Tuesday, July 16, 2024

Draft Small-scale Renewable Energy Regulation

Federation of St. Kitts and Nevis

Energy Unit

Send Feedback to :

Email: energyunit@gov.kn

Read More: https://energyunit.gov.kn

PREAMBLE

In accordance with the Saint Christopher (Electricity Supply) Act, 2011, Saint Christopher Electricity Supply Act St. Christopher (Amendment) Bill, 2015, Nevis Electricity Ordinance 2009, and in support of the Energy Policy, and after consultation with stakeholders the Ministry of Public Infrastructure, Energy and Utilities, and Domestic Transport issues the following regulations on distributed renewable energy in St. Kitts and Nevis.

Section 1: Definitions

1.1 The following terms in these regulations shall have the meanings provided below:

(i) "Avoided fuel cost" means the cost of the fuel that the utility saves ($/kWh) by generating electricity through distributed generation instead of traditional means.

(ii) "Carbon credits" means tradable certificates representing the reduction of greenhouse gas emissions, which can be earned by generating energy from renewable sources.

(iii) "Commission" means the regulatory body established according to Section .....

(iv) "Distributed renewable energy" means renewable energy systems that are located close to where the energy is used

(v) "Feed-in Tariff (FIT)" means a payment issued to owners of distributed generation systems by the utility in exchange for the energy they feed into the grid. Under this arrangement, the renewable energy generator is required to supply all of the energy produced to the grid.

(vi) "Grid" means the electricity distribution system connected to the Point of Delivery and owned and controlled by the utility.

(vii) "Grid access" means the ability of renewable energy generators to connect to the existing electricity grid to feed in the electricity they produce.

(viii) "kWh" means kilowatt-hours, which is the unit of energy used by the utility for tariffs and billing.

(ix) "Ministry" means the Ministry with responsibility for energy.

(x) "Must buy" means a requirement for the utility to purchase all energy supplied by renewable energy projects within specified capacity limits.

(xi) "Net billing" means a an arrangement where payment is issued to owners of distributed
(xii) generation systems by the utility in exchange for the energy they feed into the grid. Under this arrangement, the renewable energy generator first meet their energy need and only supply excess energy to the grid.

(xiii) "off-grid" means not connected to the grid.

(xiv) "Point of Delivery" means the point at which the distributed renewable energy generator is connected to the grid.

(xv) "Renewable Energy" means energy derived from natural sources that can be replenished, such as sunlight and wind, which are sustainable and have lower environmental impacts compared to fossil fuels.

(xvi) "Retail price" means the price at which the utility sells electricity to consumers.

Small-scale means the size of the renewable energy generator does not exceed the individual installation size in Section 2.3.

(xvii) "Stakeholder" means individuals, institutions or groups who have an interest or concern in the utility's operations, such as renewable energy owners, utilities, and consumers.

(xviii) "Utility" means the St. Kitts Electricity Company Ltd (SKELEC) and/or the Nevis Electricity Company Limited (NEVLEC)

Section 2: Purpose

These regulations provide guidelines, procedures, and specifications for the connection of distributed renewable energy to the utility grid and to establish a feed-in tariff regime in St. Kitts and Nevis.

Section 3: Scope

3.1 This regulatory framework is applicable to small, distributed generation systems meeting the following characteristics:

3.2 Technologies: Wind, solar PV, a combination of both, or any other other renewable energy source approved by the commissioner.

3.3 Size limit: A total of 5 MW, with each individual installation up to 150 KW. New systems and generators above this capacity are subject to different rules and procedures that are outside the scope of these regulations.

3.4 Existing installations that exceed the size limit up to 400 KW will be accepted.

3.5 These regulations do not apply to off-grid (stand-alone) renewable systems that are not connected to the grid.

3.6 Ownership

2.6.1 Applicants must have an existing residential, commercial, or industrial account with the utility and must be up to date with their payment.

3.6.2 All persons or institutions with the relevant ownership or approval documents will be eligible

3.7 Voltage: The voltage of the installation must be that which is supplied to the consumer by the utility, which will be in the 600 volts class.

Section 4: Objectives

4.1 The objectives of these regulations are to:

(1) To support the Government's energy policy of developing a sustainable energy sector where reliable, renewable, clean, and affordable energy services are provided to all of its citizens.

(2) Diversify the energy mix and reduce dependence on fossil fuel.

(3) Contribute to the achievement of national and international climate targets.

(4) Establish a guaranteed price for energy generated by distributed renewable energy sources for a fixed period.

(5) Provide access to the grid and an obligation to purchase energy generated.

(6) Ensure a transparent, inclusive, coherent, and informed process with respect to the integration of distributed renewable energy into the grid.

