41 Section 7.1**

The Electricity Reform Bill of 1998 is introduced here for the first time and not in earlier discussions.

Statement such as "it is widely acknowledged that FEA has actively promoted private sector involvement in generation and distribution" needs to be substantiated with figures.

**q. Page 42 Section 7.2**

Similar comments as in Section 6.2 or 'n'.

**r. Page 47 Section 8.1.3 / Page 65, Section 10.2 First para second sentence**
It is noted that the study dwells on the proposed investments of the FEA in the short term. In doing this I presume that the Author had a thorough discussion with FEA on their proposed investment plan, especially after being highly commended during the initial discussions. Largely, it can be seen that there is a focus of moving towards hydro. Wind generation is also proposed. It is rather ironic that here we are still trying to meet or put in place adequate firm capacity ($500M investment), we are choosing wind as the option to meet this vacuum. One need not be rocket scientist to realize that something is wrong. Unfortunately, the study does not in anyway attempt to analyze the situation, and provide succinct thoughts on the way forward.

In hindsight, throughout the document we are pointing towards the restriction in terms of the tariff (and the politics behind it) as the main cause of our current problems (insufficient capacity). Nothing is said, or no attempts have been to analyze the organization itself ........ why it did not foresee the current situation. We are in a situation where all of a sudden we are squirming around to find $500 Million. As a result of this (sleeping on the job) the Fiji Taxpayers is now made to pay. We had started with this reform process in the late Nineties (1996). The $500 Million was a non issue this is notwithstanding the fact that all recommendations were later shelved as a result of the change in Government.

With the past experience no one in his or her right mind would say that whatever that has been put up by the FEA is good enough to take us into the future. Hence specific recommendations are needed here regarding the way forward..

s. Page 47 Section 8.1.3

How does FEA’s “joint venture with Pacific Hydro for the development of hydropower and wind generation projects.” Effect FEA’s relationship with other private hydro options?

t. Page 50 Section 8.2.2 (iii)

Specifically, on part 5 of the Act, regarding reporting and accountability – it would have been good if the GoF roles not only as part of PE Act but also on the Electricity Act, be analyzed on how well we have been carrying out our role. One of the main Ministries had openly admitted that they did not have the capacity / capability to thoroughly evaluate what was provided to them by the FEA. Such situations rather defeats or further dilutes Govt participation on such important matters. What are the recommendations that are there to ensure that these roles are strengthened.

u. Page 51 Section 8.2.2

The last paragraph indicates that PPP is adequately covered by the existing legislative frameworks. How about the implementation of these frameworks? Are they effective enough? Are there weaknesses? What are the weaknesses?

v. Page 51 Section 8.2.3
First para - Lack of procedures is indicated as one of the weaknesses in overseeing FEA’s PPP deals BUT the report did not provide a framework/procedure on this.

w. Page 55 Section 8.2.4

One of the alternatives provided of locating the Major Projects Unit at the Prime Minister’s Office. For the work that is currently being undertaken, much of the effort is on ensuring that we depoliticize most of the facets of work involved. Hence the ideal candidate of locating such a unit is with the Ministry of National Planning. On a smaller scale the Unit could also be used to examine projects proposed by Ministries / Department and to look at the overall aspects of these projects. This would somewhat built in the element of continuity on the unit.

x. Page 57 Section 8.2.4

The two bullet points at the top of the page needs further explanation. How will these two issues be implemented? What procedures to be followed? Who will be the lead agency? Indicate line Ministries and not generalizing as in GoF. Define large as in large PPP projects?

y. Pages 59-63 Section 9.0

The regulation of FEA’s performance is well covered BUT how has Government carried out its responsibilities in terms of monitoring and evaluating FEA’s operation? What are the weaknesses? Report to discuss this.

z. Page 64, 10.1

It states that “Successful regulation of integrated system planning requires a government to articulate clearly the goals to be achieved. The overarching goal should be economic efficiency 29 rather than utility efficiency…". Why is the goal so quickly assumed to be ‘economic efficiency’? The associated footnote on this page does not adequately qualify this statement. Other possible goals are not discussed or recommended. (It may be possible to use the list under section 10.1 as the starting point for such goals?) Allowing such an open statement as the only ‘clearly articulated goal’ is dangerous and leaves too open an interpretation along purely classical economic terms. Possibly consider revising the sentence to “The overarching goal should be wider economic efficiency 30 rather than utility efficiency…“ Changing the footnote to: “Economic efficiency in this context is the most efficient, reliable and least cost combination of energy resources consistent with a government’s stated goals. I.e this should include aspects of environmental and social pricing or consideration at a minimum.”

---

29 Economic efficiency in this context is the most efficient, reliable and least cost combination of energy resources consistent with a government’s stated goals.

30 Economic efficiency in this context is the most efficient, reliable and least cost combination of energy resources consistent with a government's stated goals. I.e this should include aspects of environmental and social pricing or consideration at a minimum.
cost combination of energy resources consistent with a government’s stated goals. I.e. this should include aspects of environmental and social pricing or consideration at a minimum.”

a.1 Page 65 Section 10.2

Notwithstanding earlier comments regarding GoF institutions participating in terms of planning in FEA. There is a need for relooking or clarifying GoF roles and the reporting procedures involved, the areas of reporting. This is vital, a clear framework is needed.
Dear Sir

re: ADDITIONAL INFORMATION ON FEA REGULATORY REVIEW

Based on our earlier comments, you provided a summary of these comments and to which you indicated areas where you needed additional information. The three additional information that you requested (in bold) with our responses are provided below.

DOE to list the issues where the proposed strategy is not properly supported.

DOE’s earlier comment was “the report is rather weak in terms of marrying the issues/options identified in the earlier parts of the report with that of Section 13.0. Some issues discussed earlier on in the report were left out in Section 13.0, the reasons of which are not clear.”

We noted that Section 13.0 is on Regulatory Framework Development with subsections on Strategy for Regulatory Development and Short/Long Term Improvements in the Regulatory Regime. With the way the report was structured, this is one of the important sections of the report where we believe the strategies should be inclusive of discussions in earlier sections of the report and expanded in detail to provide clear strategic directions of the recommended approaches. As an example on pages 31 and 32 the role of public education in price changes was discussed as an important component of the tariff review process but was not reflected in section 13.0. Further on page 73 it stated:
1.3 MPE COMMENTS

Comments on the Draft Final Report - FEA Regulatory Study undertaken by SOPAC

Below are comments on the above

It appears that the report has made an extensive review of all the regulatory aspects pertaining to the business of FEA and the energy sector for that matter. From the Ministry of Public Enterprises and Public Sector Reforms perspective, the focus of the study is on hiving off the functions that hinder the commercial business of the entity so as to allow FEA to focus on its core business of providing electricity to the nation.

Regulation of PPPs, environment and labour, though important are not the objects of the study. Accordingly, the report has focused on matters that may rightly be included as policies in the proposed National Energy Policy proposal.

Executive Summary

The 9-page summary sets out the major issues covered in the report and makes proposals to address them. The report identifies the following major pressures on FEA: (i) the Monasavu hydro-electric project has been fully absorbed by the increasing demand (ii) FEA must now fund additional new capacity to meet future load growth and (iii) meet the higher running costs of its increased reliance on diesel generation.

On the whole, the report reveals that current regulation of the FEA system provides adequate legal and institutional framework. More specifically, the Commerce Act and the Public Enterprises Act provide broad regulatory mandates to scrutinize FEA’s planning, operations and transactions. The Commerce Commission in addition, has the authority to review retail tariff.

However the study has identified that these agencies lack the staff and resources to act largely on their discretionary powers and strengthening in some areas are needed to address the shortfall.

Our comments: This section may need to be condensed to highlight only the major issues discussed and the recommendations of the study.

Regulatory Role of FEA

Table 3 on page 25 of the attached report depicts the various regulatory functions of FEA.

The Report’s recommendations in respect of these in terms of its separation from FEA are as follows:
1.0 **Tariff setting** - Current system is ok ie Commerce Commission to set tariff but recommending that a template be set up to ensure transparency and that prices be reviewed regularly and fully disclosed to stakeholders.

