

Grenlec Comments
on
Draft Regulations on Tariff Setting Methodology 2019

February 24th, 2020

Reservation of Rights - Grenada Electricity Services Limited (Grenlec) submits these comments and responses without prejudice to (i) its several requests for reasonable extensions of time to fully review, analyse and comment on the Draft Regulations on Tariff Setting Methodology 2019; (ii) its right to be engaged in pre-consultation with the PURC in relation to the Draft Regulations on Tariff Setting Methodology 2019; and (iii) its right to submit further comments on the Draft Regulations on Tariff Setting Methodology 2019. Grenlec does not waive, acquiesce in the waiving or the relinquishing of any of its legal or equitable rights by submitting these responses and reserves all its rights.

PART 1: PRELIMINARY

Interpretation

Page 4: **Authorised Business (3rd definition)** – “authorized business” in respect of a network licensee means the business authorised in **his its** network licence and if applicable its generation licence”

GRENLEC Change “his” to “its”

Page 5: **Social Fund (5th definition)** – “Contribution to Social fund” means the contribution by section 70 of the Electricity Supply Act;”

GRENLEC This cannot be included in the regulations as Section 70 of the original act has been declared unconstitutional by the High Court.

Page 6: Net generation is defined as the sum of all gross generation by the Generation Electric Plants less the sum of all own use (auxiliary power) by the Generation Electric Plants.

GRENLEC Suggest adding the new definition above to Section 2 Interpretation on page 6 immediately after “MWh” means Mega-Watt -hours.

Long Term Bond Rate (6th definition) - “LTBR” means Government’s most recent Long Term Bond Rate issued by the Regional Government Securities Market,”

GRENLEC Please see our comments against Schedule 1, Part B, Section 2.4 and our response in Annex A. Accordingly, we believe that this definition is not needed and should be removed.

Page 6:

Non-Fuel Revenue Requirements (10th definition) - “NFRR” means Non-Fuel Revenue Requirements. This is the revenue required by the utility to cover all its costs and achieve a reasonable rate of return on its investment”

GRENLEC

Make the word Requirements singular – “Requirement”, add the word “by” after the word “required”, and make the word “cost” plural (“costs”).

Page 7:

Self-Generator (9th definition) - “self-generator” means a person who generates electricity only for his or her own use and who may also be allowed to sell excess electricity to the network licensee in accordance with the requirements of the Electricity Act and with applicable Regulations;”

GRENLEC

Can non-renewable generators be deemed self-generators? This is not clearly stated. It seems open to interpretation that both renewable and non-renewable energy producers can be self-generators. See Regulation on Tariff Setting Methodology Part 2 Retail Tariff, Division 2 Retail Tariff Structure 9. Fuel Charge and 10. Renewable Charge imply that a self-generator should only be a renewable source.

System Technical Losses (12th definition) - “system technical losses” means the maximum allowable percentage of electricity generated that is lost before reaching consumers”

GRENLEC

Delete “maximum allowable”. This is the definition of system losses and not the definition of a limit on system losses. Typo: “lot” should be “lost”

Page 8:

Test Year (1st definition) - “test year” means the most recent twelve (12) month of period whose financial accounts audited in whole or part will be adjusted to determine the Non-Fuel Revenue Requirement of a licensee for the next periodic tariff review.

GRENLEC

Test years are frequently not coincidental with the fiscal year. Hence a part of the test year may be audited and a part unaudited.

Page 8:

Time of Use (2nd & 5th definition) - “TOU” means Time of Use service. For this type of service consumers are charged different rates depending on the time of the day when electricity is consumed.

GRENLEC

Duplicate definition – delete second occurrence.

Weighted Average Cost of Capital (7th definition) - “WACC” means Weighted Average Cost of Capital. ~~This is the opportunity cost of capital proportionally weighted to reflect the expected return on debt and equity~~ It is a calculation of a firm’s cost of capital in which each category of capital is proportionately weighted. All sources of capital, including common stock, preferred stock, bonds, and any other debt, are included in a WACC calculation.

GRENLEC

Definition changed to more clearly define the WACC in accounting terms.

Transmission System (4th definition) - “transmission system” means ~~the transport of electricity through high voltage electricity systems, and the transport of electricity for interconnection the island of Grenada with another island or country as prescribed;~~ the devices and structures used to enable the transport of electrical energy between substations at a High Voltage as defined in the Transmission and Distribution Grid Code.

GRENLEC

Definition changed to conform with the Transmission and Distribution Grid Code.

PART 2: RETAIL TARIFF

Page 9:

4. Consumer Customer Classes (2) (c) (d) (e) – “(2) The Commission may recommend, set and approve classes or changes in classes if it considers that the grouping or change:”

GRENLEC

Change “Consumer” to “Customer”. Several persons may live in a household and are all consumers of electricity, but the holder of a supply contract with the Licensee is a customer. Also, consistence with the Supply Code.

“2 (c) is consistent with the national electricity policy established under section 3(a) of the Act;”

GRENLEC

The national electricity policy has **not** been established to date. Note as well that the draft policy requires consultation with licensees(s) (among others). The Act says the Minister MAY establish a National Electricity Advisory Committee to determine the Policy. To date Grenlec’s representatives on this committee have not been notified of a meeting.

“2 (e) targets vulnerable groups to whom a social tariff should be applicable, in which case the social tariff shall be defined and financed in accordance with the Policy established by the Minister.”

GRENLEC

What criteria is to be used for determining applicable customers? Will the public be allowed to comment on what goes into the policy?

If the customer is in an area that requires significant infrastructure work, who bears the cost of connection?

