

Regulations for Public Utilities - Grenada's Electricity Sector

Dr. George Jr. Matthew



'A necessity'

- Public utilities maintains the infrastructure and provides a set of services for the public
- Subject to forms of public control and regulation
- □ In Grenada the Electricity Sector is getting much needed regulations - includes the Utility Company



Background to the Regulations and PURC

- Policy objectives of Grenada
 - Sustainability
 - Affordability
 - Secure Electricity
- Laws in place
 - ➤ Electricity Act, 2016
 - > PURC Act, 2016
 - Regulations for the sector



Charters the pathway to follow





Development Process

- Compliance of Grenada with Paris Accord
- Multi-party and collaborative World Bank and other multilateral support

Open Door Policy

Transparency and due diligence within the process -

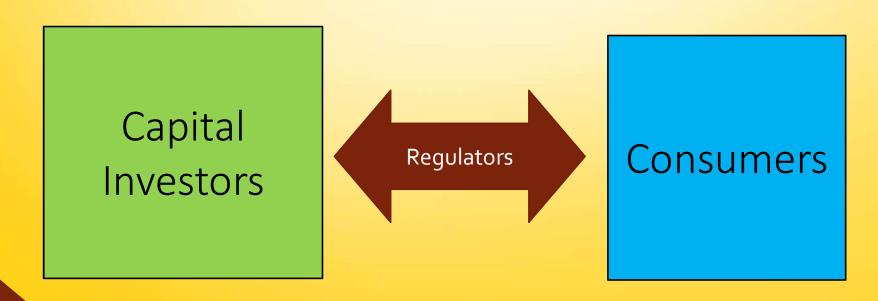
- Consultation process
- Ongoing discussions





'Caught in the Middle'

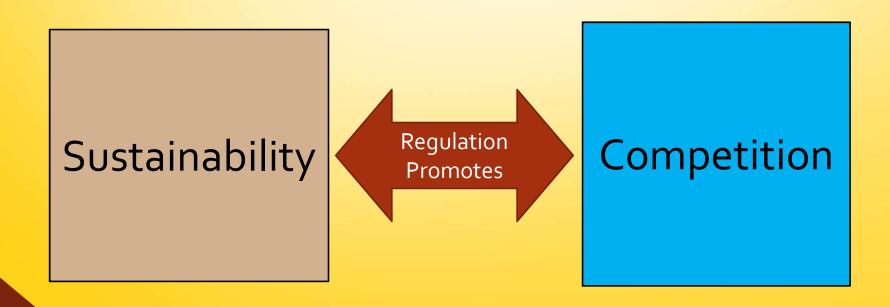
Regulation is a balancing act between ratepayers and investors





'Purpose of Regulations'

Regulation is a proxy for public ownership or competition





'Purposes for Regulation'

- Competitive market substitution
- Provides checks against Monopoly power and pricing
- ☐ Ensures openness, transparency, and due process



'Purposes for Regulation'

- ☐ Establishes minimum service standards
- Allows establishment of a competitive environment
- ☐ Generally protects the public interest



'Regulatory Expectations'

- General obligation to serve the ratepayers with competition and lower prices
- Service will be safe, adequate, and reliable
- Reasonable opportunity to earn a return on investment



'Regulatory Expectations'

- Recovery of reasonable costs and investments
- Investments will be prudent and used/useful
- Rates will be just and reasonable
- No undue discrimination in rates or service





'National and Consumers' interest'

Ensuring compliance

Rules and directives for guiding the sector



Electricity Regulations Secures

'Our future - The big Picture'





- ☐ Freedom from fuel poverty
 - Security of electricity supply
- □ Reduction in CO₂ Emissions

Sustainable Electricity means Sustainable Development

Saving the Planet



Thank you for your attention !!!

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Understanding the role of the PURC

Chairman of PURC



What or who is the PURC?

