April 18, 2016

Via Electronic Filing

TO:
Kathleen H. Burgess, Secretary
New York State Public Service Commission
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RE: In the Matter of the Value of Distributed Energy Resources (Case 15-E-0751)

Dear Secretary Burgess,

Please find comments of the Solar Energy Industries Association and Vote Solar (the Solar Parties) in response to the Commission's *Notice Soliciting Comments and Proposals on an Interim Successor to Net Energy Metering and of a Preliminary Conference*.

Sincerely,

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Table of Contents

In the Matter of the Value of Distributed Energy Resources

Proposal of the Solar Energy Industries Association and Vote Solar (Solar Parties)

Case 15-E-0751

A. INTRODUCTION

The Solar Energy Industries Association and Vote Solar (the "Solar Parties") put forth the following proposal for an interim rider to value the costs and benefits of distributed energy resources (hereafter referred to as the DER Rider) to be applied to new offsite solar systems.[1] The Solar Parties also provide the following answers to Staff's framing questions regarding the impact of the DER Rider as put forth in Attachment A in the Commission's Notice.[2]

In its Track One Order, the Commission recognized the importance of net metering as a mechanism for enabling distributed energy resources (DER) while also expressing an interest in examining long term alternatives to net metering to value and compensate DER in a more efficient manner consistent with REV.[3] As New York approached its net metering caps in 2015, the Commission "floated" the caps to maintain market momentum and ordered Staff to begin development of a methodology to value and compensate DER based on the locational, temporal, and additional value of DER to the system (LMP+D).[4] In December 2015, Staff issued a request for proposals to compensate DER providers based on the LMP+D framework, with the

[1] The Solar Parties refer to our proposal as a DER Rider because it is a rate that will be set outside a rate case and that may change over time as the DER market develops.

[2] See *Notice Soliciting Comments and Proposal on an Interim Successor to Net Energy Metering and of a Preliminary Conference* issued December 23, 2015 In the Matter of the Value of Distributed Energy Resources (Case 15-E-0751)

[3] See *Order Adopting Regulatory Policy Framework and Implementation Plan*, February 26, 2015, Proceeding on Motion of the Commission in Regard to Reforming the Energy Vision (Case 14-M-0101) at 25, 128

[4] See *Order Establishing a Community Distributed Generation Program and Making Other Findings* July 17, 2015 2015 Proceeding on Motion of the Commission as to the Policies, Requirements and Conditions for Implementing a Community Net Metering Program (Case 15-E-0082) at 24, 32

expectation that an interim approach will be submitted to the Commission by December 31, 2016.[5]

The Solar Parties submit this initial framework for valuing and compensating DER to orient the discussion in the LMP+D proceeding.[6] The Solar Parties do not offer a detailed methodology or quantitative analysis of the valuation of DER at this time, but rather comment on the development of the DER Rider, the mechanism for compensating DER providers, and the applicability of the DER Rider to solar market segments, with the expectation that there will be an opportunity to undertake a full analysis of the value of DER based on the Solar Parties' proposed framework later in this proceeding. The Solar Parties' proposal focuses on valuation of the benefits delivered by distributed solar energy to the grid and the method for compensating distributed solar customers for these benefits, but should be viewed as a platform that can be applied to all DER types to enable DER deployment broadly.

Moving forward, the Solar Parties recommend that Staff review stakeholder proposals and set forth a process in which parties can develop and put forth valuations of DER based on their proposals or on a proposal put forth by Staff that has been informed by stakeholder comments. The Solar Parties recommend such a process in Section E of these comments (See *Procedural Recommendations to Develop the DER Rider).* The Solar Parties' proposal is structured as follows:

- Principles for DER Rider Development
- Compensating and Valuing Distributed Energy Resources
- Applicability of DER Rider to Solar Market Segments
- Procedural Recommendations to Develop the DER Rider
- Responses to Staff's Framing Questions (Attachment A)

Staff's Notice calls for an interim mechanism to be followed by a full compensation mechanism for DER.[7] However, rather than focusing on the development of interim and end state

[5] See *Notice Soliciting Comments and Proposal on an Interim Successor to Net Energy Metering and of a Preliminary Conference* issued December 23, 2015 In the Matter of the Value of Distributed Energy Resources (Case 15-E-0751) at 1-2
[6] Id.
[7] Id.

compensation mechanisms, the Solar Parties recommend that the Commission view this effort as the start of a continuum moving incrementally from the status quo towards quantifying and compensating DER, with increasing granularity, for locational, temporal, and additional benefits provided by DER to the system. This approach is consistent with Staff's discussion of DER valuation and compensation in its Track Two Whitepaper, which informs the Solar Parties' proposal.[8] The DER Rider proposed herein begins this process of incremental regulatory reform. The DER Rider should be developed in a manner that supports project finance and drives customer adoption of DER, which will in turn establish a foundation for further reforms that can lead to increased granularity and the development of accurate price signals, with the ultimate goal of developing a robust DER market as envisioned under REV.

Consistent with this approach, the Solar Parties propose that the DER Rider be required only for new offsite solar systems at this time (with the option for customers with on-site systems to opt-in). This will achieve the Commission's goal of directing large net exporters to areas of highest value on the grid through establishment of accurate price signals, and will give both the market and regulators an opportunity to evaluate and adapt to the DER Rider.