(7) Ensure that the safety of the public, utility employees, and equipment shall in no way be reduced or impaired because of the interconnection of renewable energy into the grid.

(8) Establish the roles and responsibilities of the relevant stakeholders, including government, commissioner, the utility, the small-scale renewable energy generator owners, and the consumers.

(9) Define the technical, legal, and financial requirements and procedures for the application, installation, operation, maintenance, and decommissioning of small-scale renewable energy generators.

(10) Encourage innovation, competition, and efficiency in the small-scale distributed renewable energy market.

Provide mechanisms for the monitoring, evaluation, and revision of this document, as needed.

Section 5: Contractual Issues

5.1 The renewable energy project shall sell all the energy that it produces to the utility. None of the energy produced should be consumed onsite.

5.2 The utility shall treat as ‘must buy’ all energy supplied by such renewable energy projects within the capacity limits defined in this regulation.

5.3 The rights to the carbon credits and other environmental attributes associated with the renewable energy generator will be owned by the Government of St. Kitts and Nevis or the utility.

5.4 The owner will be responsible for any upgrade that are required at the property entrance.

Section 6: Application and Grid connection Procedure

This section outlines the steps and requirements for applying and connecting a small-scale distributed renewable energy facility to the grid. Facilities that exceed the size limit specified in Section 2.3 are not covered by this regulation and will be subject to a separate procedure.

The application and grid connection process consists of the following stages:

6.1 Stage 1: Feasibility assessment

6.1.1 The customer should fill a feasibility application form requesting a small-scale renewable energy generation license and submit it to the Ministry and the utility. The form will provide basic information about the proposed facility, such as location, capacity, technology, and estimated annual generation.

6.1.2 The application form will be made available on the Ministry's website.

6.1.3 If the application form is returned to the customer for changes or additional information, the notification period starts again when the application is re-submitted.

6.1.4 The Ministry of Energy and the utility will review the form and conducts a preliminary technical assessment to determine the availability of grid capacity and the potential impact of the facility on the grid.

6.1.5 The utility also provides an indicative estimate of the connection cost.

6.1.6 The Ministry and the utility will respond to the applicant within fifteen (15) working days.

6.1.7 If the application is successful, the Ministry will issue a permit.

6.2 Stage 2: Application and approval.

6.2.1 If the applicant decides to proceed with the project based on the feasibility assessment, they submit an application form to the utility, along with the required documentation, such as, proof of ownership or lease of the property, site plan, system design and relevant drawings, equipment specifications, installation contractor details, proof of payment of an application fee.

6.2.2 The application form will be made available on the Ministry's website.

6.2.3 The utility shall reviews the application and conducts a detailed technical assessment to determine the feasibility and suitability of the DRE facility for grid connection.

6.2.4 If the application form is returned to the customer for changes or additional information, the notification period starts again when the application is re-submitted.

The utility also prepares a connection agreement that specifies the terms and conditions of the grid connection, including the connection point, metering arrangement, technical standards, liability, and dispute resolution.

6.2.5 The utility responds to the applicant within 20 working days of receiving the application form and issues an approval letter and a connection agreement if the application meets all the requirements.

6.3 Stage 3: Installation and inspection

6.3.1 If approved, the applicant installs the facility according to the approved system design and in compliance with all applicable codes and standards.

6.3.2 The applicant then notifies the utility that the installation is complete and requests an inspection.

6.3.3 The utility inspects the facility within 10 working days of receiving the inspection request and verifies that it conforms to the connection agreement and meets all safety and technical requirements.

6.3.4 The utility issues an inspection certificate if the inspection is satisfactory or a list of deficiencies if corrections are needed.

6.4 Stage 4: Commissioning and operation

6.4.1 After receiving the inspection certificate, the applicant signs the connection agreement and pays any outstanding connection fees.

6.4.2 The utility then commissions the facility and installs meters that can measure both electricity consumption and generation.

6.4.3 The facility is then allowed to operate and export electricity to the grid under the feed-in-tariff regime.

6.4.4 The utility monitors and records the meter readings and issues monthly bills that reflect both electricity charges and the feed-in-tariff credits.

Section 7: Application and Inspection Fees

7.1 Applicants for small-scale distributed renewable energy systems shall be required to pay an application fee.

7.2 The application fee shall be payable to the Accountant General.

7.3 The purpose of the application fee is to cover the costs associated with the processing of the application, conducting inspections, and obtaining permits or licenses.

