

Proposal Concerning Modifications to LIPA's Tariff for Electric Service

Requested Action:

The Long Island Power Authority (the "Authority") is proposing modifications to the Community Distributed Generation ("CDG"), Value of Distributed Energy Resources ("VDER"), and Net Energy Metering provisions of its Tariff for Electric Service (the "Tariff"): (1) to implement a resource capacity factor adjustment to the Community Credit component of VDER compensation, as recommended in the *Whitepaper Regarding High-Capacity-Factor Resources* ("Whitepaper")¹; (2) to exclude new non-renewable resources from eligibility for the VDER Environmental Value, as recommended in the Whitepaper; (3) to make new non-renewable resources ineligible for Net Energy Metering consistent with PSL 66-p; and . (4) ~~to implement a program allowing low and moderate income customers to pledge their bill discounts to community distributed generation projects, consistent with the *Bill Discount Pledge Program Implementation Plan* of the Joint Utilities of New York~~ (4) to clarify that a project will receive the Community Credit rate in effect at the time the project qualifies for 25 years from the project's in-service date. ~~These provisions will be presented to the Authority's Board of Trustees for consideration after the Public Service Commission (the "PSC" or "Commission") has issued orders adopting the Whitepaper's recommendations and approving the *Bill Discount Pledge Program Plan*.~~

The original version of this proposal was published on October 17, 2019. On December 12, 2019, the New York Public Service Commission issued an *Order Regarding Value Stack Compensation for High Capacity Factor Resources* (the "Capacity Factor Order"),² adopting in part the Whitepaper's recommendations, and an *Order Regarding Consolidated Billing for Community Distributed Generation* (the "Consolidated Billing Order").³ Authority staff updated this proposal on March 4, 2020, based on the December 12, 2019 orders.

Background:

The Value of Distributed Energy Resources

On March 9, 2017, the Commission issued its *Order on Net Energy Metering Transition, Phase One of Value of Distributed Energy Resources, and Related Matters* (the "VDER Phase One Order")⁴, which established the first phase of a plan to establish a new system for compensation of distributed energy resources based on the component values those resources provide to the electric grid (the "Value Stack"). The Value Stack consists of multiple compensation components: (1) an Energy Value, which compensates customers for the amount of energy that is injected onto the grid at the NYISO day-ahead hourly wholesale energy price for Long Island; (2) a Capacity Value, which compensates customers based on the Long Island-specific value of capacity for the amount of power a system injects during the highest system peaks; (3) an Environmental Value, which compensates customers who choose to sell the project's eligible RECs to the utility, and (4) a Demand Reduction Value, which compensates customers for

¹ Case 15-E-0751, *In the Matter of the Value of Distributed Energy Resources*, "Whitepaper Regarding High-Capacity-Factor Resources," August 13, 2019.

² Case 15-E-0751, *In the Matter of the Value of Distributed Energy Resources, Order Regarding Value Stack Compensation for High Capacity Factor Resources*, Issued and effective December 12, 2019.

³ Case 19-M-0463, *In the Matter of Consolidated Billing for Distributed Energy Resources, Order Regarding Consolidated Billing for Community Distributed Generation*, Issued and effective December 12, 2019.

⁴ Case 15-E-0751, *In the Matter of the Value of Distributed Energy Resources, Order on Net Energy Metering Transition, Phase One of Value of Distributed Energy Resources, and Related Matters*, Issued and effective March 9, 2017.

injections that reduce the distribution grid’s peak demand, based on the value to the Long Island grid. In addition, projects located in certain designated congestion relief areas are eligible for additional compensation, known as the Locational System Relief Value, based on the value of congestion relief in that specific part of the Long Island electric grid. On December 19, 2017, the Authority adopted Tariff changes implementing the VDER Phase One Order.

Subsequently, on April 18, 2019, the PSC issued an *Order Regarding Value Stack Compensation* (the “Value Stack Compensation Order”), which, among other things, added a Community Credit compensation component to the Value Stack for certain community distributed generation projects.⁵ The Authority adopted the changes ordered in the Value Stack Compensation Order, including the Community Credit, on July 24, 2019.

The Climate Leadership and Community Protection Act

On July 18, 2019, Governor Cuomo signed the Climate Leadership and Community Protection Act (the “CLCPA”). Among other provisions, the CLCPA added Section 66-p to the Public Service Law (“PSL”), which requires the Commission to establish a program to require that 70% or more of electricity consumed in New York come from renewable energy systems in 2030 and 100% of electricity consumed in New York be zero emissions by 2040. It defines “renewable energy systems” as “systems that generate electricity or thermal energy through use of the following technologies: solar thermal, photovoltaics, on land and offshore wind, hydroelectric, geothermal electric, geothermal ground source heat, tidal energy, wave energy, ocean thermal, and fuel cells which do not utilize a fossil fuel resource in the process of generating electricity.”

Whitepaper Regarding High-Capacity-Factor Resources

In an effort to continuously refine and improve VDER, the Department of Public Service (“DPS”) Staff has worked with stakeholders to identify areas for improvement through the VDER proceeding. Informed by the filings, petitions and comments of stakeholders as well as information gathered in stakeholder working groups, the DPS Staff issues whitepapers containing its recommendations.

On May 10, 2019, the Joint Utilities (a stakeholder group representing the New York investor-owned utilities) filed a *Petition Seeking Clarification of the Treatment of High-Capacity-Factor Resources Eligible for Community Distributed Generation* (the “Petition”). The Petition expressed concern that the application of the Community Credit to offtakers of certain high-capacity-factor resources, particularly fuel cells, could result in excessive cost shifts inconsistent with Commission decisions and guidance. The Petition explained that this issue has become particularly relevant in light of a number of prospective fuel cell community distributed generation projects entering the interconnection queue in Con Edison’s territory. Similarly, though not the subject of the Joint Utilities’ Petition, a number of customers have applied to PSEG Long Island to become fuel cell community distributed generation hosts.

