Grenlec Comments

On

Draft Sector Grid Code – Transmission and Distribution Code

March 13th, 2020

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

TDC 1 – TRANSMISSION AND DISTRIBUTION PLANNING

Page 11 **TDC 3.4 – Transmission and Distribution System Security Standards**

"In all planning, the Network Licensee shall use a N-1 security criterion as general planning guidance and the overall network should be designed to ensure N-1 security as assessed on an annual basis, unless the Commission establishes an alternative standard."

GRENLEC Presently most of the system has an N-1 security. To make the entire system have this feature could require investment that may not be practical.

Page 11 **TDC 3.4.1 – Normal Conditions**

The Network Licensee shall plan, design and operate the Transmission and Distribution System such that under normal steady state conditions, prior to any fault, there shall not be:

"(ii.) Voltages above 4% or lower than 8% of nominal values as measured at the Consumer's Service Point of Supply Delivery;

"(iii.) Voltages above 4% or lower than 8%[1] of nominal values on Generator buses; or

GRENLEC: Throughout the Generation Grid Code and the Transmission Grid Code several voltage ranges are mentioned. A discussion needs to be held between PURC and the licensee as to what the range should be.

Voltage ranges for the safe operation of equipment is something that came about by studies that determined the voltage range within which equipment will operate without mal-operation or failure. The +4% -8% was been in place for a long time and has worked quite well. Manufacturers design equipment with this knowledge. Grenlec has seen no sound basis supporting the +3% to -3% range that Grenada has adopted in the Act. There has been no reference provided to any engineering studies, nor any review of international practices, or any consideration given to the additional capital cost

that the customers will have to pay for to achieve this tolerance level. Grenlec is asking that this be reconsidered and that some internationally recognized standard be adopted (e.g. British Standards or European Standards). Furthermore, Section 34 of the Act states that the technical standards governing installation operation, maintenance, safety and performance should be given in the regulations. As such Schedule 2 (4) and (5) needs to be deleted from the Act and placed in the regulations.
This helps because it allows the PURC to more easily change these technical standards as technology and practices change by changing the regulations rather than having to change the Act.

TDC 3.11 – SYSTEM PLANNING PROCESS

Page 14 **TDC 3.11.1 – General Obligations of System Users in System Planning Process (TDC 3.11.1.3)(v)**

"**TDC 3.11.1.3** - When requested, System Users shall submit to the Network Licensee the relevant historical planning data for the previous year and/or the forecast planning data for the succeeding years, including updated Standard Planning Data and the Detailed Planning Data described in TDC 3.18 "Data Requirements"."

"(v) If an Interconnection applicant fails to submit the required data, the Network Licensee may find the application to be incomplete and not ready for processing. If an existing System User fails to submit the required data, the Network Licensee shall use its best judgment to estimate the data, providing notice of the estimate used to the non-compliant System User. ~~In the event of a disagreement arises under this section, the Parties shall follow the IC 12, "Dispute Resolution" provisions.~~ The best judgement estimate will be considered valid until the existing System User submits the required data in the correct format."

GRENLEC Suggested wording change which seeks to ensure System Users comply with the regulations.

TD 3.18 – DATA REQUIREMENTS

Page 18 **3.18.2 – Demand**

"In order to carry out load flow studies, substation loads can be represented by their constant real (MW) and reactive (~~MVAR~~) (MVAr) power requirements. However, voltage and transient stability studies require complex models for substation loads. In the absence of these complex models the Network Licensee shall continue to use the constant power model for its transient and voltage stability studies."

GRENLEC The proper terminology is MVAr.

TDC 5.3 – METHOD OF INTERCONNECTION

Page 21 The Code Interconnection requirements shall be read in conjunction with any existing Interconnection Agreement and/or PPA, as well as any applicable regulations or Commission-approved Interconnection Code of Practice. In the event that there is any conflict between the provisions of the Code, Code of Practice or other regulations and any Interconnection Agreement and/or PPA, and the said Interconnection Agreement and/or PPA was signed before those regulatory provisions came into effect, then the provisions of the Interconnection Agreement and/or PPA shall control, subject to the Transitional Provisions of the Introduction Code. The System User party to the Interconnection Agreement and/or PPA who is not able to bring their Apparatus and Interconnections into compliance with the Codes during the term of the Transition Period described in IC 12.3 "Transitional Provisions" shall submit a derogation request for relief under IC ~~12.2.3(b)~~ 12.3.2 (b) prior to the end of the Transition Period.