'Public Utilities Regulatory Commission'

- □ Independent institution (Statutory body) established by an Act of Parliament - PURC Act No. 20 of 2016
- □ PURC secretariat started in earnest on July 19th 2019 with a launching ceremony attended by MOPU Utility companies and other stakeholders
- Board of three commissioners:
 - Dr. Spencer Thomas Chairman
 - Commissioner Lawrence Samuel
 - Commissioner Fitzroy James





Role of Commission

'Public Utilities Regulatory Commission'

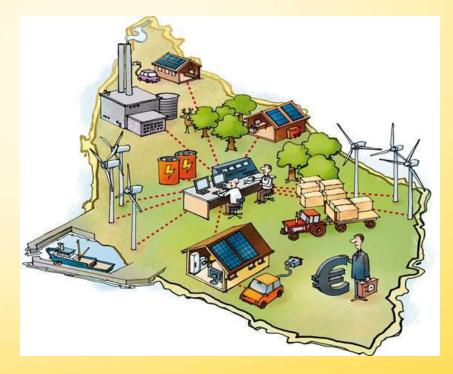
- Quasi-judicial
- Make decisions like a court does
- Quasi-administrative
- Make rules and hold meetings like a bureaucratic agency
- Quasi-legislative
- Make policy like a legislative body



Regulation of Electricity Sector

'Company - Consumers' - National interest'





A balancing act between ensuring reliable and sustainable utility services at fair & reasonable prices



Regulation of Electricity Sector

'Some Main Functions'

- Set, initiate and conduct reviews of tariffs
- Provide an enabling environment for sustainable and secure electricity
- Investigate complaints made by consumers
- Hear and resolve any disputes between Public Utilities and
 Consumers



Regulation of Electricity Sector

'Some Main Functions'

- Make recommendations on the award of licences and permits to the Minister
- Monitor and implement the terms and conditions of licences granted
- ☐ Ensure that the Public Utility Company achieve a fair return on their investments



Having Good Regulations

'Need for consensus and buy-in'

- Strong and sustainable (independent) regulatory regime
- Supports the economic development of Grenada
- Protects consumers interests



Ensuring we do not miss the boat



Thank you for your attention !!!

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Remarks by:

Honorable Gregory Bowen

Minister of Public Utilities



Draft Regulations on Tariff Setting Methodology

Ms. Leah Goddard-Pierre



Content - Draft Regulations on Tariff Setting Methodology

- PURC's Legal Obligation
- Method of Price Regulation
- Retail Tariff Methodology
- Retail Tariff
- Customer Classes
- Service Standards
- Procedure for Review and Adjustment of the Retail Tariff



PURC's Legal Obligation

Section 32 of the Electricity Act: Rates prescribed to be charged for the supply of electricity and any other service associated therewith shall-

- be fair and reasonable;
- Provide licensees with a reasonable rate of return on their capital investment in the electrical system and other authorized activities;
- reflect reasonable and enforceable standards for the quality of the supply of electricity
- not be discriminatory or show undue preference between similarly situated persons

Tariff Mechanism-Price Cap Model Maintained



PURC will set ceilings on prices, known as the "caps" below which the regulated firm has full pricing freedom.

The indices will be adjusted annually to account for changes in the inflation rate and by "X", "Q" and "Z" factors.

Advantages

- 1. It provides incentives for the regulated firm to be more efficient.
- It allows the regulator to set prices based on the costs of an efficient network licensee or on costs derived from benchmarks reflecting best practice
- 3. Efficiency gains are shared with consumers
- 4. It reduces the need for micromanaging the operations of the regulated firm



Traditional Ratemaking Process

Determination of Revenue Requirement

 Total Revenues necessary to cover efficient cost and recover prudent investment and to earn a fair return on investment

Allocation of Costs to Customers

- Generally based on usage patterns
- Cost imposed on the system by specific customer, balanced by social/economic issues

Establishment of Actual Rates to Customers (e.g. Usage based versus Flat Rates)

- Subsidization
- Affordability
- Price Signals



Cost Components of the Electricity Utility

- Non-Fuel Cost Requirement Non Fuel Revenue
- Fuel Cost- Fuel Charge
- Renewable Energy Cost- Renewable Charge



Non Fuel Cost





Non-fuel Revenue Requirement

Test year

- To arrive at the Test year the audited accounts shall be adjusted to reflect:
- Normal operating conditions.
- Investment in a major addition to the rate base such as a new power plant as reflected in the Licensee's 5-year Business Plan.
- The cost included in Test Year should be known and measurable, and the investment shall be deemed to be used and useful during the review period.

Rate Base – Valuation method to be determined

- Original Cost of Capital accumulated depreciation
- Replacement Cost of Capital Items
- Valuation of Capital assets being used and will remain useful



Non-fuel Revenue Requirement

Return on Investment

Return on Investment = Rate Base x Weighted Average Cost of Capital (WACC)

- Rate Base is comprised of Debt & Equity
- Return on Equity
- Seeks to balance the interests of investors and consumers.