2.0 **Technical Regulation** - FEA currently performs most functions related to technical regulation in the electricity sector. The Regulatory Unit at FEA undertakes 2 roles, first, inspection and testing FEA generators and equipment and determine their compliance with technical standards, safety requirements and other statutory obligations, second, inspection and testing of equipment and awards and renew licenses of other parties to determine their compliance with technical standards, safety requirements and other statutory obligations.

The findings are as follows:

(a) The report recognizes that although there may be a conflict of interest in FEA having to regulate itself, having the Unit as part of FEA is more advantages, as FEA is able to provide the technical and logistical support it needs. To maintain some sort of independence, it is suggested that the Unit be ‘ring-fenced’ and supported by Government funding

**Our Comments**: The Report does not mention about the new structure of this “ring-fencing” in terms of reporting and accountability. It is also silent on the costs of this exercise to Government.

(b) The other options put forward are to either have the Unit transferred to the Department of Energy or establish a Unit by merging staff responsible for technical regulation across the power sector. The report reckons that this option would be expensive and disruptive, as the petroleum sector appears to be self-regulating and operate under different government agencies. To amalgamate them would be problematic. On the other hand, the transfer to the Department of Energy (DOE) could leave the Unit technically isolated as they have little in common.

More importantly, DOE does not have the infrastructure to support the Unit as efficiently as FEA in regards to testing and licensing activities across the country.

(c) Another option involves having the role transferred to the Commerce Commission as well as making the Commission a multi-sectoral regulator to include other technical regulators is said to sustain the FEA Regulatory Unit but this would involve significant re-organisation which may not be justified given that remedying the regulatory conflict of FEA is insignificant.

In short the report is of the view that the status quo remains until the Commerce Commission is adequately resourced to undertake a regulatory role over all other technical aspects relating to other sectors.

**Our Comments**: The above recommendation to retain the Regulatory function with FEA is noted, however, bearing in mind the Ministry of Enterprises objective of ensuring that commercial entities focus on commercial activities, the report does not address the underlying factors involved if the function were to be taken over by government either at DOE or the Commerce Commission in terms of
staffing and other related costs. These would be necessary so as to facilitate a government decision on this issue. A quantitative and qualitative assessment of the cost implications in terms of its retention within FEA and its effect on the market in regards to facilitating FEA’s efficiency would be useful.

Furthermore, the report does not explain why it considers that the issue regarding the separation of the regulatory role from FEA is insignificant.

3.0 Licensing Electricity Enterprises

FEA is currently responsible for generating, transmitting and distributing and retailing electricity within its grids. Under the Electricity Act, FEA does not have the sole right to these activities.

There was an attempt to harness this area in 1998 when the Electricity Reform Bill was prepared. This was never enacted. Ideally, then FEA should not have the responsibility for licensing electricity enterprises.

The report examines 3 options namely, FEA Option, Government of Fiji Option and Independent Option.

The FEA option, ie having the function undertaken by FEA is perceived to be the best option at this stage. The perceived conflict however can be managed by strengthening existing procedures to provide clear and verifiable rules governing decision processes and strict reporting standards that explain the integrity and logic behind the licensing decisions.

Although the Independent Option, which requires that the Commerce Commission undertake this role, is most favoured, the Commission does not currently have the expertise to carry it out and the concern of having to draw from expertise in FEA would be another factor. Nevertheless it is proposed that the function be transferred to the Commerce Commission as soon as practicable.

Our comments: As the Commerce Commission is currently not in a position to undertake this role, given the level of expertise available; the study does not provide any indication as to how or when the Commission will be able to assume the function. It would be important to identify the strategic steps to be undertaken to facilitate this process.

Again, government would need to be provided with some concrete data on how it can facilitate this so that an informed decision can be made on the issue.

4.0 Regulation of Public Private Partnerships (PPPs)

The report discusses the regulation of PPPs at length emphasizing that adequate overseeing role needs to be taken on these given the possibility of large sums of money required for them. Although provisions are included in the commerce Act in terms of a general overseeing role over PPPs as well as the PE Act in regards to the commercial operations of FEA, it indicates that in some cases the relevant government agency may not be in a position to adequately police PPPs.
The report recommends that (i) FEA is best equipped to cost-effectively and efficiently manage procurement in the electricity sector. External review procedures should be introduced to provide transparency; (ii) there may be a need to apply higher level of specialization and resources to the procurement process where large PPP projects are involved. More coordination amongst government agencies is also recommended in such cases.

5.0 Private distribution
The report also mentions the need to encourage private sector investment in rural electrification to accelerate progress in this area. The current legislation on this may need to be strengthened if private sector involvement is required.

6.0 Other Sections
Section 9 discusses FEA Performance.
Section 10 System Expansion and Resource Planning
Section 11: Environmental Regulation
Section 12: Labour Regulation
Section 13: Regulatory Framework Development

Our Comments: Whilst regulating PPPs is an important issue as well as the other sections mentioned above, these recommendations could well be included in the National Energy Policy (NEP) paper being formulated. Our objective in commissioning the study is to address the possibility of hiving off the regulatory role of FEA so that it can concentrate on its core activities. FEA is best left independent of its regulators for transparency and good practices.

Another important aspect of FEA operations, which was, not clearly articulated concerns social obligations involving the supply of electricity to non-commercially viable areas. FEA’s view on this appears to be that they get their fair share of return out of their investment in terms of infrastructure etc even if another supplier takes on this role in the future. The report appear to concentrate on getting government to reimburse costs, while at the same time recognizing that having to offset it against dividends is a crude way of accounting for it.

The report also identifies the problem of properly costing this obligation (page 36) and the need for a “stricter accounting of social costs”. The study has not drawn any parallels with other countries in regards to this, especially as this appears to be a major issue upon which FEA’s profitability would depend.

Minor corrections (page 1 - 3rd sentence)

Electricity Sector Regulation

1. The suggestion that FEA is a re-organisation enterprise is incorrect as it was removed from schedule in 1999.
13.8 Conclusion

It is noted that the report has tried to provide a wider review of the regulatory roles undertaken by FEA however, it has somehow failed to address the requirements of the TOR more fully and take into account any ensuing cost implications which are crucial for any government decision on the separation of these functions from FEA.
### MPE RESPONSES TO CONSULTANT’S REPLY