7.4 Applicants for small-scale distributed renewable energy systems shall be required to pay an inspection fee.

7.5 The inspection fee shall be payable to the utility.

Section 8: Necessary Documentation

8.1 Proof of Ownership: The applicant must provide documentation proving ownership of the property where the distributed generation project will be located or permission from the owner to install the renewable energy generator.

8.2 Application Form: The applicant must complete an application form with all the required information. The form must be signed by a qualified electrician.

8.3 Electrical Single Line Diagram: An electrical single line diagram illustrating the electrical connections and components of the distributed generation system must be included.

8.4 Technical Specifications: The applicant must provide technical specifications for the equipment to be used in the project, such as solar panels, wind turbines, and inverters. These specifications should include details on capacity, efficiency, and compliance with relevant standards or certifications. The applicant must clearly indicate, by circling or highlighting, any references to the standards outlined under Section 9 of these regulations.

8.5 Proof of Insurance Coverage: The applicant must provide proof of insurance coverage for the project, including liability insurance and coverage for any potential damage or accidents.

Section 9: Interconnection Standards and Technical Specifications

9.1 All distributed renewable energy systems must be inspected and approved by the utility before being connected to the grid. The utility will verify that the system meets the interconnection standards and technical specifications, and that the metering and billing arrangements are in accordance with the feed-in-tariff contract.

9.2 All consumers who install and operate distributed renewable energy systems must be informed of their rights and obligations under the agreement, as well as the applicable laws and regulations governing distributed renewable energy in St. Kitts and Nevis. The Ministry of Energy, in collaboration with the utility and other stakeholders, will develop and disseminate information materials and guidelines for consumers on distributed renewable energy.

9.3 The installation shall comply with the most recent version of the following electrical codes, including grounding requirements and protection systems:

(i) US National Fire Protection Association (NFPA) National Electric Code (NEC)

(ii) The British Institution of Electrical Engineering and Technology (IET) IEE Wiring Regulations

(iii) IEEE 1547-2018

9.4 The power quality of distributed generators, including harmonics and other related issues, shall comply with IEEE 519.

9.5 Inverter Compliance: Inverters must comply with UL 1741-SB.

9.6 Solar Panel Certification: UL 1703, IEC 61215, IEC 61215, IEC 61646, IEC 61701, and IEC 61853-1.

9.7 Wind Turbine Certification: Wind turbines must comply with IEC 61400-1, IEC 61400-2, and IEC 61400-14.

9.8 A manual disconnect switch to disconnect the renewable energy generator from the utility supply must be mounted adjacent to, but separate from the utility meter.

9.9 The manual disconnect switch must be capable of being locked in an open position with a padlock.

9.10 Renewable energy generators with capacities 30 KW or greater must be 3-phase.

Section 10: Metering and Billing

10.1 Owners of the distributed generation systems will be compensated for energy fed into the grid. The utility will provide meters to facilitate this.

10.2 The utility shall reflect this compensation in its monthly bill by subtracting the cost from the owners' bill or by other arrangement that the utility makes with individual owners.

10.3 Distributed generation systems operating under a net billing regime shall utilize a bidirectional meter, supplied by the utility.

10.4 Distributed generation systems operating under feed-in-tariff regime shall utilize two (2) meters, supplied by the utility.

10.5 The connection for the metering for Feed-in-tariff must be done in accordance to Diagram A of Appendix 1.

10.6 The connection for the metering for net billing must be made in accordance to Diagram B of Appendix 1.

Section 11: Tariffs

11.1 The utility shall pay a tariff to owners of distributed generation systems for energy that is fed into the grid.

11.2 The tariff may be different for different technology and installation sizes.

11.3 The tariff shall be the same regardless of resource quality, ownership type, and/or location.

11.4 The tariff may be different for feed-in tariffs and net billing.

11.5 The tariff will be set by considering the interests of the utilities, the distributed renewable energy owners, and consumers who do not own distributed renewable energy systems. It will take into account the cost of renewable energy generators and that of the utility’s avoided fuel cost and retail price.

11.6 The tariff shall be periodically reviewed considering factors such as technological advancements, changes in cost structures, and the overall sustainability of the industry.

11.7 Any changes to the tariff will only apply to future installations.

11.8 The tariff shall be published in a tariff schedule on the utility's websites.

11.9 The tariff will be fixed and will be in effect for twenty five (25) years.

Section 12: Monitoring

12.1 The Ministry of Energy and the utility may collect technical, financial, consumption and other data from all distributed renewable energy generators.

12.2 This data will be used to administer and manage the agreement (including collecting debt), provide updates, account, and service information to the renewable energy generator, assess risk, test system, and analyze account history.

12.3 This data can be passed to appropriate regulatory authorities.

12.4 Aggregate of this data can be passed to other persons but in a format that does not reveal information about individual renewable generators.