Is the Social Tariff meant to apply to a separate class or a discount on the domestic rate?

Grenlec points out that a reduced tariff for such customers will require cross-subsidization from other customers/rate classes to cover the decrease in contribution from this grouping, as the NFRR is composed from the sum of revenue from all customers/rate classes.

Grenlec is not the entity that will determine who these vulnerable groups are. The PURC or some other entity will have to determine this.

Page 9-10:

7. Retail Tariff Components (1)(d) (e) - “(1) The retail tariff shall comprise the following components -

- a) the base non-fuel charge;
- b) the fuel charge;
- c) the demand or fixed charge
- d) the renewable charge;
- e) Independent Power Producer non-fuel charge

GRENLEC

Does “The retail tariff **shall** comprise the following components” imply that each customer class, including street lighting will have all these components?

7(d) When the fuel and renewable charges are calculated according to Schedule 3, the result is a much higher total energy charge than what we believe is intended.

7(e) was added as there is no place in this regulation for the non-renewable Independent Power Producer to recover its NFRR and so it is suggested that this avenue be used.

Page 10:

8. Base Non-Fuel Charge – “(1) The base non-fuel charge, plus the fixed or demand charges on each customer as applicable, is a set of charges on each consumer plus the fixed or demand charges on each customer as applicable that seeks to recover, in the aggregate, the non-fuel-revenue requirement of the network licensee.”

GRENLEC

The sum of the base non-fuel charges plus the demand charges and fixed charges have to recover the NFRR.

SUGGESTED ADDITIONS:

Demand Charges: These are capacity carrying charges paid by commercial, hotel and industrial customers, and potentially residential customers, for whom the Licensee must carry sufficient installed capacity to meet their peak demand at any time.

Fixed charges: These charges designed to capture non-energy fixed costs which are related to one or more, but not all, customer classes.

Page 10:

9. Fuel Charge- “(1) The fuel charge is a per kWh charge on each Consumer that seeks to, in the aggregate, recover the monthly efficient cost of fuel used for generation by the **Authorized Generation Electric System** and/or an independent power producer.”

GRENLEC

Use of the defined term meaning the generation plants owned and operated by the Network Licensee.

Page 11:

11. Price Cap No Other Rates Allowed - “A network licensee shall charge the rates approved by the Commission in accordance with these Regulations.”

GRENLEC

Change title from “Price Cap” to “No Other Rates Allowed”, as the term Price Cap has a specific meaning in the regulatory field.

Page 11-12:

12. Periodic Retail Tariff Review (1), (6)(b)(c)

“(1) Within 3 month of ~~4 years~~ from the commencement date of this **Regulation** and in accordance with **PART E – Retail Tariff Review Procedure 5.2**, and every 5 years thereafter, the Commission shall ~~conduct a retail tariff review to set retail tariff rates~~ **instruct the Licensee to submit its retail tariff proposal for changes in rates in accordance with this regulation.**”

GRENLEC

Grenlec proposes that the interim tariff be for a short period and then move to the first periodic retail tariff review in accordance with PART E – Retail Tariff Review Procedure 5.2.

Grenlec believes that because the procedures for retail tariff review are included in this regulation in Schedule 1, Part E, then sections 12 (5) & 12 (6) are not required and should be removed. Should the Commission disagree, then please see our comments on Sections 6 (b) and (c) below.

Page 12

~~“(6)(b) the notice may also require that the draft proposal be informed by a load research study, a cost of service study and a least cost expansion study, the terms of reference for which, and the experts engaged for their execution, are to be approved by the Commission;”~~

GRENLEC

The procedure for filing for the tariff is clearly defined in Schedule 1 Part E. So, 6(b) is redundant and should be removed.

“6(c) there must be at least twenty-five (25) business days for stakeholders to provide written comments on the draft procedures, during which period a public consultant may be held;”

GRENLEC

This time frame is too short for written comments on the tariff review procedure. This should be a minimum of 60 working days. **If the procedures are to be changed it must be done prior to the request for filing for tariff so that the Licensee will know how to file.**

Page 12-13:

13. Annual Adjustment of Retail Tariff (4)

“13(4) The ~~network Licensee Commission~~ shall provide in advance all statistics, data and indexes necessary to submit its application for the annual adjustment.”

GRENLEC

Suggest re-wording of 13 (4) as above. As can be seen in 13(5), it is clearly the Commission who must furnish the statistics and data in advance. Furthermore, Grenlec suggests that the adjustment be made annually on the 1st July as the Dept of Stats typically publishes the CPI and figures required for the RPI calculation in March/April time frame.

PART 3: SERVICE STANDARDS

Page 14: **18. Structure of Service Standards (1)** – “New service standards may be **set to increase adjusted** for each year, or some years, of a tariff period.

GRENEC Suggest using “adjusted” instead of “set to increase” as increases are not always beneficial.

19. Types of Standards (1) (b) – “Technical and Financial Losses Standards and Targets.”

GRENEC Why Financial Standards? What is the rationale for the Financial Standards?

20. Standard Setting Process (1) – “The service standards shall be set or reviewed during each periodic retail tariff review according to the process set out in Schedule 1 Part E, and new service standards may **be** proposed by the network licensee in its tariff proposal.”

GRENEC Insert the word **‘be’** between the words may and proposed.

Page 16: **26. Breach of Service Standards** – “If a network licensee fails to comply with a service standard, the network licensee is liable to pay compensation to the affected consumer according to the compensation penalties and sanctions set by Order by the Minister after consultation with the Commission, which may have taken into account the levels proposed by the Licensee.”

GRENEC What is the basis for the calculation or establishment of compensation penalties?