<table>
<thead>
<tr>
<th>Ministry of Public Enterprises Comment</th>
<th>Consultant’s Reply</th>
<th>MPE Response</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>GENERAL:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Regulation of PPPs, environment and labour are not the object of the study and should rightly be included as policies in National Energy Policy.</td>
<td>Should they not be the subject of both policy and regulation? Regulation could be seen as a tool for implementing policy.</td>
<td>As far as we are concerned, regulation of PPPs is clearly a matter of policy and regulation just as matters concerning environment and labour are covered under their respective regulations. But for our purposes with respect to the study, we are more concerned on whose job it is to regulate and how so that a government decision can be made with full justification of the way to go.</td>
</tr>
<tr>
<td>Need to condense the Executive Summary.</td>
<td>Will review the contents of the Executive Summary.</td>
<td>ok</td>
</tr>
<tr>
<td>Cost implications of recommendations are not quantified</td>
<td>The costs of the report’s proposals would depend on the detail and manner in which they were carried out. For instance, with PPP procedures, this might be a simple and inexpensive document setting out sequences of actions, prerequisites and hold points, an outline of the documentation required, etc. Alternatively, it might involve formal procedures legally drafted for incorporation into a decree or law, a procurement manual, model project agreements (e.g. PPA), model prequalification documentation and a model request for proposals document. This would involve considerable input from a team with legal, financial and technical expertise.</td>
<td>How then would one determine if the proposals are worth doing or not? It just seems that the general view is that regulation continues to remain with FEA. In this instance, the “ring-fencing” structure needs to be clearly articulated such that FEA does not continue to be perceived as the regulator by the market.</td>
</tr>
<tr>
<td><strong>RETAIL TARIFF REGULATION:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Report did not clearly articulate a position on FEA’s “social obligations”. FEA believes it gets a fair return from its rural customers.</td>
<td>FEA’s social obligation is addressed in §5.3.4. The observation is made that, under the Public Enterprise Act FEA is entitled as a GCC to being reimbursed for costs attributable to non-commercial activities undertaken at the request of GoF. Much of FEA’s rural electrification business is non-commercial in the sense that FEA is required to supply rural areas where the average tariff payable is well below the costs of production and reticulation.</td>
<td>FEA is not a GCC and therefore is not covered under Section 71 of the PE Act which refers to the payment of social obligations. My query here refers to FEA’s assertion that if the market were to allow other PPPs to transmit power through their infrastructure then they (FEA) must get compensated for it. Or conversely, will FEA remain to be the purchaser of electricity through their grid as currently being undertaken?</td>
</tr>
<tr>
<td>Ministry of Public Enterprises Comment</td>
<td>Consultant’s Reply</td>
<td>MPE Response</td>
</tr>
<tr>
<td>--------------------------------------</td>
<td>--------------------</td>
<td>--------------</td>
</tr>
<tr>
<td>Report gives no parallels with other countries in its proposed stricter accounting of social costs.</td>
<td>True. I will add a description of a trend in a number of countries where Rural Electrification Fund is established to receive contributions from multilateral and bilateral agencies, from governments and elsewhere. This money is applied in whole or part in paying the unrecoverable portion of the cost of supplying rural customers. This is done to reconcile the dilemma of promoting the commercial character of a utility on the one hand while reaping the economic and social benefits of electrification on the other. Principles for quantifying FEA’s social obligation claim are outlined in the report but to define a detailed framework for determination and reimbursement is outside the Consultant’s scope of work. It is a significant standalone job.</td>
<td>This would be useful.</td>
</tr>
</tbody>
</table>

**TECHNICAL REGULATION:**

| Report does not address underlying factors involved in a shift of the technical regulation function to another agency. Cost and efficiency implications should be considered. | These are addressed only cursorily. The point is made, though, that it can be disruptive and, if the receiving agency (CC) has a technical culture that is not sympathetic and supportive, the performance of the unit could suffer. The suggestion in the report is that the technical regulation unit should remain with FEA until such time as the CC develops a technical capability. Thus the transfer, if it occurs, should be coordinated with the transfer of other regulatory functions of a technical nature in other sectors. | Our view is that the regulatory function needs to be separated from FEA. It would then seem logical that any transition arrangement needs to be defined so that government as the major stakeholder here is aware of the implications and costs involved in the process. |

| Need to explain remark that the technical regulation issue is not as prominent. | The report is not claiming that technical regulation is unimportant. From the consultant’s initial consultations, it seemed that there was general satisfaction with the work done by FEA in the area of technical regulation. Though there is general acceptance that there are conflicts involved, most agreed that it was not an urgent issue. For this reason, greater emphasis was placed on other issues. | It would be appropriate that the final report provides a solution to how best the regulatory functions currently undertaken by FEA are to be hived off to allow the industry to be truly independent, so to speak. We do not suppose that views of other stakeholders need to influence the findings if the TOR clearly states that that is what we want to accomplish. |

<p>| “Ring-fencing” proposal is not detailed and costs not estimated. | Agree. To provide a detailed ring-fencing plan is beyond the scope of the study. The main features of a “ring-fencing” would be independence from FEA management on matters relating to the licensing of FEA plant and equipment. This would mean changes in reporting lines and control of budgets. | It would seem necessary that the Electricity Act would also need to be reviewed and amended. This requirement does not appear to be included in the draft report. As stated earlier the ring-fencing structure needs to be clearly defined so as to facilitate government decision and commitment on it. |</p>
<table>
<thead>
<tr>
<th>Ministry of Public Enterprises Comment</th>
<th>Consultant’s Reply</th>
<th>MPE Response</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>LICENCE ELECTRICITY ENTERPRISES</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Report does not indicate how or when the CC would be able to undertake the licensing function. GoF would need concrete data on how to facilitate the transfer.</td>
<td>CC is a multi-sectoral regulator and the timing of any shift of technical responsibilities should be coordinated across other sectors so that the power sector unit is not left isolated in an agency with no culture of technical issues. It is therefore not possible to nominate a time without an understanding of wider reforms within the economy.</td>
<td>With such an open statement regarding the Commerce Commission, having a multi-sectoral regulator is only speculation at this stage. In accordance with the Public Enterprises Act, regulatory roles of Government commercial entities need to be separated to allow the entity to operate solely on commercial lines. In fact this requirement is one of the key principles of public enterprises reform; that of clarity of objectives.</td>
</tr>
<tr>
<td><strong>REGULATING PPPs:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The issue of regulating PPPs could be included under the National Energy Policy.</td>
<td>Should it not be the subject of both policy and regulation? Regulation could be seen as one tool for implementing policy.</td>
<td>It could be included in both.</td>
</tr>
<tr>
<td><strong>REGULATE FEA PERFORMANCE:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FEA was removed from the list of Reorganisation Enterprises in 1999.</td>
<td>Noted. What then is FEA’s status under the Public Enterprise Act? Is FEA now a GCC?</td>
<td>FEA is a CSA; a commercial statutory authority. Under the PE Act, the Minister of Public Enterprises does not appoint its Board and the PE Act ensures that FEA like any other CSAs operates with commercial discipline.</td>
</tr>
<tr>
<td><strong>REGULATE SYSTEM PLANNING:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>ENVIRONMENTAL REGULATION:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Environmental regulation should rightly be included in National Energy Policy.</td>
<td>Should it not be the subject of both policy and regulation? Regulation could be seen as one tool for implementing policy.</td>
<td></td>
</tr>
<tr>
<td><strong>LABOUR REGULATION:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ministry of Public Enterprises Comment</td>
<td>Consultant’s Reply</td>
<td>MPE Response</td>
</tr>
<tr>
<td>--------------------------------------</td>
<td>-------------------</td>
<td>--------------</td>
</tr>
<tr>
<td>Labour regulation should rightly be included as policies in National Energy Policy.</td>
<td>Should it not be the subject of both policy and regulation? Regulation could be seen as one tool for implementing policy.</td>
<td></td>
</tr>
</tbody>
</table>
## 2.1 FEA Comments on Draft Final Report and Consultant’s Response