Section 13: Review and Revision

13.1 This renewable energy Regulatory Framework shall be subjected to a review at least every 3 years.

13.2 Any changes that may be made during such reviews shall only apply to distributed renewable energy generation plants that will be developed after the revised framework, guidelines, tariffs, and interconnection requirements are published.

13.3 It may be deemed necessary to undertake a mid-term review to address changes in the environment such as changes in the cost of generation equipment, technology, and financing, and to facilitate accelerated investment in generation from renewable sources.

Appendix 1 - Connection Points and Metering Arrangements for Different Metering Regimes

Diagram A: Feed-in Tariff Connection

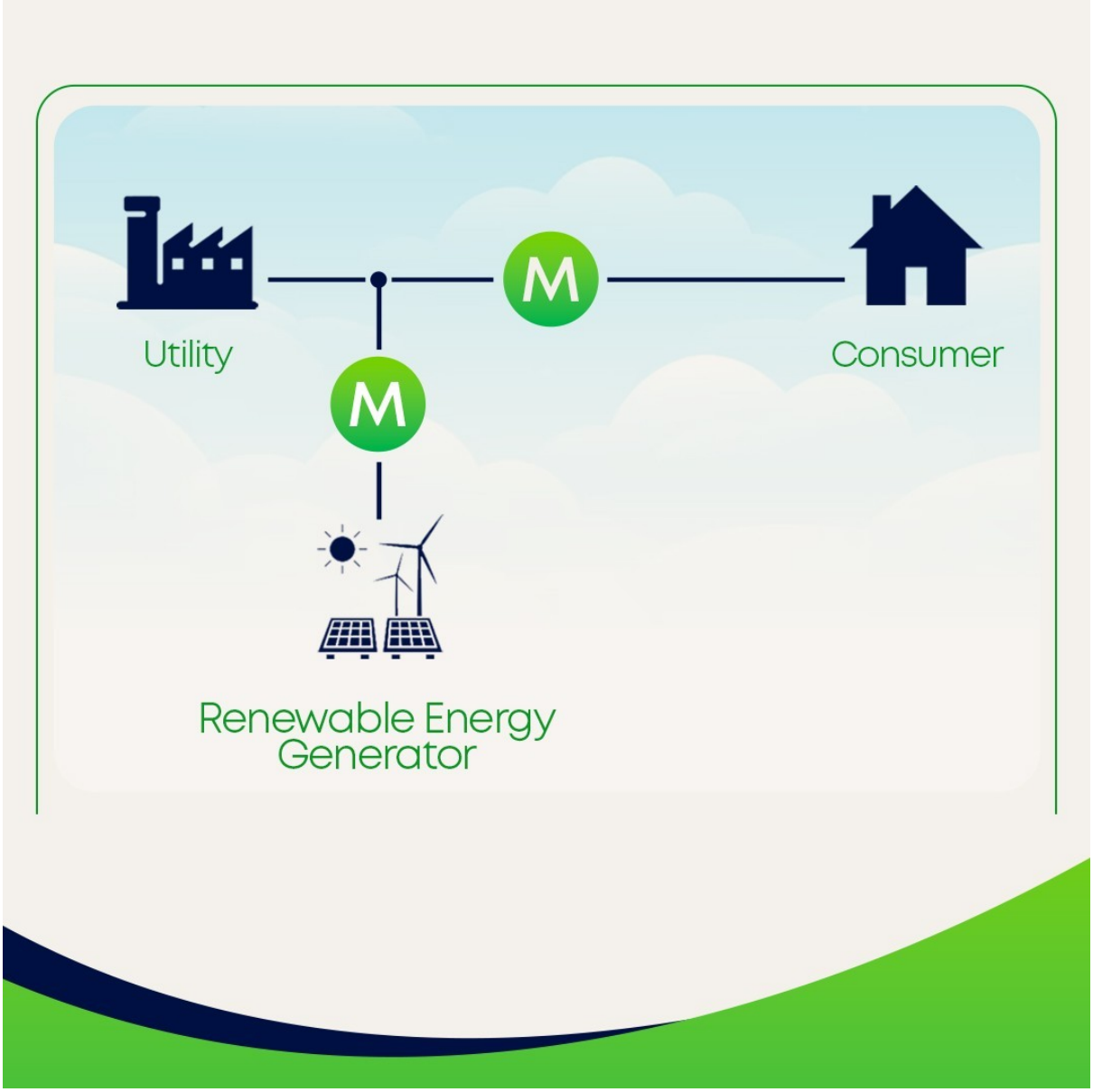

Diagram B: Net Billing Connection