In response to the petition and the subsequently enacted CLCPA, on August 13, 2019, DPS Staff published the Whitepaper, in which DPS Staff provided its recommendations for treatment of high-capacity-factor resources used in community distributed generation projects and eligible for VDER compensation.

Community Credit Adjustment Factor

⁵ Case 15-E-0751, *In the Matter of the Value of Distributed Energy Resources, Order on Value Stack Compensation*, Issued and Effective April 18, 2019.

The Whitepaper addresses resources with average capacity factors above the average capacity of solar photovoltaics, including wind, small hydro, and fuel cells. The Whitepaper recommended that the Community Credit received by community distributed generation hosts should be adjusted downward based on the average capacity factor of the resource (with higher-capacity-factor resources receiving greater downward adjustments). The adjustments recommended by the Whitepaper are shown in the following table:

Technology	Average Capacity Factor	Adjustment Factor for Community Credit
Solar PV	14%	1.00
Wind	23%	0.61
Small Hydro	50%	0.28
Fuel Cells	87%	0.16

The Whitepaper's reasoning for recommending the adjustment was that the community credit is a transitional mechanism intended to support development of renewable and distributed generation resources and achievement of State clean energy goals while maintaining an annual net revenue impact of less than 2% in order to limit the potential cost shift to nonparticipating ratepayers. Because the net revenue impacts of the community credit were estimated assuming a solar capacity factor, and the community credit is paid on a volumetric basis (per kilowatt-hour), allowing high-capacity-factor resources to receive the full community credit without adjustment would result in a greater than intended annual net revenue impact. The Authority's tariff currently does not apply a capacity-factor-specific adjustment but does exclude fuel cells from receiving the community credit.

Order Regarding High Capacity-Factor Resources

In the December 12, 2019, Capacity Factor Order, the Commission adopted, in part, the recommendations of the Whitepaper. Specifically, the Commission approved the following changes to the tariffs of the jurisdictional utilities: (a) Fuel Cell CDG projects will receive a the Community Credit based on the average fuel cell capacity factor as compared to the average solar capacity factor, unless the resource qualified prior to August 13, 2019 (the date of the Whitepaper); (b) a resource receiving Value Stack Compensation will receive the Environmental Value only if it meets the definition of renewable energy system in PSL 66-p, unless the resource qualified before August 13, 2019; and (c) a fuel cell that qualified on or before August 13, 2019 should receive an Environmental Credit and Community Credit based on applicable values at the time of qualification.

The Commission did not adopt the Whitepaper's recommendations to apply capacity factor adjustments to wind and small hydro resources, reasoning that those resources (i) are nascent technologies not presenting a risk of significant cost shifts, (ii) have a wide range of capacity factors, and (iii) have significantly lower capacity factors on average than fuel cells. LIPA staff updated this proposal on March 4, 2020 to incorporate this aspect of the Capacity Factor Order.

Environmental Value Eligibility

In the Whitepaper, DPS Staff explained that under the CLCPA's definition of renewable energy systems (described above), fuel cells using fossil fuels will be unable to offset the utilities' CLCPA compliance costs. In addition, the Whitepaper notes that fuel cells using natural gas for generation often have greenhouse gas emissions similar to the average greenhouse gas emissions of New York's grid, which means that generation by fuel cells that replaces use of the grid may have minimal or no impact on net greenhouse gas emissions. Accordingly, the Whitepaper recommends that resources that qualify for

VDER in the future receive no Environmental Value if they do not meet the definition of renewable energy systems in the CLCPA, as codified in PSL §66-p. The Commission adopted this recommendation in its Capacity Factor Order.

Applicability to Existing Projects

The Whitepaper proposed that the recommended changes to the Community Credit and the Environmental Value Eligibility apply to projects that qualified⁶ for VDER after August 13, 2019, the date of the Whitepaper. The Whitepaper's proposed grandfathering is intended to protect developers with projects in advanced stages of development who relied in good faith on existing policies. [The Commission adopted this recommendation in its Capacity Factor Order.](#)

Bill Discount Pledge Program Implementation Plan

The VDER Phase One Order directed the DPS Staff to “consider options to encourage low-income participation” in community distributed generation (“CDG”) under the VDER Phase One tariffs, “including tailored approaches for CDG projects that comprise a majority of low-income off-takers.”⁷ In accordance with that directive, a low-income working group convened over the course of several months to address barriers to low-income customer access to CDG and develop recommendations. Using information and suggestions from that collaboration, a Staff Report on Low-Income Community Distributed Generation Proposal (the “Staff Report”) was filed on December 15, 2017.

In its *Order Adopting Low-Income Community Distributed Generation Initiatives* (“Low-Income CDG Order”)⁸ issued on July 12, 2018, the Commission adopted the Staff Report’s proposal to create a bill discount pledge program (“BDP Program”) and required the New York investor-owned electric utilities to file proposed implementation plans. On December 10, 2018, the Joint Utilities of New York jointly filed their *Bill Discount Pledge Program Implementation Plan* (“BDP Implementation Plan”).⁹ [The BDP Program was intended to allow low-income customers to use their monthly low-income customer bill discounts toward the purchase of CDG subscriptions.](#)

~~The BDP Program will allow low income customers to use their monthly low income customer bill discounts toward the purchase of CDG subscriptions. In exchange for foregoing some or all of their monthly low income discounts, customers would offset a portion of their monthly bills through CDG project credits. The utility would in turn make payments to CDG hosts for the amounts pledged by low-income customers.~~

~~Upon the Commission issuance of an order approving the BDP Implementation Plan, each investor-owned utility will file its respective revised tariff leaves and implement the BDP Program in a manner consistent with such order. The Joint Utilities expect that the BDP Program can be implemented within 12 months of a Commission order.~~

In its December 12, 2019 *Order Regarding Consolidated Billing for Community Distributed Generation*,¹⁰ the Commission determined that the BDP Program could be reasonably

⁶ Per the Whitepaper, a project qualifies when it has a payment made for 25% of its interconnection costs or has its standard interconnection contract executed if no such payment is required.