<table>
<thead>
<tr>
<th>FE4</th>
<th>Response / Action</th>
<th>Information Requested</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>GENERAL:</strong> Consultant did not identify areas where FEA failed to deliver efficient service.</td>
<td>On the contrary, the report makes the observation that FEA enjoys a reputation as a well organised and administered utility. However, past performance is not relevant to the question of improving regulation in the power sector. The proposals are forward-looking, designed to promote efficiency, protect consumers, oversee governance and guide optimal development in the future, whether or not a good management team is in place.</td>
<td></td>
</tr>
<tr>
<td>Consultant’s approach is generalised and theoretical.</td>
<td>The study involves just over a person-month input. It was structured to present options to promote discussion between the stakeholders and is not supposed to define in detail a new regulatory framework. There is insufficient time to provide detailed treatment of the wide spectrum of issues encompassed by power sector regulation. If the study were to be extended to provide greater depth, more information specific to the subject would be needed.</td>
<td>Information to allow more depth and greater specificity, e.g. system expansion plan, evaluation criteria for project selection, procurement guidelines for PPP projects.</td>
</tr>
<tr>
<td>Consultant swayed by representations of other parties.</td>
<td>This is true. As a consultant engaged to facilitate discussion between stakeholders on the regulatory framework of FEA, it is important to listen and consider the views of the parties consulted. The FEA personnel attending the Wrap-up Workshop in March were as influential as any in this respect. Though representations were valuable in exposing the consultant to arguments and information, they were not absorbed uncritically. The test of this is to be judged from the logic of the report’s findings.</td>
<td></td>
</tr>
<tr>
<td>Notes that the report states that regulation has been adequate.</td>
<td>This is not the intended message. By most indicators, the performance of the sector has been adequate but, in the absence of a comprehensive regulatory framework, this has been due at least in part to self-regulation. That self-regulation has worked in the past is no promise that it will continue to do so in the future given the rapid pace of change generally, different mix of generators expected in the future, changes in modes of financing, etc.</td>
<td></td>
</tr>
<tr>
<td>Benefits of regulation not identified.</td>
<td>It is difficult to quantify the benefits of regulation. Some regulatory benefits may lend themselves to econometric and other forms of analysis but such studies were not envisaged as part of the consultant’s assignment. Studies of other markets might provide an indication of economic and social benefits of some aspects of regulation (e.g. cost-recovery tariff adjustments) but little relevant data is available. One of the benefits of regulation is to improve transparency in the administration, management and expansion of a power system. The cost to an economy of sub-optimal investment, though difficult to quantify, is nevertheless tangible and significant. There are many case histories that could be presented in support of this assertion.</td>
<td></td>
</tr>
<tr>
<td>Accept regulation if:</td>
<td>Refer above answer (5).</td>
<td></td>
</tr>
<tr>
<td>i. Net benefits are demonstrated</td>
<td>This is a valid concern. The competence of regulatory agencies is crucial and was a primary factor in the staged approach to regulation in the report. It must be recognised that agencies such as CC cannot absorb a plethora of new functions while it is still struggling to master its existing responsibilities. This was behind the proposal to leave technical regulation and licensing with FEA for the time being (subject to the introduction of measures to allow external scrutiny where perceived conflicts exist.</td>
<td></td>
</tr>
<tr>
<td>ii. Agencies are competent</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stakeholder analysis not adequate.</td>
<td>This can be expanded in the Final Report.</td>
<td>FEA perspectives to be provided.</td>
</tr>
<tr>
<td>FEA</td>
<td>Response / Action</td>
<td></td>
</tr>
<tr>
<td>-----</td>
<td>-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>Report contradictory – it recommends no change in concluding remarks but proposes change on p75</td>
<td>Disagree. The concluding remarks do not suggest no change. They note the lack of capacity in the current agencies and state that “some measures can be introduced without significant expense or disruption”. The changes are the short term strengthening measures listed on p 75.</td>
<td></td>
</tr>
<tr>
<td>Treatment of the issues is superficial.</td>
<td>Agree. In the time allowed for the study, it is not possible to go into any depth on the wide range of issues involved. The study provides a basis for debating the preferred way ahead. Once this is agreed by stakeholders, detailed implementation plans can be developed.</td>
<td></td>
</tr>
<tr>
<td>Statement that resources may become available in the long term to support greater independence is challenged.</td>
<td>This is a matter of opinion and depends on the timeframe. I would agree with the comment if a five year horizon is adopted, but if “long term” is taken to mean 20 years, then improvements in the available resources could be significant. The time frame will be clarified in the Final Report.</td>
<td></td>
</tr>
<tr>
<td>Interprets the report as saying that regulation in the sector is adequate.</td>
<td>See reply under (4).</td>
<td></td>
</tr>
<tr>
<td>RETAIL TARIFF REGULATION:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tariff structure prevailing at start of 2004 provided inadequate cash flow.</td>
<td>Accept.</td>
<td></td>
</tr>
<tr>
<td>Cost/benefit analysis of more frequent tariff adjustments is needed.</td>
<td>This is an analysis that would require a great deal of data and time and would involve a number of arbitrary assumptions that would undermine the credibility of such an exercise. The support for more frequent tariff adjustments was based, firstly, on concerns about their infrequency expressed by stakeholders during the consultative phase of the study, and, secondly, on practice in other countries.</td>
<td></td>
</tr>
<tr>
<td>Report fails to identify the resources needed to strengthen CC.</td>
<td>The resources needed to strengthen CC will depend on many things – on the speed with which it assumes new power sector regulatory functions, the speed with which it accepts other functions in other sectors, etc. Capacity is not only about resources. It may be possible to quantify the people, office space, furniture and cars, but it is much harder to put a number on the cost to recruit or train staff to meet a level of proficiency demanded by their duties.</td>
<td></td>
</tr>
<tr>
<td>Doubtful that CC would have the economic and power engineering analytical capability to analyse the network for tariff studies.</td>
<td>Agree. Agencies such as CC cannot afford to retain power sector planning specialists on staff. This is a problem common to most multi-sector regulators in countries larger than Fiji. A large part of a regulator’s budget is allocated to consultants. In other countries consultants are hired to prepare expansion plans and tariff studies every three to five years and their reports form the basis of many regulatory decisions.</td>
<td></td>
</tr>
<tr>
<td>TECHNICAL REGULATION:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Review of FEA’s technical regulatory functions not detailed enough.</td>
<td>Agree. From the consultant’s initial consultations, it seemed that there was general satisfaction with the work done by FEA in the area of technical regulation. There is general acceptance that there are conflicts involved and that in the fullness of time these should be remedied, but most agreed that it was not an urgent issue. For this reason, greater emphasis was placed on other issues.</td>
<td></td>
</tr>
<tr>
<td>Permits and licenses regime not included in report.</td>
<td>Agree. If FEA provide details of the permits and licences regime, it will be included in the Final Report.</td>
<td></td>
</tr>
<tr>
<td>FEA</td>
<td>Response / Action</td>
<td>Information Requested</td>
</tr>
<tr>
<td>-----</td>
<td>------------------</td>
<td>-----------------------</td>
</tr>
<tr>
<td>Current resources available to FEA’s technical regulation unit not listed in report.</td>
<td>The second para on p 38 outlines the resources of the technical regulation unit. More detail could be added to the Final Report if it would be useful.</td>
<td>FEA to provide list of staff by trade and location. Also provide a details of offices, workshops, budgets and any other details it would like recorded in the report.</td>
</tr>
<tr>
<td>As technical regulation has worked well to date, why change?</td>
<td>The suggested plan is not to change for the time being, but to resolve perceived conflicts by administratively “ring-fencing” the unit.</td>
<td></td>
</tr>
<tr>
<td>“Ring-fencing” proposal is not detailed.</td>
<td>Agree. Provide a detailed ring-fencing plan is beyond the scope of the study. The main features of a “ring-fencing” would be independence from FEA management on matters relating to the licensing of FEA plant and equipment. This would mean changes in reporting lines and control of budgets.</td>
<td></td>
</tr>
<tr>
<td>The Consultant’s proposal for technical regulation does not indicate benefits or give clear direction.</td>
<td>Agree. The proposal is not intended to generate quantifiable benefits. It is to ensure that FEA’s plant is subject to independent technical certification to confirm that appropriate technical standards and practices are maintained.</td>
<td></td>
</tr>
<tr>
<td>LICENCE ELECTRICITY ENTERPRISES</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Current FEA resources allocated to commercial regulation not listed in report.</td>
<td>FEA to provide a list of FEA resources allocated to commercial regulation.</td>
<td></td>
</tr>
<tr>
<td>Report proposal has no foundation because it favours FEA retaining licensing responsibility until CC ready to absorb it.</td>
<td>Comment is not fully understood.</td>
<td></td>
</tr>
<tr>
<td>REGULATING PPPs:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Problems and constraints on PPPs imposed by legislation, etc. not adequately covered.</td>
<td>The report covers those problems and constraints the consultant was aware of and regarded as important (e.g. refer Table 6, also §8.1.3). If there are others that FEA think should be included in the report, they should be provided to the consultant.</td>
<td>FEA to provide a list of problems and constraints limiting FEA’s access to private capital.</td>
</tr>
<tr>
<td>Current FEA resources allocated to PPP implementation not listed in report.</td>
<td>Agree. If FEA provide the information, it will be included in the Final Report.</td>
<td>FEA to provide a list of FEA resources allocated to PPP implementation.</td>
</tr>
<tr>
<td>Need to emphasise more the single buyer model.</td>
<td>The consultant made the points he considered important in the treatment of the single buyer model. A justification was presented for assuming the single buyer model in the design of a regulatory regime. FEA should advise the consultant of any significant points that have been omitted.</td>
<td>FEA to provide a list of omitted issues relevant to the single buyer model.</td>
</tr>
<tr>
<td>Consultant should review its recommendations and confirm that no changes are proposed by it to the status with respect to regulation of PPPs.</td>
<td>PPPs are, in effect, unregulated in Fiji. In the consultant’s experience, this is unusual. The situation arises not because of any lack of legislative powers, but because GoF agencies lack the resources and capacity to put the intent of legislation into effect. It would be disingenuous to recommend a continuation of the status quo but the recommendations must take account of the constraints in the present situation.</td>
<td></td>
</tr>
<tr>
<td>FEA</td>
<td>Response / Action</td>
<td>Information Requested</td>
</tr>
<tr>
<td>-----</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>-----------------------</td>
</tr>
<tr>
<td></td>
<td>A contradiction is drawn between separate references, one using the word “market” in a general sense, and another meaning “competitive power market”.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>The first reference uses “market” in a very general way – anywhere where goods and services are traded – and the second reference is discussing the very specific type of market for reconciling buyers and sellers of electricity through competitively bidding. The wording will be adjusted to remove any confusion.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>International experience of regulation is not relevant to power sector in Fiji.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>The experience gained in other countries, especially those of similar size and characteristics, provides insights into the strengths and weaknesses of different models. A model that is tried and proven in one country should not be transposed to Fiji without critically examining whether it fits the physical and cultural environment. Even if the fit is good, inevitably some customisation is necessary.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Statement that “electricity sector in Fiji is following international trends in utility reform and changes are testing the regulatory framework” is incorrect.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>In a number of areas Fiji is following general global and regional trends. An obvious example is the increasing reliance on private sector involvement. Another is the increasingly commercial focus of utilities. Regulation is another trend, stimulated by structural power sector reform and misallocation of resources in many countries.</td>
<td></td>
</tr>
<tr>
<td>REGULATE FEA PERFORMANCE:</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Report should acknowledge FEA’s autonomy and its right to deal with the private sector in any way its board approves.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Not an easy point to respond to. FEA, under the Public Enterprises Act and Electricity Act, is bound to behave commercially, to take commercial decisions and to be accountable for them. Why should it be accountable if regulators interfere in the management process? Ultimately, though, in long term regulation is needed to oversee performance, safeguard against market failure, penalise inefficiency, etc. It provides a back-up system to ensure a utility maintains a direction that is in the interests of consumers and the country as a whole.</td>
<td></td>
</tr>
<tr>
<td>REGULATE SYSTEM PLANNING:</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>FEA understands the national priorities and takes them into account in its planning. No GoF involvement in power system planning is justified.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Just as CC lacks the technical capacity to prepare power system expansion plans, it may be argued that FEA lacks the economic capacity to determine an optimal allocation of the nation’s resources. Power sector investments, particularly large ones, are of macroeconomic importance, and the reliability of the power system, too, is important to the national economy. It is quite normal for strategic planning to be performed by a government agency, but Fiji is too small for a duplication of planning expertise. However, it is reasonable that GoF provides input and oversight.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Consultation with GoF in setting planning parameters would involve duplication of scarce resources.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Disagree – The involvement of GoF in planning as proposed in the report would not involve a duplication of resources. The technical expertise would continue to be located in FEA but input from national planners and economists at the start of the planning cycle would bring appropriate expertise to bear at the start to ensure consistency of the chosen planning parameters with GoFs priorities.</td>
<td></td>
</tr>
<tr>
<td>ENVIRONMENTAL REGULATION:</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>No specific comments</td>
<td></td>
</tr>
<tr>
<td>LABOUR REGULATION:</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>No specific comments</td>
<td></td>
</tr>
</tbody>
</table>
### 2.2 DOE Comments on Draft Final Report and Consultant’s Response