PART 4: TRANSITIONAL PROCEDURES

Page 16-17:

28. Interim Tariff

- (1) ~~If the information available does not enable compliance with Part 3 and Schedules 1, 2 or 3 of these regulations, the Commission may initiate an interim tariff review and approve a new retail tariff in accordance with this regulation.~~ Within 3 months of the Commencement Date of this regulation the Licensee shall:
- a) ~~Retain the existing customer classes and their respective non-fuel base charge; Adjust the cost of service of the network licensee based on the expected costs of improved street lighting systems;~~
 - b) ~~Introduce~~ Replace the current fuel charge with a Fuel Charge based on the Fuel Energy Charge formula described in Schedule 3 Section 1;
 - c) ~~The introduction of~~ Introduce a new Renewable Charge to allow the Network Licensee's renewable electricity purchases to be treated as a pass-through to Consumers in accordance with Schedule 3, Section 2 (as amended).

GRENLEC

We suggest a wholesale change to Section 28. As indicated previously, Grenlec believes that it is in all stakeholder's interests to move to a full periodic tariff review as soon as possible. We therefore suggest that this section be modified to define how an interim tariff, which will be in place until the first periodic tariff review is completed, will be made up. Our suggestion for the modified section is shown above. Explanations of the various sections (a) through (c) are given below.

- a) The present non-fuel charge for each existing customer class has only increased by EC\$0.02 in 25 years, and is presently fixed, so it seems reasonable for it to remain until a new periodic tariff review is completed.
- b) The new fuel charge will replace the existing fuel charge mechanism.
- c) The new renewable charge will be introduced.

We further suggest eliminating references to the Interim Tariff Review and initiating the 1st periodic tariff review within 9 months of the Commencement Date.

We also suggest deleting Schedule 1, Part E, Section 5.1 as this refers to an Interim Tariff Review.

Page 17

29. Transition to the first periodic tariff review (3), (4)(b)(c)(d)(e)

“(3) If the Commission shall not be obliged to consider or follow the recommendations and conclusions included in the studies mentioned in sub-regulation approvals of the Commission required by sub-regulation 29 (2) are not complied with 29 (1) when adopting decisions regarding the periodic tariff review.

GRENLEC

A simpler wording is **The Commission shall not be obliged to consider or follow the recommendations and conclusions included in the studies mentioned in sub-regulation 29 (1) if the approvals of the Commission required by sub-regulation 29 (2) are not complied with when adopting decisions regarding the periodic tariff review.**

Page 18

“29 (4) (b) A redefinition of the Commercial and Industrial service Classes on the basis of the voltage level at which the Consumer is connected to the electricity network of the network licensee;”

GRENLEC

It is unclear what the intention of this sub-paragraph is. Grenlec does not agree with this clause. Most, if not all, commercial customers would be connected at the same voltage levels as residential customers, i.e. 230V. Commercial and Industrial customer classes are not determined by the voltage level of their supply but by the nature of the business. A large commercial business may be supplied at a higher voltage level than a small commercial or a small industrial business. Further explanation/clarification is needed.

“29 (4) (c) The establishment of a Hotel Service Class;”

GRENLEC

Why is this necessary? It will require a cost of service study. Service to a hotel is no different to any other commercial establishment. If it is intended to have a reduced rate for hotels, which other customers class(es) will subsidize this reduction? Will this rate be extended to facilities like air bnb, guest houses, rental properties, bed and breakfasts, and restaurants? A much better definition of what constitutes a hotel is needed.

Page 18

“4(d) A tariff for a Stand-by Service Class for self-generators ~~receiving interested in providing~~ back-up, supplementary ~~and or~~ ancillary services ~~provided by the Network Licensee.~~”

GRENELEC

Wording change suggested as above. Stand-by tariffs are typically for customers who supply their own energy needs under normal circumstances. However, they enter into stand-by agreements with the network licensee to supply them with power if their own equipment fails. Additionally, renewable self-generators rely on the network licensee to provide ancillary services such as voltage and frequency regulation (as well as backup power) in order for their equipment to function. Hence there needs to be a tariff to cover such provision of service.

“4(e) Provisions for billing of consumers who are part of the Industrial Service Class on the basis of ~~kW or kVA~~ demand charges;”

GRENELEC

Deletion suggested as above. This should be extended to include the commercial class (and hotel if such a customer class is developed) and consideration should be given to possibly include residential class as an alternative to the stand-by charge described in the comment above.

Submitted Without Prejudice to the Regulators of Rights Herein

SCHEDULE 1: BASE NON-FUEL CHARGE

Part A: Non-Fuel Revenue Requirement Building Blocks

Page 19:

“1. The non-fuel revenue requirement comprises the following building blocks:”

1.4. Approved operation and maintenance costs incurred by the Generation Licensee (where that licensee is the same entity as the Network Licensee) for the Authorized Generation Electric System. ~~generation licensees and independent power producers excluding fuel costs and renewable energy purchases;~~

GRENLEC

Authorized Generation Electric System is the definition for the generation plants owned by the Licensee. However, Grenlec does not agree with the O&M costs of an IPP being tied in with the company’s NFRR. It feels that all non-fuel costs for the purchasing of power (capacity payments, O&M, ,etc) from any IPP must be a separate line item on the utility bill.

~~“1.6 Contribution to the Social Fund.”~~

GRENLEC

This cannot be included in the regulations as Section 70 of the original act has been declared unconstitutional by the High Court.