Return on Equity for Electricity Utilities				
	Average US	St Lucia	Jamaica	Grenada
2017	9.74%	12.30%	6.90%	19.62%
2018	9.65%	12%	6.10%	19.65%



Non Fuel Revenue Requirement-

Weighted Average Cost of Capital

- Return on Equity
 - Indexed to the Grenada's Long Term Bond (+5½%)
- Cost of Debt
 - To be determined in discussion with Licensee, considering of the rates of Commercial Lenders



Non-Fuel Revenue Requirement to Base Non-Fuel Charges

- Non Fuel Costs are allocated to each customer class
- Separate Base Non-Fuel Charges shall be charged to customers based on the purpose for which electricity is used
- A price cap/base non fuel charge is determined for each customer class



Annual Adjustment of Rate Base

$$CAP_n = CAP_{n-1}[1 + \Delta NPI]$$

Where:

- $CAP_n \equiv \text{Average Non-fuel price cap for the current year, n.}$
- $CAP_{n-1} \equiv$ Average Non-fuel price cap in the previous year, n-1.
- $\Delta NPI \equiv$ the change in the Non-fuel price index



Non Fuel-Rate Base Annual Adjustment Mechanism

$$\Delta NPI = \left[\left(\frac{RPI_n - RPI_{n-1}}{RP1_{n-1}} \right) \pm X \pm Q \pm Z \right]$$

Inflation

Changes in the rates of inflation

Efficiency

Expected
Efficiency changes
over time

Quality of Service

The **Q-factor** forces the utility to balance **Quality of Service** against **Cost Savings**

Exogeno

The **Z-factor** deals with factors that

- cannot be anticipated ahead of time
- affects the utility costs
- Not already included in the tariff



Fuel Cost

Fuel Charge

- Fuel cost pass-through
- Modify current generation efficiency mechanism
- Include a system losses efficiency component
- Smoothing mechanism



Fuel Charge

$$FC_n = \left[\frac{FR_n + FR_{n-1} + FR_{n-2}}{3}\right] \pm ARFR$$

- The fuel charge (FC_n) in any given month, n, is the rolling average of the fuel rate (FR_n) for the current month and the prior two months, plus the annual residual fuel rate (ARFR).
- The ARFR is the over or under-recovered fuel cost over a twelve-month period specified by the Commission divided by billed sales net of renewable purchases over the same twelve-month period.



Fuel Adjustment

$$FR = \frac{F_n}{E_n} \left(\frac{H_T}{H_A}\right) \left(\frac{1 - S_A}{1 - S_T}\right)$$

Where:

 FR_n = Monthly Adjustment Fuel Rate in EC\$ per kWh rounded to the nearest one-hundredth of a cent applicable to bills rendered during the current Billing Period.

 $F_n = \text{Total cost of fuel in EC} \text{ used in the production of energy for the period.}$

 $E_n =$ The kWh energy sales for the billing period net of renewable purchases.

 $H_T =$ The system heat rate target in kJ/kWh determined by the regulator.

 H_A = The actual system heat rate in kJ/kWh derived from the production of energy during the period.

 S_T = The system losses rate target expressed as a percentage of net generation) determined by the regulator.

 S_A = The actual system losses (expressed as a percentage of net generation) registered during the billing period.



Renewable Cost

Renewable Charge

- Cost of renewable energy purchased from IPP's and self generators
- Renewable energy pass-through



Calculating – Average Electricity Price

Base non-fuel cost

Rate of Return

O&M Cost

Taxes

Contribution to Social Fund

Depreciation

Fuel Cost

Renewable Energy Cost



Sales (kWh)



Avg. Price (\$/kWh)



Customer Classes

- Retain active Customer Classes
 - Domestic Service: Rising block structure
 - Commercial Power Service
 - Industrial Power Service
 - Streetlight Service
- Additional Customer Classes
 - Hotel Power Service: applicable to all electricity supplied to an establishment providing accommodation, meals, and other services for travellers and tourists. This type of service may be connected to either low tension or high tension circuits on the grid.
 - Stand-by Power Service: applicable to self-generators to meet their stand-by, supplementary and auxiliary requirement. This service will be made available based on a contract to take supply from the Network Licensee at one location through one meter at a single delivery point



Assignment of Customer Classes

- Assignment of Customer Classes done by:
 - network licensee with the Commission approval
 - the Commission may recommend, set and approve
- Approvals must take into account:
 - network licensee request;
 - the promotion of efficiency;
 - consistency with national electricity policy.