<table>
<thead>
<tr>
<th>Department of Energy</th>
<th>Response / Action</th>
<th>Information to be provided</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>GENERAL:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Report is weak in marrying the identified issues with a clear decision strategy for regulatory development.</td>
<td>Noted. Examples of issues where the identified strategy in §13 is disconnected from the discussion would assist editing the report.</td>
<td>DOE to list the issues where the proposed strategy is not properly supported.</td>
</tr>
<tr>
<td>Report includes generalisations without the detail to implement suggestions.</td>
<td>The study involves only a person-month input. It is not possible in that time to conduct consultations, participate in workshops and provide detailed treatment of the wide spectrum of issues encompassed by power sector regulation.</td>
<td></td>
</tr>
<tr>
<td>List of references should be provided.</td>
<td>Attachment 3 provides a list of references. Several references have been omitted and these will be added for the Final Report.</td>
<td></td>
</tr>
<tr>
<td>List of relevant legislation should be provided.</td>
<td>The legislation reviewed by the Consultant is listed in §4.3.1, although a statement is needed confirming this.</td>
<td></td>
</tr>
<tr>
<td>Stakeholder interests and expectations have not been identified.</td>
<td>This can be expanded in the Final Report.</td>
<td>DOE perspectives to be provided.</td>
</tr>
<tr>
<td>No recommendations on changes in law.</td>
<td>Between the Public Enterprise Act, Commerce Act and Electricity Act, there are adequate powers for GoF to review FEA activities if it had the resources and expertise to do so. Regulation is hobbled by under-resourced GoF agencies. Procedures are needed to put into effect the intent of existing legislation, and these could be written in legal form to form the basis of a decree or amendment to legislation. The main priority, though, is to build resources and skills within the agencies entrusted with the responsibility of regulating the industry.</td>
<td></td>
</tr>
<tr>
<td>Analysis of CCs expanded role in regulation did not go into any depth.</td>
<td>Agree. In the time allowed for the study, it is not possible to go into any depth on the wide range of issues involved. The study provides a basis for debating the preferred way ahead. Once this is agreed by stakeholders, detailed implementation plans can be developed.</td>
<td></td>
</tr>
<tr>
<td>Recommendations are not clear and at times contradictory and superficial.</td>
<td>§13 sets out the proposed development strategy for regulation. Due to the problem of capacity in the existing agencies, a transitional strategy is proposed and both the transitional plan (§13.2) and the longer term development plan (§13.3) are described. If DOE could be more specific about those recommendations it has difficulty following, the Final Report can be edited to improve its presentation in these areas.</td>
<td>DOE to nominate the recommendations it finds contradictory and superficial.</td>
</tr>
<tr>
<td>More detail needed of the resourcing of the regulatory agencies.</td>
<td>Refer to the response to Comments 2 and 7. The resources needed to strengthen the regulatory agencies will depend on how quickly they assume new regulatory functions. Also, capacity is not only about resources. It may be possible to quantify the people, office space, furniture and cars, but it is much harder to put a number on the cost to recruit and train staff to meet a level of proficiency demanded by their duties. There should be no transfer of functions to an agency unless it is competent in discharging the regulatory responsibilities given it.</td>
<td></td>
</tr>
<tr>
<td>Transition model for progressing to the proposed model not provided.</td>
<td>Refer to §13.2.</td>
<td></td>
</tr>
<tr>
<td>Analysis of the effectiveness of the roles of GoF agencies under current legislation would have been useful. What are the recommendations for strengthening these agencies?</td>
<td>The effectiveness of GoF agencies in performing regulatory functions is a central issue in the report. The agencies have limited resources and too few experienced and skilled professionals. The need for development agency assistance with capacity building programs is raised in §13.3.2 in the context of CC strengthening but this should be broadened to cover other agencies. The Final Report will be edited accordingly.</td>
<td></td>
</tr>
<tr>
<td>Department of Energy</td>
<td>Response / Action</td>
<td>Information to be provided</td>
</tr>
<tr>
<td>----------------------</td>
<td>------------------</td>
<td>-----------------------------</td>
</tr>
<tr>
<td><strong>RETAIL TARIFF REGULATION:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Report’s contention that RE grid extensions are “social” is challenged.</td>
<td>Because an HV line runs past a house does not mean the house is a “commercial” load in the sense that FEA can recover the considerable costs of transformation and interconnection from the tariff paid by the householder. In fact, there is no commercial logic to supplying such loads because rural communities pay below-cost tariffs. There is, however, an economic logic due to the social benefits electricity provides. These benefits are quantifiable in an economic analysis and can show RE to be beneficial for the country. However, it is not commercially beneficial to FEA and in this sense FEA is performing a social service by connecting such loads.</td>
<td></td>
</tr>
<tr>
<td>Report would have been improved if the last tariff adjustment had been documented more fully.</td>
<td>Agree. This will be done.</td>
<td></td>
</tr>
<tr>
<td>Need recommendation about tariff procedures and pricing models.</td>
<td>The report provides general recommendations and discusses alternative pricing models, but the formulation of detailed procedures and the actual choice of pricing model should be done by specialists in tariff setting working in close cooperation with FEA, CC and the Government.</td>
<td></td>
</tr>
<tr>
<td>Alleged contradiction with CC being recommended as the lead agency in one section and energy regulator considered in another.</td>
<td>Not intended. The possibility of creating an energy regulator was considered in the context of technical regulation but the idea was discarded (refer §6.2). The explanation in the report will be edited to improve clarity.</td>
<td></td>
</tr>
<tr>
<td>Pricing models are proposed but no firm recommendation made.</td>
<td>Refer response to (14).</td>
<td></td>
</tr>
<tr>
<td>Detailed procedures for calculating social obligation should be provided.</td>
<td>This is outside the Consultant’s scope of work. It is a significant standalone job.</td>
<td></td>
</tr>
<tr>
<td>Report should provide detailed evaluation of CC’s practices in conducting tariff reviews.</td>
<td>Refer response to (14).</td>
<td></td>
</tr>
<tr>
<td><strong>TECHNICAL REGULATION:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not enough information provided.</td>
<td>Agree. From the consultant’s initial consultations, it seemed that there was general satisfaction with the work done by FEA in the area of technical regulation. There is general acceptance that there are conflicts involved and that in the fullness of time these should be remedied, but most agreed that it was not an urgent issue. For this reason, greater emphasis was placed on other issues.</td>
<td></td>
</tr>
<tr>
<td>Permits and licenses regime not included in the report.</td>
<td>Agree. If FEA can provide details of the permits and licences regime, it will be included in the Final Report. This is requested from FEA in the Consultant’s response to FEA’s comments.</td>
<td></td>
</tr>
<tr>
<td>Current resources available to FEA’s technical regulation unit not listed in report.</td>
<td>The second para on p 38 outlines the resources of the technical regulation unit. Would more detail serve any useful purpose in a report such as this?</td>
<td></td>
</tr>
<tr>
<td>Report is silent on moving the technical regulation function to CC.</td>
<td>It is discussed in the bottom para of p 39 and on p 40. The last para on p 40 will be revised to clarify the recommendations on this point.</td>
<td></td>
</tr>
<tr>
<td>Department of Energy</td>
<td>Response / Action</td>
<td>Information to be provided</td>
</tr>
<tr>
<td>---------------------</td>
<td>-------------------</td>
<td>-----------------------------</td>
</tr>
<tr>
<td>Report should be firm in recommending a shift of technical regulation to an independent agency.</td>
<td>It is, although the wording may need to be improved to bring out this point more strongly. However, it is also firm that such a move should not occur until the CC has developed a technical capacity, which might take many years to develop given CCs other priorities. The report proposes that a shift to the CC should be coordinated with similar shifts of technical regulatory functions for other sectors. The examples given were petroleum, mining (explosives), water &amp; wastewater, and communications.</td>
<td></td>
</tr>
</tbody>
</table>