GRENLEC: References corrected.

Page 22-23 **TDC 5.3.3 – System Analysis Studies Required prior to Interconnection**

"The Network Licensee shall assure the necessary studies are completed prior to the System User's interconnection to the Transmission or Distribution System to determine the optimum interconnection method, including, but not limited to, the works required to facilitate an interconnection and to the number of Interconnection Points. The necessary studies include those outlined in the TDC 3, "Transmission and Distribution Planning" provisions concerning System Analysis Studies (including Distribution System Impact Studies, Distribution Facilities Detailed Study, Generation Interconnection Feasibility and Generation Interconnection Facilities). The study results shall guide the Network Licensee's determination of any conditions needed to ensure that any new interconnection will not impair the Network Licensee's ability to provide a Supply within the statutory parameters to both new and existing System Users. Consistent with TDC 5.1.3, "Interconnection ~~Cost Responsibilities~~, Agreement/PPA" the System User shall generally be wholly responsible for the cost of the studies, except as otherwise provided by the Interconnection Agreement or PPA, or cited Code provisions."

GRENLEC Nomenclature of a section must be consistent with its numbering.

<u>TDC 5.3.5 – SUPPLY INERCONNECTIONS AT LOW VOLTAGE</u>

Page 24 **"TDC 5.3.5.2 -** The System User interconnected at low voltage shall provide, at a minimum, the information to the Network Licensee required by the SC 2.2.3 "Customer Obligations Regarding Connections ~~Consumer Obligations~~" and SC 3 "New and Modified Connections," including, but not limited to:"

GRENLEC Nomenclature of the sections must be consistent with their numbering.

Page 25 **"TDC 5.3.5.8** - The Metering Point location for Generators shall be determined consistent with the provisions of GC 3, "Generator Operational Metering." The meters shall be housed in metering facilities provided by the Generator."

GRENLEC Nomenclature of a section must be consistent with its numbering.

Page 28 **"TDC 5.3.10** - SCOPE OF CODE OF PRACTICE FOR INTERCONNECTION METHOD

"(iii.) Self-Generators who have received a permit under Section 25 of the Act (excluding Small Renewable Energy Self-Generators subject to GC 2.10.~~2~~ 4 "Requirements for Small Renewable Energy Self-Generators With Permits;" and

GRENLEC The reference in TDC 5.3.10 (iii) is incorrect. It should be GC 2.10.4.

TDC 7.4 – INERCONNECTION POINTS TO TRANSMISSION AND DISTRIBUTION SYSTEM OR TO LARGE SYSTEM USERS

Page 33 **"TDC 7.4.6 – Under Frequency Relays**

"As required under the GC Appendix C, tables on "Grenada Transmission and Distribution System Low Voltage/High Voltage and Low Frequency/High Frequency Ride-Through," Generating Facilities are required to disconnect from the Grid if the frequency is outside established ranges. Consistent with the GC 7, "Load Shedding and System Restoration," the Network Licensee shall submit a summary of the technical requirements for System User disconnection in the event of Under Frequency conditions and submit same to the Commission for approval. The table may be included in the technical requirements of the Interconnections Code of Practice."

GRENLEC Inserting correct name for the table in Appendix C.

TDC 8 – GENERATION FACILITY SITE RELATED CONDITIONS

Page 34 **"TDC 8.1 – General (iii)**

"The owner of any Generating Facility and/or Apparatus, including Small Renewable Energy Self-Generators, has the responsibility for the construction, commissioning, control, operation, and maintenance of the Generating Facility and/or Apparatus, unless there is a written agreement of the Network Licensee and System User providing for an alternative arrangement."

> **"(iii)** In case of any Low Voltage Interconnection for Supply of any System User that qualifies as a Complex Connection under the SC 3, "New and Modified Connections," and the Code of Practice for Connections approved by the Commission under SC 3.1.2.2 (f), or for any Medium or High Voltage Interconnection System Users, the Network Licensee shall provide suitable meters including Current Transformers (CTs) and Potential Transformers (PTs), Circuit Breaker or air break switch (isolator), or high voltage fuse, or other suitable device. The System User should provide unobstructed access to the Network Licensee at all times to the Network Licensee meters and other Apparatus. The System User also shall provide similar control devices on the System User side of the Interconnection Point."

GRENLEC Correction of wrong reference.