Retail Tariff Structure

Base Non – Fuel Charge

Recovery of NF Cost

Excludes Fuel and RE cost

Annual Adjustment Fixed Charge

Minimum Bill Demand Charge

Capacity

Fuel Charge

Recovery of All fuel Cost

Monthly Adjustment Renewable Energy Charge

Recovery of RE cost

Per Kwh hour charge



Service Standards: Principle & Structure

- Service standards categories
 - customer service;
 - reliability;
 - power quality; and
 - efficiency.
- Principles for levels of standards based on:
 - industry-best practice internationally;
 - a network licensee's historical performance; and
 - expected service improvements over time.



Standards and Targets

Standard	Unit	Minimum/ Maximum	(2018) Baseline	(2021) Target
SAIDI	Hours	Maximum	5.8	5.5
SAIFI	Interruptions per consumer	Maximum	6.7	6.4
CAIDI	Hours	Maximum	0.88	0.85
Response to consumer	Days	Maximum	5	4
Complaints Connection of new	Days	Maximum	5	5
residential and other simple installations				
Connection of new complex	Days	Maximum	30	30
installations				
Issue of first bill	Days	Maximum	30	30
Reconnection after wrongful disconnection	Hours	Maximum	5	4
Reconnection after payment of arrears	Hours	Maximum	24	24



Review and Adjustment of Tariff

Periodic Review

- Within 4yrs of Regulation issue
- Every 5yrs after the 1st Review

Annual Adjustment

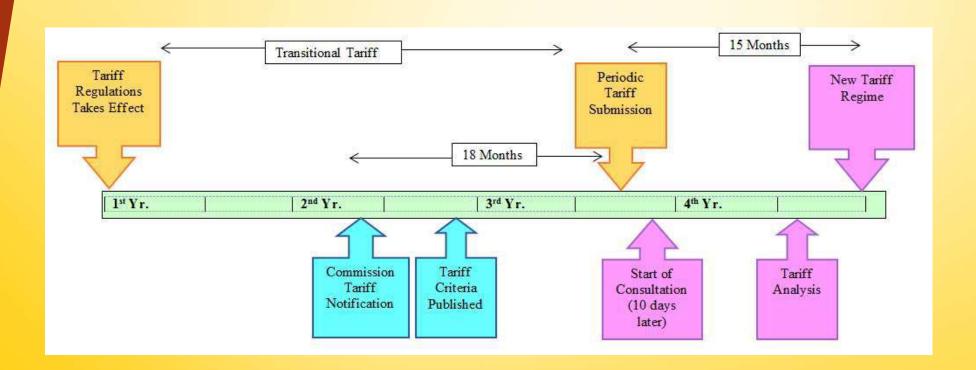
- Every year after the Periodic Review
- Adjusted for: Inflation, Quality of Service, Efficiency & Exogenous factors
- Completed within 2 months of receiving the application for adjustment

Transitional Review

• Provides for the inclusion of features of the new framework before the 1st Periodic Review



Retail Tariff Review Procedure



Thank you for your attention!



Draft Regulations on the Rules and Procedure for Applying for Licences and Permits

Dr. George Jr. Matthew



Scope

These Regulations set the requirements and procedure for applying for the grant, modification or extension of:

- (a) generation licences;
- (b) network licences
- (c) permits.

Licence Obligation, Exemption, Permits



- Licence Needed to Generate, Transmit, Distribute or Supply electricity
- Self Generators will need a permit
- □ Permits and Licences will be granted by the Minister, applications shall be submitted to the Commission



Type of Licences - Generation

- ☐ Generation licence to generate and store electricity, and to sell such electricity to a network licensee
- Non-exclusive licences granted for a period not exceeding twenty five (25) years



Type of Licences - Network

- Network licence may allow its holder
 - (a) to transmit electricity, or
 - (b) to transmit, distribute and supply electricity
- Network licences may be nonexclusive or exclusive licences granted for a period not exceeding twenty five (25) years



General Requirements

'Manner, form and date of application'