Substitute the following new section in lieu of Section 1.6

1.6 Annual Contribution to Hurricane Fund

The approved annual contribution to the Hurricane Fund and such amount shall be treated as a tax-deductible allowable expense in determining the non-fuel revenue requirement. The hurricane fund reserve account will, in the event of another hurricane or significant natural disaster, provide the Licensee with immediate access to cash to commence recovery efforts. Additionally, it will reduce the likelihood of the Licensee having to implement the exogenous cost recovery mechanism specified, and thereby lessen the chance of a significant rate increase immediately following such a natural disaster.

Part B: Non-Fuel Tariff Mechanism Calculation

Page 19: “2.1 The Commission, in conjunction with the Network Licensee, shall determine which twelve (12) month ~~of~~ period will be used for the test year. The non-fuel costs determined for the test year will be adjusted to reflect:

GRENLEC Change is suggested to have consistency in terminology throughout the document.

Page 20: “2.3 The components of the NFRR shall include:

Non-fuel O&M costs: refer to all necessary and prudently incurred expenses which are not directly associated with investment in capital plant. The Non-fuel O&M costs shall include, but not be limited to expenses for salaries and other costs related to employees; operating and maintenance costs of generation, transmission and distribution and supply facilities ~~as well as the non-fuel component of IPP costs~~, where applicable; third party services; interest costs on other borrowings not associated with capital investment, if applicable; rents and leases on property associated with the Licensee operations; taxes which the Network Licensee is required to pay other than income taxes of the Network Licensee; and other costs which are determined to be reasonably incurred by the Network Licensee in meeting Consumers demand for electricity services.

GRENLEC The non-fuel component of conventional/thermal IPP’s costs cannot be included in the Network Licensee’s NFRR and instead should be shown separately on the utility bill. We suggest this could be called “purchased power charge”.

“(d) **Licence and Regulatory Fees.** These fees include the fees that the Licensee shall pay for the issuance, amendment or extension of licences, annual fees due to fund the Commission in accordance with section 14 of the Public Utilities Regulatory Commission Act and section 62(1)(q) of the Electricity Act, and any other regulatory fee established by the Regulations of the Minister pursuant to the Electricity Act and/or the Public Utilities Regulatory Commission Act ~~including the cost of conducting studies requested by the Commission.~~

GRENLEC Studies requested by the Commission are recoverable through the NFRR

Page 21

~~“(e) Contribution to Social Fund. This contribution is due and determined in accordance with section 70 of the Electricity Act and related regulations.”~~

GRENELEC

This cannot be included in the regulations as Section 70 of the original act has been declared unconstitutional by the High Court.

Page 21-22:

“2.4 Calculation of Return on Investment: The return on investment shall be derived by multiplying the Network Licensee’s Rate Base by the Weighted Average Cost of Capital (WACC), as follows:

~~“(b) The Rate Base is the net investment made by the Network Licensee for the purpose of supplying electricity to its Consumers. the value of property on which a Network Licensee is permitted to earn a specified rate of return, in accordance with rules set in this regulation.”~~ In the rate-making process the Rate Base shall include appropriate ~~proforma~~ adjustments to take account of:

- i) Known and measurable changes in the plant investment base and shall be increased or reduced by any positive or negative working capital requirement that may exist at such time;
- ii) Accumulated deferred taxes;
- iii) The exclusion of non-utility related rate base items
- iv) Removing balances for rate base items that would be fully depreciated, amortized, retired or otherwise non-existent going forward
- v) Including balances for future rate base items, e.g. significant new investments that are not present in the test year.
- vi) Other adjustments approved by the Commission.

GRENELEC

Suggested reword as shown above in yellow highlights.

Page 22

“(d) The Weighted Average Cost of Capital (WACC) shall be based on the capital structure approved by the Commission and shall balance the interest of investors and consumers. The WACC shall be sufficient to enable the Network Licensee, under prudent management, to inspire confidence in the financial sustainability of the business and thereby be in a position to maintain its credit and attract additional ~~debt and equity~~ capital to the business.”

GRENELEC

The additional capital could be either debt or equity.

Page 22

“(e) The allowed Rate of Return on Equity (ROE) which is a component of the WACC shall be equal to the rate of Government’s most recent long-term bond issued by the Regional Government Securities Market (RGSM) plus five and a half percent points.”

GRENLEC

No Government of Grenada long-term bond exists. We are surprised that the Commission could promulgate a document for discussion and comment knowing that the basis for one of the most important and potentially divisive components of rate making is not available?

We believe that this is an inappropriate method of calculating ROE. Please see Annex A for a detailed explanation of our reasons and our suggested approach for calculating ROE.

Page 23:

“If it is deemed prudent, an assumed debt to equity ratio may be used to determine the applicable WACC. Such assumed debt to equity ratio shall conform to the customary practices of electricity utility operation recognizing the specific peculiarities of operating exclusively in Grenada.”

GRENLEC

What factors dictate when the network licensee’s actual D/E ratio will be used or ignored? If there is an “approved” range for the D/E ratio the PURC must state it. Using terms like “deemed prudent” takes away transparency and moves away from good regulatory practices. Is there an appeal process for when the PURC deems something prudent and the Licensee disagrees?

Part C: Depreciation on Rate Base

Page 23

“Depreciation on rate base. To calculate depreciation, the Commission shall apply the annual depreciation rates below to the gross value of the individual plant asset accounts [of the rate base].”

GRENLEC

In 2015 Grenlec did a Depreciation Study. The study determined the expected life for each classification of the company’s assets and fixed depreciation rates accordingly. We suggest that these rates be used. Further there are some categories of assets on the provided list that Grenlec does not have, and we have added six categories of assets and their depreciation rates which we would like added to this schedule.