⁷ VDER Phase One Order, at 18.

⁸ VDER Proceeding, *Order Adopting Low-Income Community Distributed Generation Initiatives* (issued July 12, 2018).

⁹ VDER Proceeding, *Bill Discount Pledge Program Implementation Plan* (filed December 10, 2018).

¹⁰ Case 19-M-0463, *In the Matter of Consolidated Billing for Distributed Energy Resources, Order Regarding Consolidated Billing for Community Distributed Generation*, Issued and effective December 12, 2019.

implemented through a net crediting model. The net crediting model requires the utility to allocate a specified fraction of the VDER Value Stack payment owed to the host facility directly to each participant's monthly utility bill, eliminating any need for the host facility to render bills to the participants and ensuring that the participants always receive net savings from their participation. LIPA staff updated this proposal on March 4, 2020 to reflect the change in Commission direction, and LIPA staff accordingly is no longer proposing a BDP Program. LIPA staff will monitor the above-cited matter and will propose plans to implement consolidated billing for CDG under a net crediting model similar to the jurisdictional utilities in time for the expected implementation date of January 1, 2021.

Proposal:

Adoption of Whitepaper Recommendations

Upon ~~issuance of a Commission order adopting the Whitepaper's recommendations and~~ public hearings to be held in Nassau and Suffolk counties ~~on May 4, 2020~~, the Authority proposes to adopt the Whitepaper's recommendations together with any modifications made by the Commission, with the exception that the Authority's grandfathering date will be determined by the date of this proposal rather than the date of the Whitepaper. This proposal puts Long Island project developers on notice of the application of the rule changes described herein to the Authority's service territory.

Specifically, based on the Whitepaper recommendations, ~~as adopted by the Capacity Factor Order~~, the Authority is proposing the following: (a) any resource that qualifies after October ~~4~~17, 2019 should be eligible for the Environmental Value only if it meets the definition of "renewable energy systems" in PSL § 66-p;¹¹ (b) ~~any resource~~ fuel cells that qualify after October ~~4~~17, 2019, ~~and which do not utilize a fossil fuel resource in the process of generating electricity~~, should receive a Community Credit, if otherwise eligible, adjusted based on the ratio of an average solar capacity factor to that resource's estimated average capacity factor pursuant to the Whitepaper's recommendations, as modified by the Commission,¹² and may be adjusted by other factors to support principles set forth in Commission orders;¹³ and (c) any resource that qualifies on or before October ~~4~~17, 2019 should receive an Environmental Value and Community Credit, if otherwise eligible, based on the applicable values at time of qualification, with no adjustment.

The full record of the proceeding which includes text of the petition and the Whitepaper is available for review at the Department of Public Service web page: www.dps.ny.gov under case number 15-E-0751. ~~The Commission may adopt, reject, or modify, in whole or in part, the action proposed and may resolve related matters.~~

~~Comments on the Whitepaper are due to the Department by October 28, 2019. This process has been designed as a forum for the voices of all New Yorkers to be heard, and Long Island stakeholders are encouraged to participate by filing comments in response to the Whitepaper~~

¹¹ Note that the Authority's Tariff already includes the requirement that projects must be REC-eligible and elect to transfer their RECs to the Authority in order to receive the Environmental Value.

¹² The Authority's Tariff currently excludes fuel cells from the Community Credit. Upon approval of this proposal by the LIPA Board, fuel cell CDG projects meeting the PSL's definition of a renewable energy system would be eligible to receive the Community Credit, adjusted by the capacity-factor adjustment mechanism described herein.

¹³ Additional adjustment factors based on REV and CLCPA principles, such as encouraging participation by low income customers in community distributed generation projects, may be applied to the Community Credit in consultation with the Department of Public Service.

Orders issued by the Commission pursuant to the recommendations described above will be presented, together with a compendium of public comments received, for consideration and adoption by the LIPA Board of Trustees ~~at its May 20, 2020 meeting at a regularly scheduled meeting of the Board following issuance of the Commission order. In addition, LIPA-specific public comment hearings will be held in Nassau and Suffolk Counties subsequent to the issuance of the Commission's Orders and those comments will be addressed and/or incorporated into the proposed tariff amendments.~~

Allowing Standalone Storage Facilities to be Community Distributed Generation Hosts

Per the Value Stack Eligibility Expansion Order¹⁴, the Authority proposes to update the tariff to remain consistent with the investor-owned utilities of New York State by expanding the eligibility of CDG Hosts to standalone storage. CDG projects with standalone storage will not be eligible to receive the Environmental Credit or the Community Credit of the Value Stack.

Other Tariff Modifications for CLCPA Compliance

The Authority proposes additional changes to its Tariff in light of the CLCPA's exclusion of non-renewable resources from the definition of renewable energy systems.

The Authority proposes that non-renewable resources for which a complete application is submitted ~~on or~~ after October ~~16~~17, 2019 be made ineligible for net energy metering. Instead, all non-renewable resources may apply to receive compensation under VDER (without the Environmental Value) or any other compensation system for which the project is otherwise eligible at the time of application, such as buy-back service, a non-wires alternative solicitation, or other utility procurement. Net energy metering is an incentive intended to encourage deployment of renewable technologies that help meet the Authority's environmental compliance obligations. Non-renewable resources such as fossil-fuel-powered fuel cells no longer satisfy this requirement, pursuant to the CLCPA.