Applications for licences shall be:

- Made in writing addressed to the Commission
- Signed and dated
- Electricity Licence Application Form
- Duly Completed information, documents and studies required



General Requirements

'Manner, form and date of application'

Applications for licences shall be:

- Delivered by Hand, Post or Email
- Identify contact person in Grenada
 - to direct queries and assessment notices etc.
- Accompanied by the application fee





'Content of Applications'

- Form and content applicable to all kinds of licence application
- □ Content and requirements of licence applications for generation licences
 - Renewable generation licences and non-renewable generation licences
- Specific requirements of licence applications for network licences



Procedures Applicable

'Evaluation criteria and process'

- Commission shall screen the application
- □ Transmit a copy to the Minister
- Cause a notice of such application to be published in the Gazette
- Evaluate the application
- ☐ Issue a recommendation to the Minister after evaluation





'Decision of the Minister'

- Adopted after receipt of the recommendation of the Commission
- ☐ The Minister may decide to:
 - Admit the application, and grant the new licence
 - Refuse the application



Procedures Applicable

'Decision of the Minister'

- Made in writing
- Notified to the applicant
- Duly justified
- Published in the Gazette
- Inform the applicant about his/her rights to appeal the decision



Obligations of Applicants

'Accuracy of information and confidentiality'

- Applicant is responsible for the accuracy of all application documents
- ☐ Immediately inform the Commission of any change that might affect such information
- Can request particular information confidentiality of the Commission



Obligations of Licensees

'Legal effects of licences'

- Authorised to engage in the licenced activity from the effective date and during the term licence
- Comply with any legislation applicable to them and to their activities Electricity Act, Public Utilities Regulatory Commission Act, all regulations and codes



Modification of Licence

'Commission evaluation criteria and process'

- Screen the application
- Transmit a copy to the Minister
- Cause a notice of such application to be published in the Gazette
- □ Require the applicant to publish same in at least two newspapers in general circulation in Grenada



Modification of Licence

- 'Commission evaluation criteria and process'
 - Evaluate the application
 - If the modification relates to a matter of significant public interest
 - Convene a public hearing to hear opinion of all
 - Publish in the Gazette further details of application
 - ☐ Issue a recommendation to the Minister after evaluation





'Decision of the Minister'

- □ Adopted after receipt of the recommendation of the Commission
- ☐ The Minister may decide to:
 - Admit the application, and grant the modification of licence
 - Refuse the application



Procedures Applicable

'Decision of the Minister'

- Made in writing
- Notified to the applicant
- Duly justified
- Published in the Gazette
- Inform the applicant about his/her rights to appeal the decision

Application for extension of term of licence



'Application Requirements'

- ☐ Shall be submitted at least one (1) year prior to the expiry of the licence
- ☐ The extension shall be for a period not exceeding five (5) years, except in the cases where the Commission recommends that a longer period would best achieve the objectives and purpose of the acts



Extension of Licence

'Commission evaluation criteria and process'

- Screen the application
- Transmit a copy to the Minister
- Cause a notice of such application to be published in the Gazette
- □ Require the applicant to publish same in at least two newspapers in general circulation in Grenada



Extension of Licence

- 'Commission evaluation criteria and process'
- Evaluate the application
- If the modification relates to a matter of significant public interest
 - Convene a public hearing to hear opinion of all
 - Publish in the Gazette further details of application
- ☐ Issue a recommendation to the Minister after evaluation





'Decision of the Minister'

- □ Adopted after receipt of the recommendation of the Commission
- ☐ The Minister may decide to:
 - Admit the application, and grant the licence extension for the specified period
 - Refuse the application



Procedures Applicable

'Decision of the Minister'

- Made in writing
- Notified to the applicant
- Duly justified
- Published in the Gazette
- Inform the applicant about his/her rights to appeal the decision





'Manner, form and date of application'

Applications for Permits shall be:

- Made in writing addressed to the Commission
- Signed and dated
- Duly completed information, documents and studies required
- May be substituted with a Noninterconnected self-generator Form





'Decision of the Minister'

- □ Adopted after receipt of the recommendation of the Commission
- ☐ The Minister may decide to:
 - Admit the application, and grant the permit (15 year term)
 - Refuse the application



Procedures Applicable

'Decision of the Minister'

- Made in writing
- Notified to the applicant
- Duly justified
- Published in the Gazette
- Inform the applicant about his/her rights to appeal the decision