Depreciation Rates Comparison

Capital Categories	PURC		GRENLEC	
	Rate Per Annum (%)	Useful Life	Rate Per Annum (%)	Useful Life
Building - Permanent	2	50	2.5	40
Building - Temporary	5	20	5	20
Fencing	5	20	10	10
Vehicles	15	7	14.3	7
Furniture & Office Equipment	20	5	12.5	8
Oil Storage Tanks, Pipelines & Equipment	3	33.5	10	10
Diesel Engines	4	25	4.2	24
Alternators, Switchboard, switchgear & transformers	4	25	4.2	24
Transmission & Distribution Lines	2.5	40	4.5	22
Meters	2.5	40	4.5	22
Instruments	5	20	NA	NA
Refridgeration plants	4	25	NA	NA
Land clearance equipment	10	10	NA	NA
Wooden Jetties	5	20	NA	NA
Motor Launches	5	20	NA	NA
Hydro-electric turbines & control gear	4	25	NA	NA
Bicycles	10	5	NA	NA
Dams, intake works and water conduits	2	50	NA	NA
Computer Equipment	-	-	15	6.67
Air Conditioning (AC) Units	-	-	20	5
Photovoltaic system (PV) Systems	-	-	4.2	24
Portable Generators	-	-	10	10
Tools & Test Equipment	-	-	10	10
Right-of-use Assets (Leases)	-	-	Based on lease term	

NA - Not Applicable

The items highlighted in yellow are no longer acquired by the Licensee for use in the production of electricity by the Licensee and should be removed from the schedule.

The items highlighted in green are new depreciation categories that are more relevant to the current business of the Licensee.

Part D: Consumer Service Classes

Page 24-25: “4.1 Consumer Service Classes shall include:

“(b) **Industrial Power** Service applicable to all electricity supplied to any premises on which there are installed, for the purpose of industry, electric motors having an aggregate maximum power output rating of not less than 4 kW or 4.5 kVA or 6 horsepower and not normally in use between the hours of 6:00 p.m. and 10 p.m. For the purpose of this paragraph, one horsepower shall be deemed to be equal to three quarters of one kilowatt.” rate will apply to customers engaged in the manufacturing of goods, or the processing and packaging of mineral and/or materials. The customer must maintain a minimum peak demand of 100kVA.

“(c) **Commercial Power Service** rate is applicable to all electricity supplied to any premises other than premises used exclusively for private residential purposes or to which the Industrial Power Service rate or Hotel Service rate is applicable.

GRENLEC Change made in wording to accommodate the Hotel Service rate

“(d) **Hotel Power Service:** rate is applicable to all electricity supplied to an establishment providing accommodation, meals, and other services for travelers and tourists. This type of service may be connected to either low tension or high tension circuits on the grid.”

GRENLEC Why is this necessary? It will require a cost of service study. Service to a hotel is no different to any other commercial establishment. If the intent is to have a reduced rate for hotels, which other customers class(es) will subsidize this reduction?

Additionally, a **very** clear definition of what constitutes a hotel is needed.

Part E: Retail Tariff Review Procedure

Page 25-26: “5.2. The First Periodic Tariff Review is subject to the following: “

“(c) inform the Commission of the **proposed** Effective Date of the new tariff.”

GRENELEC We suggest inserting the word “proposed”. The Licensee cannot decide the date of the rate change.

“5.2.4. The tariff application of the network licensee related to the First Periodic Tariff Review shall be submitted **on-by** the date specified by the Commission.”

GRENELEC Allows the network licensee to submit prior to the deadline.

Submitted Without Prejudice to the Reservations of Rights Herein

SCHEDULE 2

Part A: Annual Adjustment of Base Rate

Page 29: “1. **During On 1st July each year an annual adjustment of** the retail tariff, the average Non-fuel Base rate (CAP_n) shall be adjusted by the following formula:”

GRENLEC 1st July suggested as typically the Dept of Stats does not have CPI and RPI figures until March/April.

Page 30:“ **4. Reference Price Index (RPI):**

GRENLEC The Dept of Statistics presently lumps the cost of Housing, Water, Electricity, Gas and other Fuels together, hence the RPI calculation is affected by housing and water. Housing and water need to be separated from the Electricity, Gas and other Fuels to enable accurate calculation of the RPI. The alternative is to simply use CPI.

Page 30: “**5. Annual X-factor:** is based on the expected productivity gains of the licensed utility and shall be an offset to the change in price caused by inflation. The X-factor is to be set to equal the difference in the expected total factor productivity growth of the network licensee and the general total factor productivity growth of firms whose price index of outputs reflect the price escalation factor.”

GRENLEC It is critical to understand exactly how the X-factor will be determined. It is also implied that it will potentially change annually but Grenlec suggests that the X-factor only be reviewed and potentially changed at each periodic tariff review. Regardless, a much more detailed explanation is required on exactly how this is to be determined/calculated.

“**6. The Allowed Q-factor:** is to be based on the benchmark quality of service to Consumers and shall adjust the annual price escalation rate to capture changes in the quality of service. The Q-factor index shall be symmetrical adjustment to the price escalator based on the construct developed by the Commission.”

GRENLEC A formula showing how this proposed factor will be calculated is required before Grenlec can fully evaluate this aspect of the tariff formula.

Page 32: “9. “**Z-factor Materiality:** an exogenous factor shall be deemed to be sufficiently material to be treated as a Z-factor adjustment only if the annual incremental costs or savings to the Network Licensee that result therefrom amount to at least ~~2%~~ 0.5%, either individually or in the aggregate, of the network licensee’s annual non-fuel ~~rate revenue~~ for the given year.”