Page 35 **TDC 8.2 – Responsibilities for Safety**

"Before interconnection to the Transmission and Distribution System at the Medium Voltage ~~of~~ or High Voltage level, the Network Licensee and the System User shall enter into a written agreement describing the safety rules, as set forth in the Network Licensee's Health and Safety Manual, to be used for work on Plant and/or Apparatus at the Interconnection Point."

GRENLEC Change "of" to "or"

Page 37 **TDC 8.8 – Access (iii), (iv)**

"(iii) For any other low voltage, and for all medium and high voltage interconnections, the Interconnection Agreement and/or PPA shall provide for Network Licensee access to the Customer premises for the purposes stated in subparagraph ~~1~~ (i)(a)-(c) above."

"(iv) A Network Licensee, or its authorized agent, may also access Interconnection Site Premises either pursuant to a judicial order or after giving reasonable notice of twenty-four hours in writing to the owner or occupier of the Interconnection Site for the purposes stated in subparagraph ~~1~~ (i)(a)-(c) above. When the Network Licensee is not able to contact the owner or occupier at the address of record, the Network Licensee may post a notice at the Interconnection Site in a conspicuous position concerning its intent to enter the premises.

GRENLEC Correction of reference.

Page 41 **TDC 10.3 Operational Liaison**

"(v.) All other interconnected System Users shall comply with TDC 10.6~~.1~~, "Maintenance Coordination/Outage Planning" and submit the required scheduling information to Network Licensee."

GRENLEC: The reference is to the entire section TDC1 10.6 not just TDC 10.6.1

10.6 – MAINTENANCE COORDINATION/OUTAGE PLANNING

Page 43 **TDC 10.6.1 – Responsibilities of the Network Licensee (v)**

> **"(v)** The Network Licensee and the Generators with Generating Facility with a rated capacity greater than 500kW shall meet to revise, discuss and produce a coordinated outage plan consistent with the information and plans developed under GC 8.1, "~~Generation Maintenance~~ ~~Plans~~ /Long Term Maintenance."

GRENLEC Correcting nomenclature of the section referred to.

Page 43 **TDC 10.6.2 – Outage Process (iii)**

> **"(iii)** It is anticipated that any requests for outage changes will be processed according to the advance notice deadlines set forth in the Generation Maintenance Planning process of GC 8, "Generator Maintenance Planning," and the related Transmission and Distribution System outage planning process of Section 10.6.1, "Maintenance Coordination/Outage Planning." However, in extraordinary circumstances requiring action in less ~~than~~ time than required by these provisions, as soon as a System User first identifies the need for the outage change, it shall immediately notify the Network Licensee. The Network Licensee shall then enter the System User request into the Transmission and Distribution maintenance scheduling system as an extraordinary circumstance requested outage with the planned outage dates, times, reason, type of maintenance and requested urgency provided by the System User."

GRENLEC Filling in missing words.

TDC 12.3 – OPERATION DURING ABNORMAL CONDITIONS

Page 49 **"(i)** Normal operating conditions shall be defined as an operating condition where the system frequency, voltage, transmission line and equipment loading are within the range of normal operating conditions described in the GC Appendix C, "Low Voltage/ High Voltage and Low Frequency/High Frequency Ride-Through" table of voltage and frequency levels, and in the Interconnection Agreements and/or PPA applicable to specific Generators and System Users. The Network Licensee shall not be considered responsible for any component on the affected part of the Transmission and Distribution System being out of service due to Force Majeure conditions, due to an unplanned, unscheduled, or unauthorized Generator outages."

GRENLEC Appendix C is named Low Voltage/High Voltage and Low Frequency/ High Frequency Ride-Through.

TDC 16.3 – AUTHORIZATION AND TEST PROCEDURES

Page 53 "Generators shall provide notice and obtain approval from Network Licensee for all testing consistent with the requirements of GC 9, "Testing and Monitoring Procedures" prior to conducting an operational Test or Site Investigation, or other test. Consumers shall provide notice to Network Licensee and follow the procedures for meter testing set forth in SC ~~13~~ 8.2, "Code of Practice for Metering."

GRENLEC Wrong reference quoted.

TDC 17.3 – METERING REQUIREMENTS - GENERATORS

Page 58 **"**All Generators, except a Self-Generator who is not interconnected to the Grid and who is exempt from licensing or permit requirements under Section 13 of the Act, shall be controlled by the Metering requirements of the Generation Code Section 3, "Generation Operational Metering."

"The metering requirements for other Large System Users are outlined in TDC 17.6, "Metering Requirements - Large System Users."

GRENLEC Retaining the nomenclature for the numbered sections.