This proposed change would apply to new non-renewable community distributed generation projects. In the rest of New York State, all new community distributed generation projects are compensated exclusively through VDER so as to reflect the value such systems provide to the electric grid. ~~Currently, however, the Authority allows mass market satellite participants in community distributed generation projects (including non-renewable fuel cells) to be compensated under Phase One NEM, and only large commercial satellite participants are required to be compensated under VDER. According to the Tariff currently in effect, all new community distributed generation projects applying before January 1, 2020 receive this treatment, and all new community distributed generation projects applying on or after January 1, 2020 will be compensated solely under VDER. According to the LIPA Tariff currently in effect, however, the mass market satellite participants in all new community distributed generation projects (including non-renewable fuel cells) applying before January 1, 2020 were eligible to be compensated under Phase One NEM, and only large commercial satellite participants were required to be compensated under VDER. However, under the CLCPA, non-renewable resources such as fossil-fuel-powered fuel cells no longer qualify as renewable energy systems. Accordingly, non-renewable community distributed generation projects that complete an application as per Step 3 of the Authority's Smart Grid Small Generator Interconnection Procedures ~~on or~~ after the date ~~this the original proposal was posted on LIPA's website, October 16~~17, 2019, will be compensated under VDER.~~

~~Bill Discount Pledge for Community Distributed Generation~~

~~Upon issuance of a Commission order approving the Joint Utilities' Bill Discount Pledge Program Implementation Plan and public hearings to be held in Nassau and Suffolk counties, the Authority~~

¹⁴ VDER Proceeding, *Order on Value Stack Eligibility Expansion and Other Matters* (issued September 12, 2018).

~~proposes to follow the BDP Implementation Plan, together with any modifications included in the final Commission order and any modifications made as a result of the local public hearings. Through the BDP Implementation Plan, the Authority will create a program by which recipients of low and moderate-income customer discounts may pledge their discounts to community distributed generation projects in exchange for subscriptions in those projects.~~

Financial Impacts:

The proposal will not have a material financial impact on the Authority because the Authority's Revenue Decoupling Mechanism will true up any revenues gained or lost as a result of the proposal. New non-renewable DERs that are (a) compensated through VDER, (b) ~~formerly~~ REC-eligible, and (c) not qualified as renewable energy systems under the CLCPA, if any, will experience a negative financial impact resulting from the loss of eligibility for the Environmental Value (currently \$0.02741 per kilowatt-hour). New ~~renewable~~ fuel cell community distributed generation projects will experience a ~~negative net positive~~ financial impact of \$0.008 per kilowatt-hour, resulting from ~~their newly proposed eligibility for the Community Credit (currently \$0.05/kWh), adjusted by the high-capacity-factor adjustment of 16% resulting from the high capacity factor adjustment to the Community Credit, of approximately \$0.0189 per kilowatt hour.~~

Affected Tariff Leaves: 16, 18, 34B, 34C, 34K, 34O, 34T, 34U, and 34V.

Additional Document Changes: VSC Statement

Summary of Proposed Changes:

LIPA Staff proposes to modify the Tariff to implement a resource capacity-factor adjustment to the VDER Community Credit; to implement a low income bill discount pledge program for community distributed generation; to make non-renewable resources ineligible for the VDER Environmental Credit; and to make new non-renewable resources ineligible for net energy metering, including with respect to the mass market satellite customers in community distributed generation projects, though such projects may continue to receive compensation under VDER.

I. General Information (continued):**B. Abbreviations and Definitions (continued):**

Demand Customer: A Customer who is billed for Demand charges.

Demand Meter: The device that records the maximum amount of power used by the Customer over a 15-minute interval during a specific period, such as a month.

Department: The New York State Department of Public Service.

Deposit: A sum of money given as security for payment of service.

Distribution Facilities: Facilities used to distribute electric energy to consumers, including supply lines, distribution lines, service laterals, and accessory equipment.

Distribution Line(s): A system of poles, wires, ducts, conduits, and additional equipment used for the shared distribution of electricity to Customers.

E

Easement: (See *Right-of-way*)

Eligible Net Metering Technology/Technologies: The list of eligible technologies is: Solar Electric Generating Equipment, Wind Electric Generating Equipment, Micro-Hydroelectric Generating Equipment, Micro-Combined Heat and Power (CHP) Generating Equipment, Fuel Cell Electric Generating Equipment, Farm Waste Electric Generating Equipment, Stand Alone Storage Equipment, Regenerative Braking, Vehicle-to-Grid, or other generating equipment identified as a Tier 1 technology as defined in Appendix A of the CES Order of the New York Public Service Commission issued August 1, 2016 in Cases 15-E-0302 and 16-E-0270. [Regenerative braking, vehicle to grid, and additional Tier 1 technologies identified in Appendix A of the CES Order but not specifically defined in this tariff, and any other technologies not defined by PSL §66-p as renewable energy systems](#) are required to take compensation based on the Value Stack.

Energy: Energy is electric power, used or supplied over time, and measured in KWH.

Existing Overhead Areas: Areas in which electric distribution facilities are constructed overhead, and there are no requirements to construct facilities underground.

F

Farm Waste Electric Generating Equipment: Equipment that generates electric energy from biogas produced by anaerobic digestion of agricultural wastes, such as livestock manure, farming wastes and food processing wastes with a rated capacity of not more than five thousand (5,000) kilowatts that is manufactured, installed and operated by Customer-generator in accordance with applicable government and industry standards, connected to the electric system and operated in conjunction with the Authority's transmission and distribution facilities, operated in compliance with the Authority's standards and requirements established therefor, fueled at a minimum of ninety (90) percent on an annual basis by biogas produced from the anaerobic digestion of agricultural waste such as livestock manure materials, crop residues, and food processing waste, and fueled by biogas generated by anaerobic digestion with at least fifty (50) percent by weight of its feed stock being livestock manure on an annual basis. [As of October 46 17, 2019, all new projects with Farm Waste Electric Generating Equipment are not considered a renewable energy system as defined by PSL §66-p.](#)

Fuel Cell Electric Generating Equipment: A solid oxide, molten carbonate, proton exchange membrane or phosphoric acid fuel cell, with a combined rated capacity of not more than ten (10) kilowatts for a residential customer or with a rated capacity of not more than five thousand (5,000) kilowatts for a non-residential customer, that is manufactured, installed and operated in accordance with applicable government and industry standards, that is connected to the electric system and operated in compliance with the Authority's standards and requirements established therefor. This definition, including the capacity limits specified herein, does not apply to fuel cells participating in the Fuel Cell Feed-in Tariff. [As of October 46 17, 2019, all new projects with Fuel Cell Generating Equipment- which utilize a fossil fuel resource in the process of generating electricity are not considered a renewable energy system as defined by PSL §66-p.](#)

Fuel and Purchased Power Cost Adjustment Clause: See definition for Power Supply Charge.