GRENLEC Suggest 0.5%. However, several occurrences could be summed to come to this figure
Suggest that the Z-factor be implemented, removed or adjusted, as appropriate, on July 1st of each year, based on any exogenous events during the prior year.

Part B: Initial Quality of Service Standards and Targets

Grenlec requests extensive discussions with the Commission on the appropriate setting of the Standards and Targets. Hence our responses to items in this section should be taken in that context.

Page 33: Standards and Targets for Service Interruption, Connections, and Reconnections and Initial Consumer Invoicing

General comments

1. Targets should specify % compliance

Page 34: “1.2 In this Regulation-”
GRENLEC SAIDI and SAIFI calculations must exclude events outside the control of Licensee including kite flying, some weather related outages, outages caused by third parties (Vehicular accidents, trees falling in lines due to felling by third parties, outages caused by IPPs and other like incidents), planned and advertised maintenance activities.

CAIDI is an unreliable metric to use as an evaluator as it depends on the ratio between the SAIDI and SAIFI. In some circumstances both the SAIDI and SAIFI can reduce but the CAIDI can increase if the SAIFI decreases more proportionally than the SAIDI.

“Connection of new residential and other simple installations” means ~~the maximum allowable~~ number of days required to connect a consumer after the consumer has submitted a complete application and ~~obtained~~ any necessary permits and ~~paid the required deposit and fees~~

“Simple installations” means installations that do not require complex connections, for example, those installations not requiring line extensions or construction.”

Page 35:

“Reconnection after ~~determination~~ of wrongful disconnection” means the ~~maximum allowable~~ average number of hours required to reconnect a consumer who, in the opinion of the Commission after review of any evidence submitted by the consumer and/or the Licensee, has been ~~determined to have been~~ wrongfully disconnected.”

“2.2 – In these Regulations:”

“Collection rate” means the percentage of revenue collected on a yearly basis, calculated as revenues collected from consumers divided by revenues billed to consumers;”

“Outstanding sales” means the maximum allowable average number of days outstanding for the Licensee’s collection of accounts receivable from consumers;”

GRENLEC

Why should these matter to a regulator, other than for review purposes? There should be no penalty/incentive associated with these metrics.

Page 36:

~~“System technical losses” means the maximum allowable percentage of electricity generated that is lost before reaching consumers.”~~

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Delete. Already defined on page 7.

SCHEDULE 3**Fuel and Renewable Charge Calculation**

Page 37

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) as set out in the following formula:

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

Where: n = current month, n-1 = previous month and n-2 = 2 months before n

GRENLEC

1.3 “The fuel charge (FC_n) for bills rendered during the current month-in any given month, n, is the rolling average of the adjusted fuel rate (FR) for the current month and the prior two three months, plus or minus the annual residual fuel rate (ARFR) as set out in the following formula:”

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

Where: n-1 = previous month, and n-2= 2 months before n, n-3= 3 months before n

GRENLEC

Note to PURC: The way the system works is this. Take any month, say the month of April. When bills are sent out in April (April’s bills) the company does not yet know the fuel consumption or costs for the month of April. It computes the fuel charge based on averaging the fuel costs of the prior three months.

Page 37-38:

“1.4 Fuel ~~cost Rate~~ net of efficiency ~~targets~~ for month n ~~by the fuel rate~~ is calculated in the following manner:”

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

Where:

“FR_n = Monthly ~~Adjusted Fuel Adjustment~~ 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 = Total cost of fuel in EC\$ used in the production of energy for the ~~period month.~~”

“E_n = The ~~total~~ kWh energy sales for the ~~month, billing period, net of renewable purchases.~~”

GRENLEC

Use “month” instead of “billing period”. A billing period for a customer, depending on the billing cycle may be the 15th of a month to the 15th of the next month. All the parameters above are calculated by calendar month, not billing period.

“H_T = The ~~system~~ Authorized Generation Electric System’s heat rate target in kJ/kWh determined by the ~~regulator~~ Commission”

“H_A = The actual ~~system~~ Authorized Generation Electric System’s heat rate in kJ/kWh derived from the production of energy during the ~~period month.~~”

GRENLEC

Not the “system” but the “Authorized Generation Electric System’s” average heat rate. Note that this would currently include SGU, Carriacou and PM.

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

GRENLEC

How exactly will the commission determine what is an acceptable/achievable target? To what extent will Grenlec be involved in the determination of such a target?

“ S_A = The actual 12-month rolling average system losses (expressed as a percentage of net generation) registered during the month billing period.”

GRENELEC

As the monthly system losses calculation can be significantly affected by the number of unread days in Grenlec’s billing cycle 19 (the cycle in which all large customers fall), Grenlec proposes that S_A be the 12-month rolling average in that month. It decreases price volatility.

Page 38:

“2. **Renewable Charge.** This is the network licensee’s actual monthly cost of renewable energy purchased from independent power producers and self-generators, in accordance with the terms of Power Purchase Agreements and Self-Generator Contracts, respectively, divided by the renewable kWh consumption by consumers the total kWh energy sales (E_n) during the given month.”

GRENELEC

We believe that there is an error in the proposed formula and if applied will result in the customer receiving a higher bill than is equitable. Our suggestion for the amended calculation is shown above.

ANNEX A**Calculation of Allowed Rate of Return on Equity (ROE)**

In order to present a response to the Commission’s proposed method of using the Long-Term Bond Rate (LTBR) plus a risk premium to calculate the allowed Rate of Return on Equity, Grenlec has solicited the input of Dr. Scott Miller and Dr. Kevin Lee, both of whom are Professors of Finance at the University of Tampa. The following text is an extract from a short paper these gentlemen co-authored to address this topic.