| LICENCE ELECTRICITY ENTERPRISES | No comments | |

<table>
<thead>
<tr>
<th>REGULATING PPPs:</th>
<th>Problems and constraints on PPPs imposed by legislation, etc. not adequately covered.</th>
<th>The legal framework is outlined in §8.2.2. There aren’t many provisions in the legislation dealing expressly with regulation of PPPs, although there are powers vested in ministers that could be used to review activities. This is discussed on p 51.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current FEA resources allocated to PPP implementation not listed in report.</td>
<td>Agree. If FEA provide the information, it will be included in the Final Report. FEA has been asked for the information in the Consultant’s response to the FEA comments.</td>
<td></td>
</tr>
<tr>
<td>Land issues not a problem anymore.</td>
<td>Only time will tell the truth of this contention. In many countries indigenous land issues have been “resolved”, only to surface again, perhaps a generation or two later. It is an issue that makes investors nervous.</td>
<td></td>
</tr>
<tr>
<td>Report should address the reasons why the Telesource contract was awarded for 20 years.</td>
<td>The award of management contracts for short periods to maximise periodic competition at entry is discussed on p 52 (top).</td>
<td></td>
</tr>
<tr>
<td>CC’s role in vetting PPAs (access agreements) is optional and should be mandated.</td>
<td>Agree. This is behind the recommendation that procedures are introduced. Procedures, especially if given legal weight through a decree, would oblige GoF agencies to follow an auditable process in developing PPPs. The problem with this approach at present is the limited resources at CC’s disposal.</td>
<td></td>
</tr>
<tr>
<td>Need to substantiate the assertion that FEA has actively promoted private sector involvement.</td>
<td>FEA is well ahead of most comparable countries in its involvement of the private sector. It has entered into a number of cogeneration arrangements, been involved in a couple of IPPs and awarded a management contract. Most of FEA’s generation other than Monasavu is produced privately. The competitive IPP solicitation held in 1998 was the first of its kind in the Pacific region.</td>
<td></td>
</tr>
<tr>
<td>If the PPP legal framework is OK, is the implementation of the provisions of the laws adequate? Report should identify weaknesses.</td>
<td>The legal framework for PPPs could be improved to define a procurement process, provide assurances and offer concessions on some matters to encourage investor and lender interest. However, the powers exist for CC and MPE to open up FEA’s PPP deals to GoF scrutiny. In this sense the legal framework does provide for regulatory scrutiny. In practice, this doesn’t happen because there are no procedures that require it to, and also because the responsible agencies lack the skills and resources to carry it through.</td>
<td></td>
</tr>
<tr>
<td>Framework should be provided for developing PPP procedures.</td>
<td>Drafting PPP procedures is a significant standalone task and cannot easily be accommodated in the Consultant’s scope.</td>
<td></td>
</tr>
<tr>
<td>Best location for a Major Projects Unit would be in the Ministry of National Planning.</td>
<td>Noted. The report proposed on p 56 the option of the Project Planning &amp; Evaluation Unit of the National Planning Office.</td>
<td></td>
</tr>
<tr>
<td>Department of Energy</td>
<td>Response / Action</td>
<td>Information to be provided</td>
</tr>
<tr>
<td>---------------------</td>
<td>----------------------------------------------------------------------------------</td>
<td>-----------------------------</td>
</tr>
<tr>
<td>Explain further the idea that FEA implement small PPPs and GoF/FEA large PPPs.</td>
<td>Further explanation will be provided. Due to their exposure to capital projects, electricity utilities usually have a proficiency in public sector procurement not found elsewhere in government. This provides a foundation on which to build PPP skills. Provided the utility is properly scrutinised, it makes sense to make the utility responsible for small PPPs within reach of the utility’s experience. Where large projects are concerned, the bigger private players become interested and the whole exercise becomes more pressured and legalistic, financing becomes more complex, and the potential for corrupt practices increases. This generally stretches the procurement capabilities of small utilities. Projects still get built, but at what price? And is it always the right project?</td>
<td></td>
</tr>
<tr>
<td>Report does not indicate the distinction between “large” and “small” projects.</td>
<td>This is a question that deserves an answer, but it is difficult to provide a straight one. One could distinguish between “large” and “small” projects according to their capital value, their complexity, their importance to the economy, or the method of financing (balance sheet or project financing). Perhaps a combination of some or all.</td>
<td></td>
</tr>
<tr>
<td>REGULATE FEA PERFORMANCE:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Powers of the MWE under Electricity Act to regulate FEA are not reflected in Table 3.</td>
<td>Agree. Table 3 will be edited to include MWE’s regulatory role.</td>
<td></td>
</tr>
<tr>
<td>Need to explore how well GoF agencies have carried out their responsibilities under current legislation.</td>
<td>The Study is forward-looking and probably not much is to be gained by dwelling in detail on the past. However, an understanding of the current power sector and the effectiveness of the existing system of regulation is necessary. The Final Report will be edited to include a discussion on present performance.</td>
<td></td>
</tr>
<tr>
<td>REGULATE SYSTEM PLANNING:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Propose a role for DOE in power system planning. Capacity building to be provided to equip DOE.</td>
<td>As explained in the report, expansion planning for power systems with a significant hydropower/wind component requires sophisticated software and specialised skills. In a small country it is not practicable to build such expertise in two separate units. DOE should have a role in the steering of such studies rather than their execution. It could provide input into the setting of planning parameters and reviewing outputs.</td>
<td></td>
</tr>
<tr>
<td>Concern about lack of scrutiny in FEA’s pursuit of wind and hydro projects offering energy when the system needs capacity.</td>
<td>Prima facie, this is a legitimate concern. The system of regulation should determine such questions as the reliability criteria to be used in optimising system expansion scenarios. After all, the financial loss incurred by FEA as a result of loss of generation is much less than the economic loss incurred by the country.</td>
<td></td>
</tr>
<tr>
<td>Proposes the thought that capacity constraint is not caused by a low tariff; perhaps it is a problem in FEA – in its planning and project selection. Need a specific recommendation.</td>
<td>It is a legitimate question for GoF to ask but it is difficult to form an informed view. It is also a matter that is outside the consultant’s TOR. FEA already consults GoF as part of its planning approach. Does GoF take this opportunity to raise the matter of reliability criteria.</td>
<td></td>
</tr>
<tr>
<td>Question is posed: “How does FEA’s relationship with PacHydro affect FEA’s relationship with other private hydro options?” Regulatory role in vetting such arrangements?</td>
<td>Reputable investors generally want a level playing field and look for an effective system of regulation as evidence that one exists. That should not prevent FEA from entering into a strategic alliance with a party for certain projects or class of projects if it is demonstrably in the interests of the customers and the shareholder (GoF). The underlying issue is transparency.</td>
<td></td>
</tr>
<tr>
<td>If a Major Projects Unit is created, it could have a role in evaluating proposed major projects as well as implementing them.</td>
<td>Agree.</td>
<td></td>
</tr>
<tr>
<td>Department of Energy</td>
<td>Response / Action</td>
<td>Information to be provided</td>
</tr>
<tr>
<td>-------------------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>-----------------------------</td>
</tr>
<tr>
<td>Is “economic efficiency” the correct overarching goal of national resource planning?</td>
<td>“Economic efficiency” is a term used by economists to describe to what extent the allocation of resources is optimal. i.e. it is the efficiency with which resources generate domestic benefits. This is an appropriate overarching goal of national planning.</td>
<td></td>
</tr>
<tr>
<td>A clear framework is needed for the participation of GoF agencies in power planning.</td>
<td>Agree – but the development of such a framework involves organisational and institutional deliberations that reach beyond the consultant’s TOR. How does one reconcile GoF’s responsibility as a sovereign government for overarching responsibility for national planning with FEA’s commercial mandate under the Electricity Act and the Public Enterprises Act to plan according to its commercial charter. Principles need to be established to allow GoF input while at the same time protecting FEA from interference.</td>
<td></td>
</tr>
<tr>
<td>ENVIRONMENTAL REGULATION:</td>
<td>No specific comments</td>
<td></td>
</tr>
<tr>
<td>LABOUR REGULATION:</td>
<td>No specific comments</td>
<td></td>
</tr>
</tbody>
</table>
## 2.3 MPE Comments on Draft Final Report and Consultant’s Response