Full-Requirements Customer: A Customer whose electric power requirements are all supplied by the Authority. (See *Customer – Full Requirements Customer*)

G

Generation Project: A specific project that is eligible to participate in the Commercial Solar or Fuel Cell Feed-In Tariff under Service Classification No. 11 – Buy-Back Service.

I. General Information (continued):**B. Abbreviations and Definitions (continued):**

Load: (See *Demand*)

Load Factor: The ratio of a Customer(s) average demand to peak demand during a specified period.

Location: Property with stated boundaries which is owned or occupied by a single legal entity.

M

Manager: PSEG Long Island LLC, the entity engaged by the Authority to operate, maintain, manage and act as agent for the Authority's system pursuant to the terms and conditions of the Operations Services Agreement. Nothing herein shall be read to change or modify Manager's duties and obligations or create any liability on the part of Manager beyond that set forth in the Operations Services Agreement.

Mass Market Customer(s): Residential or Small Commercial Service Classification that are not billed for demand.

Mass Market Project(s): Projects using an Eligible Net Metering Technologies owned by a Mass Market Customer(s).

Micro-Combined Heat and Power Generating Equipment: Any Residential customer with an integrated cogenerating building heating and electrical power generation system, operating on any fuel and any applicable engine, fuel cell, or other technology, with a rated capacity of at least one kilowatt and not more than ten (10) kilowatts electric and any thermal output that all full load has a design total fuel use efficiency in the production of heat and electricity of not less than eighty percent, and annually produces at least two thousand (2,000) kilowatt hours of useful energy in the form of electricity that may work in combination with supplemental, or parallel conventional heating system, that is manufactured, installed and operated in accordance with applicable government and industry standards operated in conjunction with the Authority's transmission and distribution facilities. As of October 4~~6~~17, 2019, all new projects with Micro-Combined Heat and Power Generating Equipment are not considered a renewable energy system as defined by PSL §66-p.

Micro-Hydroelectric Generating Equipment: A Hydroelectric system, with a rated capacity of not more than 25 kW for a residential customer or with a rated capacity of not more than five thousand (5,000) kilowatts for a non-residential customer, that is manufactured, installed and operated in accordance with applicable government and industry standards, connected to the electric system and operated in conjunction with the Authority's transmission and distribution facilities.

Month: A Month in this document is defined as a 30-day period, and monthly rates for billing periods other than a Month are prorated.

Multi-phase: Producing, carrying, or powered by multiple alternating voltages, each of which reaches its highest level at different time intervals. (See *Alternating Voltage*)

Multiple-Occupancy or Multiple Dwelling Building: A building designed to contain three (3) or more individual residential units for permanent occupancy. Each unit should contain kitchen, bath, and sleeping areas. In some instances, the Tariff may differentiate between buildings that contain three or more units and those that contain four or more units.

N

Net Energy Metering: The use of a net energy meter to measure, during the billing period applicable to a Customer-generator, the net amount of electricity supplied by the Authority to the Customer-generator and/or the net amount of electricity provided by the Customer-generator to the Authority.

I. General Information (continued):**C. General Terms and Conditions (continued):
Net Metering (continued):**a) Requirements for Installation and Operation

- (1) Wiring and switches for Solar, Farm Waste, Micro-Combined-Heat-and-Power, Micro-Hydroelectric, Fuel Cell, Wind or Hybrid Electric Generating Equipment, owned and/or operated by Customer-generators to supply their load and feed energy to the Authority's electric system, shall be arranged in parallel so as to permit the flow of current from the Authority to the Customer-generator and vice-versa.
- (2) Solar, Farm Waste, Micro-Combined-Heat-and-Power, Micro-Hydroelectric, Fuel Cell, Wind or Hybrid Electric Generating Equipment installed in parallel with the Authority's system must comply with the Authority's "Smart Grid Small Generator Interconnection Procedures".
- (3) The Authority shall require a Customer-generator who owns and/or operates Farm Waste, Micro-Combined-Heat-and-Power, Micro-Hydroelectric, Fuel Cell, Wind, Solar or Hybrid Electric Generating Equipment to pay for the installation of dedicated transformer(s) if it is determined that dedicated transformer(s) is (are) necessary to protect the safety and adequacy of electric service provided to other Customers.
- (4) The Authority may require a Customer-generator who owns and/or operates Solar, Farm Waste, Micro-Combined-Heat-and-Power, Micro-Hydroelectric, Fuel Cell, Wind or Hybrid Electric Generating Equipment to comply with additional safety or performance standards than those specified in the Authority's "Smart Grid Small Generator Interconnection Procedures", perform or pay for additional tests, or purchase additional liability Insurance when the total rated generating capacity of the electric generating equipment that provides electricity to the Authority through the same local feeder line exceeds twenty (20%) of the rated capacity of the total feeder line.
- (5) Mass Market Projects subject to NEM compensation will be permitted to pair on-site energy storage with the eligible generating equipment under PSL Sections 66-j and 66-l and remain eligible under Phase One NEM. However, customers that wish to pair energy storage with a Large Onsite Project or Large Offsite Project will be required to receive compensation based on the VDER Value Stack tariff.
- ~~(5)~~(6) For CDG project and On-Site Mass Market customer interconnection requests made on or after January 1, 2019, a distributed generation provider must submit proof to the Manager with its initial interconnection application that its project has been registered with Department of Public Service Staff in accordance with the Uniform Business Practices for Distributed Energy Resource Suppliers in the LIPA Service Territory.