The use of (LTBR) plus a risk premium to calculate the allowed Rate of Return on Equity has two fundamental flaws. First, the premium of 5½% suggested by the PURC is arbitrary and does not reflect the risk difference between sovereign debt and those risks faced by Grenada Electricity Services, Ltd.

Second, and more importantly, the LTBR cannot be used as a reference rate because it does not exist in a pure and accurate form. Grenada has no long-term sovereign debt that has not been defaulted on or restructured. The last instance of Grenada long term sovereign debt was defaulted on in 2013. The Commission suggests to instead use the most recent bond issued by the Regional Government Securities Market (RGSM). The problem is that each Caribbean nation has a different status of credit worthiness. Therefore, depending on which country issues the most recent sovereign debt, the reference point would fluctuate greatly with little or no relationship to the specific economic conditions in Grenada. Since Grenada Electricity Services, Ltd only operates in Grenada, the use of any RGSM issued sovereign debt, other than Grenada itself, would be highly inaccurate. In addition, there have been numerous defaults and debt restructurings that have occurred in the region. This includes Grenada in 2004, 2012, and 2013.

In 2018, Barbados was the only nation to default on its sovereign debt. During that year, there was continued improvement in the sovereign debt ratings globally and yet the only default occurred in the Caribbean region.¹ Overall, between 1999 – 2018, there were 33 sovereign debt defaults globally by 20 nations. 10 of these 33 defaults were by 5 nations in the Caribbean region.²

The uncertainty of LTBR makes this proposed arrangement impractical. Until Grenada shows a sustained track record of issuing and properly servicing long term sovereign debt, it unreasonable to use LTBR as a reference rate to set a limit on ROE. If, however, the PURC insists on using this approach, we should model a hypothetical rate for Grenada’s sovereign debt in lieu of an actual rate that does not exist. We can do this in two credible ways.

- 1) Grenada is one of only three countries to have defaulted three times on its sovereign debt.³ This indicates a debt rating of D based on Standard and Poor’s (S&P) methodology. In fact,

¹ www.spratings.com/documents/20184/774196/2018AnnualSovereignDefaultAndRatingTransitionStudy.pdf

² See Appendix for list of defaults.

³ Dec 30, 2004, Oct 16, 2012, and Mar 12, 2013.

the rating of Grenada was withdrawn all together in 2014 by S&P due to its record of recurring defaults. As of January of 2020⁴, this indicates a default spread of 15.12% (shown in the table below). The default spread is the difference between the yield to maturity of long term sovereign debt and the risk free rate. The most commonly used proxy for the risk free rate is US Treasuries. The 30-year US Treasury Bond rate was 1.99% as of January 31, 2020.⁵

Rating	Default Spread
<i>Aaa/AAA</i>	0.63%
<i>Aa2/AA</i>	0.78%
<i>A1/A+</i>	0.98%
<i>A2/A</i>	1.08%
<i>A3/A-</i>	1.22%
<i>Baa2/BBB</i>	1.56
<i>Ba1/BB+</i>	2.00%
<i>Ba2/BB</i>	2.40%
<i>B1/B+</i>	3.51%
<i>B2/B</i>	4.21%
<i>B3/B-</i>	5.15%
<i>Caa/CCC</i>	8.20%
<i>Ca2/CC</i>	8.64%
<i>C2/C</i>	11.34%
<i>D2/D</i>	15.12%

This would indicate an LTBR of 17.11%. This is calculated as the default spread of a D rated bond (15.12%) + the Risk Free Rate (1.99%). This model would denote an ROE of 22.61% (LTBR+5.5%) using the proposed formula.

- 2) If we ignore the fact that Grenada defaulted on its last sovereign debt issue in 2013 a second approach would be to forecast the likely debt rating or spread of a hypothetical future debt issuance by Grenada. Since S&P Global Ratings began rating sovereigns, 20 sovereigns have defaulted, with seven defaulting twice and three defaulting three times. That is a total of 33 defaults by 20 different sovereigns, half of which are Caribbean nations. The average rating upon new issuance after default was CCC.⁶ This was also the rating for Grenada after its second default of October 2012. However, the rating dropped to D by March of

⁴ Damodaran, Aswath, <http://pages.stern.nyu.edu/~adamodar/> NYU Stern School of Business, January 2020.

⁵ United States Department of Treasury, <https://home.treasury.gov/>

⁶ www.spratings.com/documents/20184/774196/2018AnnualSovereignDefaultAndRatingTransitionStudy.pdf

2013 as Grenada defaulted once again. Even if we use CCC as a possible future rate, S&P indicates that the default probability of a CCC rated sovereign debt within 10 years is 92.6%. Therefore, even if we use what is the most likely the highest possible S&P rating for new issuance of sovereign debt, we are looking at the lowest LTBR of 10.19% (calculated as the CCC spread of 8.2% + Risk Free Rate of 1.99%) and a limit of ROE of 15.69% (LTBR + 5.5%).

These two methods indicate a range for ROE of 15.69% to 22.61%. This ROE value would have to be adjusted to calculate COE as indicated above. The range for ROE is quite large and there are no assurances that the actual LTBR would be stable in the future. Therefore, we believe using LTBR as a reference rate plus an arbitrary risk premium is unwise and creates unnecessary ambiguity. Until a time comes where there is stable long term sovereign debt that is successfully serviced by Grenada, we believe using LTBR as a reference rate is inappropriate. This may be an area we can revisit once LTBR becomes more certain and stable with a sustained record of success.