'Before assessment for Generation Licence'

- The procurement process has been complied with and completed
 - Generation Expansion Planning and Competitive Procurement Regulations
- Procurement contracts have been signed and submitted
- □ Power purchase agreement (PPA) have been approved and signed in accordance with the Electricity Act



'Unsolicited Generation Licence Application'

- ☐ Submission before initiation of the procurement process required by Electricity Act, by Part VI and by the Generation Expansion Planning and Competitive Procurement Regulations
- Application will be suspended until the procurement process is concluded and contracts approved and signed



'Before assessment for Network Licence'

- The procurement process has been complied with and completed
 - Rules and Procedures for Applying for Licences and Permits
- Procurement contracts have been signed and submitted



'Unsolicited Network Licence Application'

- Submission before initiation of the procurement process required by Electricity Act, and by Part VI of these Regulations
- Treated as unsolicited proposal
- Subject to procurement requirements and process established in these regulations

Procurement Process for Granting Network Licence



'Unsolicited Proposal'

- Initiated by unsolicited Network Licence proposal
- Initiated by decision of the Minister, adopted pursuant to the Strategy for the development of the electricity sector
- Subject to procurement requirements and process established in the regulations



Unsolicited Proposal

'Assessment of Unsolicited Network Proposal'

- Screen the application
- Transmit a copy to the Minister
- Cause a notice of such application to be published in the Gazette
- ☐ Solicit the opinion of other network licensees



Unsolicited Proposal

- 'Assessment of Unsolicited Network Proposal'
- Evaluate the application
- As it relates to a matter of significant public interest the Commission will
 - Convene a public hearing to hear opinion of all
 - Publish in the Gazette further details of application
- Issue a recommendation to the Minister after evaluation



Commission Recommendation

'Assessment of Unsolicited Network Proposal'

- □ To initiate the procurement process in accordance with the unsolicited application
- ☐ To initiate the procurement process but under different conditions
- □ To dismiss the application



Commission Recommendation

'Assessment of Unsolicited Network Proposal'

- ☐ That additional technical, economic, financial studies are needed
- ☐ To postpone the decision related to the initiation of the procurement process

Duly justified detailing the facts of the case

Unsolicited Network Licence Proposal



'Decision of the Minister'

- Made in writing
- Notified to the applicant
- Duly justified
- Notified to the Commission
- Inform the applicant about his/her rights to appeal the decision

Unsolicited Network Licence Proposal



'Decision of the Minister'

- ☐ To initiate the procurement process for the grant of a network licence to transmit or to transmit, distribute and supply electricity:
 - Under the conditions proposed by the unsolicited proposal
 - Under any other conditions
- ☐ To temporarily or definitely reject the unsolicited proposal

Unsolicited Network Licence Proposal



'Procurement methods'

- Competitive tendering (Normally)
- Selecting tendering (Unusual circumstances)
- Negotiated procurement (Emergencies)
- Published in Gazette and in both national and international media

Bidders will be suitably qualified

Fees

Annex 1: Fees



A- Application fees

The application fee due for each application submitted by the applicant, applicable to all kind applications non-refundable and is equal to EC\$ 500 for licence and EC\$ 150 for permits.

B- Licence fees

Type of Licence	Amount due in EC
Grant, modification or renewal of generation	
licence – electricity generation plant up to 1	EC\$ 10,000
MW	
Grant, modification or renewal of generation	
licence – electricity generation greater than	EC\$ 20,000
1MW and up to 10MW	
Grant, modification or renewal of generation	
licence – electricity generation greater than	EC\$ 30,000
10MW and up to 20MW	
Grant, modification or renewal of generation	
licence – electricity generation plant greater	EC\$ 40,000
than 20 MW	
Grant, modification or renewal of a network	
licence which allows its holder to just carry out	EC\$ 50,000
transmission of electricity	
Grant, modification or renewal of a network	
licence which allows its holder to carry out	EC\$ 100,000
transmission, distribution and supply of	
electricity	

C- PERMIT FEES

Type of Permit Fee	Amount due in EC
Grant of new Permit	EC\$ 70
Modification or renewal of a Permit	EC\$ 50



Thank you for your attention !!!

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MISSIONSTATEMENT

To ensure Reliable and Sustainable Utility Services at Fair & Reasonable Prices