I. General Information (continued):**C. General Terms and Conditions (continued):
Net Metering (continued):****d) Interconnection and Transformer Charges**

- (1) If the Mass Market Customer's ~~Solar, Micro-Combined-Heat-and-Power, Micro-Hydroelectric, Fuel Cell and/or Wind-Eligible Net Metering Technology~~ Electric Generating Equipment has a rated capacity of equal to or less than twenty five (25) kilowatts the Customer-generator shall not be required to pay the Authority any Interconnection charges.
- (2) If the Mass Market Customer's ~~Solar, Micro-Combined-Heat-and-Power, Micro-Hydroelectric, Fuel Cell and/or Wind-Eligible Net Metering Technology~~ Electric Generating Equipment has a rated capacity of more than twenty five (25) kilowatts, the Customer-generator shall be responsible for payment to the Authority of one hundred percent (100%) of the interconnection expenses.
- (3) The Large Onsite Customers, Large Offsite Customers, and Commercial Demand NEM Customers shall be responsible for payment to the Authority of one hundred percent (100%) of the interconnection expenses of such ~~Solar, Micro-Combined-Heat-and-Power, Micro-Hydroelectric, Fuel Cell and/or Wind-Eligible Net Metering~~ Electric Generating Equipment.
- (4) If the Authority determines that it is necessary to install a dedicated transformer or transformers or other equipment to protect the safety and adequacy of the electric service provided to other Customers:
 - (a) The Mass Market Customer installing Solar Generating Equipment, Micro-Combined-Heat-and-Power Generating Equipment, Micro-Hydroelectric Generating Equipment, or Fuel Cell Electric Generating Equipment with a rated capacity of equal to or less than twenty five (25) kilowatts, shall pay to the Authority the cost of installing the transformer(s) and other equipment, up to a maximum of three hundred and fifty dollars (\$350.00).
 - (b) The Residential Customer installing Farm Waste Electric Generating Equipment shall pay to the Authority the cost of installing the transformer(s) and other equipment, up to a maximum of five thousand dollars (\$5,000) per farm operation.
 - (c) The Non-residential Customer-generator installing Solar Generating Equipment with a rated capacity of equal to or less than twenty five (25) kilowatts shall pay to the Authority the cost of installing the transformer(s) or other equipment, up to a maximum of three hundred and fifty dollars (\$350.00).

I. General Information (continued):**C. General Terms and Conditions (continued):****1. Net Metering of Community Distributed Generation**

Net metering of Community Distributed Generation ("CDG") allows residential and commercial customers to collectively share in the benefits of a remotely-sited distributed generation resource as if such resource was interconnected directly to the Customer's account. The general eligibility requirements for net metering and all other terms and conditions of this Tariff apply, as modified by or in addition to the specific requirements contained in this section.

Net metering of Community Distributed Generation is available throughout the Authority's service territory. Net metering of Community Distributed Generation is available to eligible customers, on a first come, first served basis.

The Authority shall not be responsible for any contractual arrangements or other agreements between the CDG Host and CDG Satellite, including contractual terms, pricing, dispute resolution, and contract termination

a) Definitions

CDG Host: a Non-Residential Customer-Generator that owns or operates electric generating equipment eligible for net metering under this Tariff or stand-alone storage. Net energy produced by the generating equipment of a CDG Host is applied to the accounts of CDG Satellites with which it has a contractual arrangement governing the disposition of net metering credits.

CDG Satellite: A residential or commercial Customer who is participating in a CDG Project. Each CDG Satellite Customer shall own or contract for a proportion of the Excess Generation accumulated at the meter of the CDG Host.

Excess Generation: the electricity (kWh) supplied by the CDG Host to the Authority during the billing period that exceeds the electricity (kWh) supplied by the Authority to CDG Host. For purposes of net metering of Community Distributed Generation, the excess generation will be recorded by an hourly interval meter so that time-differentiated excess generation can be calculated for distribution to CDG Satellite accounts as required.

b) Initial and Subsequent Applications by CDG Hosts

The CDG Host must be a Non-Residential Customer-Generator or Non-Residential project owner of stand-alone storage that meets all the qualifications of this Tariff and must comply with any Operating Procedures for Community Distributed Generation approved by the Board of Trustees, including and in addition to the requirements listed below. The CDG Host will be assigned to an applicable Service Classification based on the greater of the load or the generation at the CDG Host site.

The terms and conditions for net metering applicable to the CDG Host Account are contained in Section I.C.15, except as modified below.

I. General Information (continued):**C. General Terms and Conditions (continued):****Net Metering of Community Distributed Generation (continued):**