In the meantime, we would suggest using multiple approaches to calculate COE, and in turn the WACC, for Grenada Electricity Services, Ltd. Using the Capital Asset Pricing Model (CAPM)⁷ and the dividend discount model to calculate the COE would provide a more robust and fundamentally sound approach in calculating COE, WACC, Return on Investment (ROI), and ultimately Non-Fuel Revenue Requirements (NFRR). This approach would better enable Grenada Electricity Services, Ltd “the opportunity to earn a return sufficient to provide for the requirements of consumers and acquire new investments at competitive costs.” – Schedule 2.3(f) on page 21 of the PURC Draft Regulations on Tariff Setting methodology.

In summary, the proposed approach to determine pricing the cost of equity for Grenada Electricity Services, Ltd. Is not accurate or fair in its current form. The methodology does not accurately value the equity as it utilizes a reference rate that has no sound basis and does not adequately consider the default record or current absence of long-term sovereign debt offerings. For those reasons, we recommend an alternative approach as described above.

⁷Lintner, J. (1965). The Valuation of risk assets and the selection of risky investments in stock portfolios and capital budgets. *The Review of Economics and Statistic*, 47(1)

Sharpe, W. F. (1964). Capital asset prices: A theory of market equilibrium under conditions of risk. *Journal of Finance*, 19(3), 425–442.

Appendix A: Sovereign Debt Defaults

Nations	Default Date	Two Defaults		Three Defaults	
Russia	27-Jan-99	Argentina	6-Nov-01	Belize	7-Dec-06
Pakistan	29-Jan-99	Argentina	30-Jul-14	Belize	21-Aug-12
Indonesia	29-Mar-99	Congo-Brazzaville	2-Aug-16	Belize	17-Mar-17
Indonesia	17-Apr-00	Congo-Brazzaville	1-Aug-17	Grenada	30-Dec-04
Argentina	6-Nov-01	El Salvador	20-Apr-17	Grenada	8-Oct-12
Indonesia	22-Apr-02	El Salvador	2-Oct-17	Grenada	12-Mar-13
Paraguay	13-Feb-03	Greece	27-Feb-12	Indonesia	29-Mar-99
Uruguay	16-May-03	Greece	5-Dec-12	Indonesia	17-Apr-00
Grenada	30-Dec-04	Jamaica	14-Jan-10	Indonesia	22-Apr-02
Venezuela	18-Jan-05	Jamaica	12-Feb-13		
Dominican Republic	1-Feb-05	Mozambique	1-Apr-16		
Belize	7-Dec-06	Mozambique	18-Jan-17		
Seychelles	7-Aug-08	Venezuela	18-Jan-05		
Ecuador	15-Dec-08	Venezuela	13-Nov-17		
Jamaica	14-Jan-10				
Greece	27-Feb-12				
Belize	21-Aug-12				
Grenada	8-Oct-12				
Greece	5-Dec-12				
Jamaica	12-Feb-13				
Grenada	12-Mar-13				
Cyprus	28-Jun-13				
Argentina	30-Jul-14				
Ukraine	25-Sep-15				
Mozambique	1-Apr-16				
Congo-Brazzaville	2-Aug-16				
Mozambique	18-Jan-17				
Belize	17-Mar-17				
El Salvador	20-Apr-17				
Congo-Brazzaville	1-Aug-17				
El Salvador	2-Oct-17				
Venezuela	13-Nov-17				
Barbados	6-Jun-18				

Of the 33 sovereign debt defaults, 10 were by Caribbean nations (highlighted and in bold). Of the 10 nations that defaulted multiple times, 3 were Caribbean nations. Of the 3 nations that defaulted three times, 2 were Caribbean nations. Grenada is one of the nations that has defaulted three times.

Biographies:

Scott Miller, Ph.D.

Scott Miller is an Associate Professor of Finance at the University of Tampa. He received his Ph.D. in Finance from the University of Arkansas and MBA from Drake University. Dr. Miller's research has been published in nearly 20 peer-reviewed outlets including the *Journal of International Money and Finance*, *Journal of Financial Stability*, *Journal of Economics and Finance* and the *Journal of Economics and Business*. He has presented his work at the San Francisco Federal Reserve and various conferences including the *Financial Management Association (FMA)*, *Midwest Finance Association (MFA)*, *Southern Finance Association (SFA)* and the *Southwest Finance Association (SWFA)*. He has been awarded the Best Paper and Outstanding Research Award by the *Academy of Economics and Finance (AEF)* and the *Institute for Business and Finance Research (IBFR)*. Prior to his position at the University of Tampa, Dr. Miller was the John and Francis Duggan Professor of Finance at Pepperdine University and a Visiting Professor at the University of California Los Angeles (UCLA).

Kevin Lee, Ph.D.

Kevin Lee is an Assistant Professor of Finance at the University of Tampa. He received his Ph.D. in Finance from the University of Arkansas and MBA from the University of Hawaii-Manoa with an emphasis in International Business. Dr. Lee's research focuses on cross-border mergers and acquisitions as well as banking and microfinance. His recent publications include *Corporate Governance: An International Review*, *Banking and Finance Review*, *International Journal of Banking, Accounting and Finance*, *Cross Cultural & Strategic Management Journal* and the *North American Journal of Economics and Finance*. Dr. Lee has presented his work at the *Academy of Management (AOM)*, *Academy of International Business (AIB)*, *Financial Management Association (FMA)*, *Midwest Finance Association (MFA)*, *Southern Finance Association (SFA)* and *Southwest Finance Association (SWFA)* conferences. Dr. Lee has several years of experience teaching in international business and finance courses at both the graduate and undergraduate level at the University of Arkansas, California State University Fresno, Pepperdine University and Texas A&M University – Central Texas.