<table>
<thead>
<tr>
<th>Ministry of Public Enterprises</th>
<th>Response / Action</th>
<th>Information to be provided</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>GENERAL:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Regulation of PPPs, environment and labour are not the object of the study and should rightly be included as policies in National Energy Policy.</td>
<td>Should they not be the subject of both policy and regulation? Regulation could be seen as a tool for implementing policy.</td>
<td>Will review the contents of the Executive Summary.</td>
</tr>
<tr>
<td>Need to condense the Executive Summary.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cost implications of recommendations are not quantified</td>
<td>The costs of the report’s proposals would depend on the detail and manner in which they were carried out. For instance, with PPP procedures, this might be a simple and inexpensive document setting out sequences of actions, prerequisites and hold points, an outline of the documentation required, etc. Alternatively, it might involve formal procedures legally drafted for incorporation into a decree or law, a procurement manual, model project agreements (e.g. PPA), model prequalification documentation and a model request for proposals document. This would involve considerable input from a team with legal, financial and technical expertise.</td>
<td></td>
</tr>
<tr>
<td><strong>RETAIL TARIFF REGULATION:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Report did not clearly articulate a position on FEA’s “social obligations”. FEA believes it gets a fair return from its rural customers.</td>
<td>FEA’s social obligation is addressed in §5.3.4. The observation is made that, under the Public Enterprise Act FEA is entitled as a GCC to being reimbursed for costs attributable to non-commercial activities undertaken at the request of GoF. Much of FEA’s rural electrification business is non-commercial in the sense that FEA is required to supply rural areas where the average tariff payable is well below the costs of production and reticulation.</td>
<td>True. I will add a description of a trend in a number of countries where Rural Electrification Fund is established to receive contributions from multilateral and bilateral agencies, from governments and elsewhere. This money is applied in whole or part in paying the unrecoverable portion of the cost of supplying rural customers. This is done to reconcile the dilemma of promoting the commercial character of a utility on the one hand while reaping the economic and social benefits of electrification on the other. Principles for quantifying FEA’s social obligation claim are outlined in the report but to define a detailed framework for determination and reimbursement is outside the Consultant’s scope of work. It is a significant standalone job.</td>
</tr>
<tr>
<td>Ministry of Public Enterprises</td>
<td>Response / Action</td>
<td>Information to be provided</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>------------------</td>
<td>----------------------------</td>
</tr>
<tr>
<td><strong>TECHNICAL REGULATION:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Report does not address underlying factors involved in a shift of the technical regulation function to another agency. Cost and efficiency implications should be considered.</td>
<td>These are addressed only cursorily. The point is made, though, that it can be disruptive and, if the receiving agency (CC) has a technical culture that is not sympathetic and supportive, the performance of the unit could suffer. The suggestion in the report is that the technical regulation unit should remain with FEA until such time as the CC develops a technical capability. Thus the transfer, if it occurs, should be coordinated with the transfer of other regulatory functions of a technical nature in other sectors.</td>
<td></td>
</tr>
<tr>
<td>Need to explain remark that the technical regulation issue is not as prominent.</td>
<td>The report is not claiming that technical regulation is unimportant. From the consultant’s initial consultations, it seemed that there was general satisfaction with the work done by FEA in the area of technical regulation. Though there is general acceptance that there are conflicts involved, most agreed that it was not an urgent issue. For this reason, greater emphasis was placed on other issues.</td>
<td></td>
</tr>
<tr>
<td>“Ring-fencing” proposal is not detailed and costs not estimated.</td>
<td>Agree. To provide a detailed ring-fencing plan is beyond the scope of the study. The main features of a “ring-fencing” would be independence from FEA management on matters relating to the licensing of FEA plant and equipment. This would mean changes in reporting lines and control of budgets.</td>
<td></td>
</tr>
<tr>
<td><strong>LICENCE ELECTRICITY ENTERPRISES</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Report does not indicate how or when the CC would be able to undertake the licensing function. GoF would need concrete data on how to facilitate the transfer.</td>
<td>CC is a multi-sectoral regulator and the timing of any shift of technical responsibilities should be coordinated across other sectors so that the power sector unit is not left isolated in an agency with no culture of technical issues. It is therefore not possible to nominate a time without an understanding of wider reforms within the economy.</td>
<td></td>
</tr>
<tr>
<td><strong>REGULATING PPPs:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The issue of regulating PPPs could be included under the National Energy Policy.</td>
<td>Should it not be the subject of both policy and regulation? Regulation could be seen as one tool for implementing policy.</td>
<td></td>
</tr>
<tr>
<td><strong>REGULATE FEA PERFORMANCE:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FEA was removed from the list of Reorganisation Enterprises in 1999.</td>
<td>Noted. What then is FEA’s status under the Public Enterprise Act? Is FEA is now a GCC?</td>
<td>Status of FEA under the Public Enterprise Act to be clarified.</td>
</tr>
<tr>
<td><strong>REGULATE SYSTEM PLANNING:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ministry of Public Enterprises</td>
<td>Response / Action</td>
<td>Information to be provided</td>
</tr>
<tr>
<td>----------------------------------------</td>
<td>------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>-----------------------------</td>
</tr>
<tr>
<td>ENVIRONMENTAL REGULATION:</td>
<td>Environmental regulation should rightly be included in National Energy Policy. Should it not be the subject of both policy and regulation? Regulation could be seen as one tool for implementing policy.</td>
<td></td>
</tr>
<tr>
<td>LABOUR REGULATION:</td>
<td>Labour regulation should rightly be included as policies in National Energy Policy. Should it not be the subject of both policy and regulation? Regulation could be seen as one tool for implementing policy.</td>
<td></td>
</tr>
</tbody>
</table>
A brief review of rural electrification models in use around the world is presented in the following table:

<table>
<thead>
<tr>
<th>Model / Description</th>
<th>Observations</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Conventional Government-Owned Operations</strong></td>
<td></td>
</tr>
<tr>
<td>Conventional Utility Model</td>
<td>A well-proven model, internationally. Given good management, a cost-reflective tariff and other acceptable features, the utility can normally procure equipment at good rates and install and operate the network competently. RE is, however, normally financially burdensome and requires cross-subsidy from other market sectors. To date, financial support has been available from the GoF but the program is nevertheless a commercial burden on FEA. This model is the current basis for the continuation of main grid expansion by FEA in Viti Levu.</td>
</tr>
<tr>
<td>Government-Owned Isolated Grids and Generating Plant</td>
<td>A well-trialled model in many countries. Usually linked to mini-hydropower development, mostly built with the support of donor countries. Operations may be contracted out under public-private arrangements. This approach should be used with caution as previous experience in South East Asia with this model has been less than satisfactory.</td>
</tr>
<tr>
<td><strong>Private Sector Operations</strong></td>
<td></td>
</tr>
<tr>
<td>Commercial Sales Model</td>
<td>Conventional private sector, commercial activity. Market-driven and self-regulated. Purchase and operating costs all paid by consumer but vendor support sometimes available. In several countries, the purchase of low-cost individual household systems such as automotive battery systems or pico-hydro is common without Governmental support but less so with more expensive systems such as such as solar home systems or diesel gensets.</td>
</tr>
<tr>
<td>Rural Electricity Enterprises (REEs)</td>
<td>Diesel is the preferred type of generation because of its low installation cost. However, supply is often restricted to a few hours in the evening because of the high cost of fuel. REEs operate for profit and tariff / connection fee is usually high. Operations normally cease if the main grid extends to the area.</td>
</tr>
<tr>
<td>Private companies or individuals construct small networks (mainly at low voltage), install generators (mostly diesel) and supply electricity. The term generally refers to the Cambodian model.</td>
<td></td>
</tr>
<tr>
<td>Model / Description</td>
<td>Observations</td>
</tr>
<tr>
<td>---------------------</td>
<td>--------------</td>
</tr>
<tr>
<td><strong>Electricity Supply Companies (RESCOs)</strong></td>
<td>It is understood that solar home systems, village hydro and village diesel genset installations in Fiji are currently being supported by DOE through registered RESCOs. The RESCOs are generally individuals or small businesses operating at a local level. The pricing of the contracts could include a capital grant (subsidy) from a Rural Electrification Fund. In other countries service support is provided by the RESCO but the household normally pays for any operation and maintenance costs.</td>
</tr>
<tr>
<td><strong>Public-Private Partnerships</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Management Contracts</strong></td>
<td>Transfers only limited risks and responsibilities to the private sector. The contract could cover: (a) designated tasks, (billing and collection); or (b) operation and / or maintenance of generation or parts of the distribution system. This model is used where the utility needs additional resources. The contractor normally contributes only working capital. The utility contracts out engineering and financial services of various types including billing and collections in remote areas.</td>
</tr>
<tr>
<td><strong>Leases</strong></td>
<td>Transfers more risk. Likely benefits include management expertise, improved tariff discipline and better access to working capital. Usually most relevant if the Government-owned utility lacks the capability to manage its operation or if the Government wishes to withdraw from its operation. Agreed network extensions are normally funded by the lessor. This is not a common model and not currently used in Fiji. Not recommended in preference to management contracts.</td>
</tr>
<tr>
<td><strong>Concessions</strong></td>
<td>Much higher risk transfer to the private sector. Management, tariff discipline and access to capital are all benefits. Recommended applications of the concession model include:</td>
</tr>
<tr>
<td></td>
<td>• The repair and refurbishment of existing unserviceable small scale hydro or genset stations by private enterprises under a “rehabilitate-own-transfer” contract, or an “operation and maintenance” contract (after repair by others).</td>
</tr>
<tr>
<td></td>
<td>• Development and operation of new small scale hydro or genset installations and their associated distribution systems by private enterprises under a BOT contract.</td>
</tr>
<tr>
<td></td>
<td>• Development and operation of new distribution systems utilising a bulk supply from the Main Grid by private enterprises under a BOT contract.</td>
</tr>
<tr>
<td></td>
<td>• Development and operation of new small scale hydro or genset...</td>
</tr>
<tr>
<td>Model / Description</td>
<td>Observations</td>
</tr>
<tr>
<td>---------------------</td>
<td>--------------</td>
</tr>
<tr>
<td>installations by private enterprises under a BOT contract with supply to the Main Grid under a small power producer (SPP) program.</td>
<td></td>
</tr>
<tr>
<td><strong>Sale (divestiture)</strong></td>
<td>Generally only undertaken in developed countries and as part of a major program of economic reform often including the reduction of government debt.</td>
</tr>
<tr>
<td>Sale by the Government of Government-owned entities or parts of them to the private sector.</td>
<td></td>
</tr>
<tr>
<td><strong>Community Ownership and Co-operatives</strong></td>
<td>The communities may be villages or groups of villages. The entities that are established may or may not have a recognised legal form. This model has the advantage of local interest and commitment, but typically there is a lack of managerial and technical capacity within the organisation. Typically, also, the communities raise no more than 5-10% of the capital cost of establishing the system, the remainder having to be funded by a capital grant from Government or donor agencies. While community-based approaches have an organisational appeal, this model is not recommended because of a lack of experience with community-based models, and because small power system operation and maintenance is usually too complex for community-based organisations.</td>
</tr>
<tr>
<td><strong>Community Ownership</strong></td>
<td>Local communities, either separately or in combination with each other, undertake the construction and operation of electrical systems. In the RE context, this often includes local generation.</td>
</tr>
<tr>
<td><strong>Consumer Co-operatives</strong></td>
<td>Sometimes referred to as “co-operative societies” although there may be no recognised legal form of association. Based on the United States model, RE co-operative societies were successfully established in Bangladesh under a statute that governs their operation. A similar approach in India is apparently not well-regarded, and the Philippine cooperatives (which follow the US model) have fallen into financial difficulties. Financing, usually from a central body, is required. Not recommended in Fiji because rural villages are much smaller and more sparsely spread than in Asian countries where this model has been used.</td>
</tr>
<tr>
<td>A similar model to community ownership but the body concerned is comprised of the consumers, not the community.</td>
<td></td>
</tr>
</tbody>
</table>

*Note:* Community ownership and co-operatives are often found in circumstances where the private sector is not willing to participate and where there is support in the community or amongst households for this type of structure.