- g) Projects with eligible Net Metering Technologies will receive credits calculated and applied as described in items (1) through (9) below when (1) Mass Market Projects have become Substantially Interconnected on or after January 1, 2018 (2) Large Offsite Projects have submitted complete applications as per Step 3 of the Authority's "Smart Grid Small Generator Interconnection Procedures" on or after May 1, 2018 or (3) Existing generators sized greater than two thousand (2,000) kilowatts to five thousand (5,000) kilowatts that meet the eligibility criteria and are not currently compensated under the Value Stack shall be permitted to opt-in to participation in the Value Stack compensation.
- (1) The CDG Host account will be billed in accordance with the procedures used to calculate a bill for an individually net metered Customer, except that Excess Generation remaining after the bill has been calculated will be monetized based on a calculation described in Section 1.C.18.C - Value Stack Crediting then the Excess Generation will be allocated to Mass Market Customer Satellite accounts and the monetized Value Stack Crediting will be allocated to Large Offsite Customer Satellite accounts in accordance with the CDG Host's designated allocation requests. Any monetized value remaining after the allocation will remain with the CDG Host account as a bill credit to be allocated to the Satellite accounts in future billing periods.
 - (2) For Mass Market Customer Satellite accounts, as each is billed, Excess Generation allocated to the Satellite account will be applied to the Mass Market Satellite account as if the Customer were individually net metered. For Mass Market Satellite accounts served under time-of-use rates, the Excess Generation will be further allocated to the rating periods applicable to the Mass Market Satellite account in proportion to the times, days and seasons when the Excess Generation was delivered to the Authority.
 - (3) For Mass Market Customer Satellite accounts, if any allocated Excess Generation remains after application to the Satellite account, the remaining allocated Excess Generation shall be carried forward on the Mass Market Satellite's account as a volumetric (kWh) credit for future bill periods.
 - (4) Value Stack Crediting will apply to Mass Market Customer Satellite accounts that participate in a CDG project that has submitted a complete application as per Step 3 of the Authority's "Smart Grid Small Generator Interconnection Procedures" on or after January 1, 2020, or a non-renewable CDG project that has submitted a complete application as per Step 3 of the Authority's "Smart Grid Small Generator Interconnection Procedures" after October 16, 2019. For a Mass Market Customer Satellite account receiving Value Stack crediting, if any bill credit remains on the Satellite account, the remaining bill credit shall be carried forward for future bill periods.
 - (5) For Large Offsite Customer Satellite account, as each Large Offsite Satellite account is billed the monetized Value Stack Crediting will be allocated to that account.
 - (6) For Large Offsite Customer Satellite account, if any bill credit remains on the Satellite account, the remaining bill credit shall be carried forward on the Large Offsite Satellite's account for future bill periods.
 - (7) Annual Allocation Requests
Once a year, following the annual anniversary of the CDG Host, after the CDG Host and all CDG Satellite accounts have been billed and credits allocated in accordance with this Tariff, the Authority shall supply the CDG Host a calculation of any excess credits returned to the CDG Host and/or any unallocated excess credits remaining at the CDG Host. By the following anniversary date, the CDG Host must provide to the Authority an annual allocation request for distributing these excess credits to one or more of the CDG Satellite Accounts. No distribution shall be made if an allocation request is not received by the required date, and undistributed credits on the CDG Host shall be subject to forfeit.

I. General Information (continued):**C. General Terms and Conditions (continued):****Value of Distributed Energy Resources (VDER) (continued):****(d) Alternative Method Change Requests**

A request for a change in VDER Value Stack Capacity Component compensation submitted by a Customer-Generator with intermittent generation is subject to the following limitations:

- (i) A project compensated under Alternative 1 may switch to compensation under Alternative 2 or to Alternative 3;
- (ii) A project compensated under Alternative 2 may switch to Alternative 3;
- (iii) A project compensated under Alternative 2 cannot switch to Alternative 1; and
- (iv) A project compensated under Alternative 3 cannot switch to Alternative 1 or Alternative 2.

(3) Environmental Component

- (a) Customers with generation that is eligible to receive Renewable Energy Standard Tier 1 Renewable Energy Credits ("RECs") must elect, by the date of interconnection, to either retain all RECs generated, or to sell these RECs to The Authority. For customers who elect to transfer their RECs to The Authority and for CDG Satellite Accounts who's CDG Host Account elects to transfer their RECs to The Authority, will receive the Environmental Component.
- (b) The environmental component will be determined as of the in service date of the Customer-generator and will be the greater of either:
 - (i) NYSERDA posted Tier 1 REC market price or
 - (ii) Social Cost of Carbon net of the Regional Greenhouse Gas Initiative ("RGGI")
- (c) The value shall be fixed for the Customer-generator's first twenty-five (25) years of compensation under the Value Stack. The Environmental Component Credit per (\$/kWh) will be summed for all hours of the Customer-generator's billing month and added to Value Stack Calculation Bill Credit posted to the Customer-generator's account.
- (d) For all other customers that choose to retain their RECs, the Environmental Component Rate is \$0/kWh.
- (e) For any project submitting a complete application as per Step 3 of the Authority's "Smart Grid Small Generator Interconnection Procedures" after October 16, 17, 2019, that does not meet the definition of renewable energy systems in PSL §66-p, the Environmental Component Rate is \$0/kWh.

I. General Information (continued):**C. General Terms and Conditions (continued):****Value of Distributed Energy Resources (VDER) (continued):****(4) Value of Distribution**

Demand Reduction Value (DRV) and Locational System Relief Value (LSRV) will be based on the utility Marginal Cost of Service (MCOS) studies per Service Classification, and will be determined as follows:

- (a) For eligible Customer-generators, the DRV compensation will be calculated by multiplying the sum of the projects net injections (kWh) for each of the DRV/LSRV Contracted Hours by the project's DRV Value Stack rate (\$/kWh). The project's DRV rate will be set at the current DRV value as of the in-service date for ten (10) years. After the first ten (10) years, eligible Customer-generators will be compensated the then applicable DRV rate and hours. The rate will be updated in a Statement of Value Stack Credits.
 - (i) Customer-generators may choose to waive the DRV compensation of the Value Stack and opt-in to the Commercial System Relief Program (CSRP). This voluntary election is a one-time, irreversible decision that may be made at any point during the project's Value Stack compensation period. The Customer-generator must notify the Authority of its intention to opt in to the CSRP.
- (b) Customer-generators located in designated project locations will receive a LSRV payment based on Load Relief when an LSRV Planned Event is called. PSEG Long Island will notify the Customer-generator of an Event twenty-one (21) hours in advance and the window may be between one (1) to four (4) hours long.
 - (i) Customer-generators will receive payments based on the lowest hourly net kW injection during each call.
 - (ii) The LSRV (\$/kW-year) is currently set at 50% of the DRV value identified in Statement of Value Stack Credits for all LSRV areas.
 - (iii) There must be a minimum of ten (10) calls each year. The \$/kW-year will be divided by ten (10) to determine the value of each call window. If there are less than ten (10) calls, at the end of the period identified in the DRV/LSRV Contracted Hours, the Customer-generator will be compensated for the calls that did not occur at the lowest hourly net kW injection for a total of ten (10) calls in their October Value Stack Bill Credit.
 - (iv) The LSRV payment shall be fixed for a ten (10) year term of compensation for the Customer-generator, after which time the LSRV payment will be reset based on the then applicable LSRV.
 - (v) The LSRV will only be available to projects located in LSRV areas. Eligible LSRV areas that have been identified by the Authority may be found on Statement of LSRV Areas.
- (c) For each Customer-generator's billing period, the sum of the above listed components from 1.C.18 (4) (a) to (b) will be added to Value Stack Calculation Bill Credit posted to the Customer-generator's account.

(5) CDG Community Credit

~~Any~~-Large Offsite Projects, ~~other than projects with Fuel Cell Electric Generating Equipment~~, will receive a CDG Community Credit (\$/kWh) as part of their Value Stack Calculation Bill Credit for 25 years from their in-service date.

I. General Information (continued):**C. General Terms and Conditions (continued):****Value of Distributed Energy Resources (VDER) (continued):**

~~(a) The project's Community Credit rate will be set at the then-current Community Credit value as of the date a project has made a payment for 25% of its interconnection costs or has its standard interconnection contract executed if no such payment is required. The project's Community Credit will remain at that fixed level (\$/kWh) for twenty-five (25) years from the project's in-service date. Mass Market participants in CDG projects receiving the Value Stack Calculation Bill Credit will receive an additional CDG Community Credit (\$/kWh) for 25 years from the project's in-service date.~~

~~(b) The value of the CDG Community Credit is identified in the Statement of Value Stack Credits. The value may vary by resource technology or other characteristic recognized by Order of the New York Public Service Commission.~~

a) Value Stack Billing

At the conclusion of a billing period, a Customer will be billed for the total consumption of energy measured at the rates specified in the customer's otherwise applicable Service Classification, including applicable demand charges.

If there is a Value Stack Calculation Bill Credit for the month, such credit will be applied as a direct monetary credit to the Customer's current utility bill for any outstanding energy, customer, demand, or other charges. If the Customer's current month's Value Stack Calculation Bill Credit plus any prior period Value Stack Calculation Bill Credit exceeds the current bill, the remaining monetary credit will be handled as follows:

- (1) Large On-Site Customers, See Section C.15.h).(2)
- (2) For Remote Net Metered accounts, See Section C.16.b).(5)
- (3) For CDG accounts, See Section C.17.g)

b) Storage

(1) Customers with stand-alone storage that is sized not to exceed 115% of the customer's peak hourly consumption load may be on any rate for which they qualify and will be compensated at the Value Stack minus the Environmental credit and the CDG Community Credit for all excess generation.

(2) Customers with stand-alone storage that is sized at 115% or above of the customer's peak hourly consumption must be on a qualifying Time Of Use rate and will be compensated at the Value Stack minus the Environmental credit and the CDG Community Credit for all excess generation.

(3) For customers who pair energy storage systems with eligible electric generating equipment ("Hybrid Facility"), the Authority will calculate the Environmental Component Credit and the CDG Community Credit, pursuant to the rules set forth below. All other Value Stack components, including the Energy Component Credit, Capacity Component Credit, DRV Component Credit, and LSRV Component Credit, will be calculated as specified in section I.C.18.c).(4) above. Consistent with section

I.C.18.c).(3), the Environmental Component Credit will only be provided where the electric generating equipment is eligible to receive Tier 1 RECs, the Community Credit will only be provided for eligible customers and consistent with the Community Credit rate applicable to the customer and the Capacity Component will be calculated based on Alternative 1, Alternative 2 or Alternative 3 based on customer election.

Long Island Power Authority

Statement of Value Stack Credits (VSC)

[Applicable to those Rate Codes and Customers](#)

[Subject to the Phase One Value Stack as set forth in the Tariff for Electric Service](#)

Applicable to all metered accounts with Customer-generators subject to the Value Stack with rate codes within Service Classification Nos. 2-L, 2L-VMRP, 2-MRP or 12¹ [as set forth in the Tariff for Electric Service](#).

Energy Component		
Average Monthly Energy Component (based on published day ahead NYISO hourly zonal LBMP energy prices) [averaged by zone]. http://www.nyiso.com/public/markets_operations/market_data/pricing_data/index.jsp		

Capacity Component		
Alternative 1 October 2019 Rate		\$0.0184 / kWh
Alternative 1 Proxy Capacity Factor		34.3%
Alternative 2 Rate		\$0.2078 / kWh
Alternative 3 October 2019 Monthly Capacity Market Price		\$4.8082 / kW Monthly

Environmental Component		\$0.02741 / kWh
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Demand Reduction Value (DRV)	For hourly net injections during DRV contracted hours	\$0.3433 / kWh
Demand Reduction Value (LSRV)	For the lowest hourly net injection during a LSRV events	\$5.4930 / kWh per event

Community Credit		\$0.0500 / kWh
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Community Credit Adjustment Factors	
Renewable Technology	Adjustment Factor
Solar PV	1.00
Wind	0.61
Small Hydro	0.28
Non-Fossil Fuel Cells	16%
Technologies not defined as renewable energy systems by PSL 66-p will not receive a Community Credit.	

Monthly Solar Production: for a 1 kW AC Solar System used in the calculation of Alternative 1; Consistent with monthly values issued in the State Public Service Commission Order Regarding Value Stack Compensation in Case 15-E-0751 issued April 18, 2019.

Monthly Solar Production	
Month	(kWh/kW)
1	56
2	71
3	113
4	123
5	143
6	148
7	147
8	141
9	112
10	90
11	66
12	51
Total	1260

LIPA Statement No. ~~XX~~19 – VSC

Note 1: including only those SC-12 customers that would have been eligible for service under will pay the rate of a similar size customer on SC-2L, 2L-VMRP or 2-MRP based on size, type and/or character of load.