Further, in order to balance the Commission's ambitious December 31, 2016 deadline with the importance of developing a sufficiently robust valuation framework to be built upon going forward, the Solar Parties recommend that Staff submit for Commission approval at the end of this year a DER Rider proposal that identifies the full range of benefits delivered by DER to the system, including those benefits that may need to be approximated at this early stage. While there should not be an assumption as to whether the full value of DER is above or below the retail rate, the Commission should ensure that in the near term the DER Rider rate does not fall significantly below the retail rate in order to support sustained market growth.

Finally, while the Solar Parties embrace the long term goals of REV, the Commission should continue to be mindful of the state of the market today. Currently, New York's solar market is much smaller than many other states, including California, Hawaii, and Massachusetts, that have

[8] See *Staff White Paper on Ratemaking and Utility Business Models*, July 28, 2015 Proceeding on Motion of the Commission in Regard to Reforming the Energy Vision (Case 14-M-0101) at 76; 88-89; 97

begun considering more advanced compensation mechanisms and market design for DER.[9] In fact, California's recent decision to preserve retail rate net metering almost entirely intact until 2019 despite significantly higher penetration of DER than New York underscores the importance of moving incrementally.[10] Therefore, the Solar Parties urge the Commission to be mindful of the nascent state of New York's solar market and to prioritize market growth as it considers regulatory reform.

B. PRINCIPLES FOR DEVELOPMENT OF DER RIDER

We offer the following principles to help guide the Commission and DPS Staff through development of the DER Rider.

1. **Process for Developing DER Rider**: The process for developing the DER Rider should be transparent and ensure that parties have an opportunity to provide meaningful stakeholder input. Underlying data, assumptions and methodologies should be accessible and subject to stakeholder review (consistent with appropriate confidentiality concerns). Parties should be given sufficient notice throughout the process to enable stakeholder engagement. Parties should have the opportunity to provide expert opinion on key issues and develop an administrative record as needed. Development of the DER Rider should be done in close coordination with related regulatory proceedings and clean energy programs.

2. **Right to Self-Consumption:** All customers should have a right to self-consumption and control over their energy usage. This means that all customers have the right to determine the amount of energy they purchase from the grid, the amount of energy they self-produce and consume, and the amount of energy they save through efficiency or energy conservation measures. Customers have the right to reduce their demand for energy purchased from the grid through onsite generation.[11] In addition, the choice to

[9] Total DG Solar Capacity: CA: 4756.9 MW; MA: 959.2 MW; New York: 564.3 MW / DG Solar Capacity Per Capita (watts/person): CA: 121.5; MA: 141.2; Hawaii: 350.4; New York: 28.5 (Solar Market Insight Report http://www.seia.org/research-resources/us-solar-market-insight) DG Solar Share of Total Generation: HI: 5.8%; CA: 2.5 %; MA: 2.0%; NY 0.3% (Energy Information Administration https://www.eia.gov/)

[10] See *Decision Adopting Successor to Net Energy Metering Tariff*, January 28, 2016 Order Instituting Rulemaking to Develop a Successor to Existing Net Energy Metering Tariffs Pursuant to Public Utilities Code Section 2827.1, and to Address Other Issues Related to Net Energy Metering (D.16-01-044)

[11] See definition of "net metering" under the Public Utility Regulatory Policies Act 16 USC 1621(d)(11)

employ DER, including distributed solar, should not limit the rate schedule options available to customers.

3. **Proper Valuation and Compensation:** DER offers many benefits to the electric utility system and by extension to non-DER customers. The value of DER should thus be properly quantified and DER customers should be adequately compensated for the value their DER provides to all customers when exported to the grid. This includes accounting for the long term value of DER to the system consistent with the deferral and depreciation of long-lived utility assets.

4. **Simplicity, Gradualism, and Predictability:** Customers and businesses must be able to make educated investment choices with knowledge of the economic factors that will affect their investment, and with sufficient certainty to secure loans or other financing to deploy DER. A significant part of this certainty is to maintain simplicity in the structure and mechanics of DER compensation, as much as possible, such as has been the case with net metering. In addition, changes to tariffs or changes to the assumptions used for credit value calculations should only apply to projects not yet operating and should not impact existing customers who have already made investments in DER (see *Grandfathering*). Additionally, any such changes should be made publicly available for at least six months before implementation to accommodate business and sales cycles.

5. **Grandfathering:** The Commission should preserve project economics and protect customer and investor expectations for financial commitments already made.[12] While the Solar Parties recognize that the rates within the tariff structures are subject to change, the Commission's grandfathering policy should, at the very least, preserve the rate classes and tariff structures of DER customers as regulatory reforms are implemented to avoid making existing projects uneconomic and chilling the market for new deployments resulting from concern over regulatory risk. Customers should be grandfathered for the useful life of their system.

[12] The Commission has recognized the importance of grandfathering through REV thus far, and the Solar Parties encourage the Commission to continue implementing a strong grandfathering policy.

C. COMPENSATING AND VALUING DISTRIBUTED ENERGY RESOURCES

In the following section, the Solar Parties recommend an approach to valuation of DER and compensation of DER providers. As the Commission and Staff have recognized, the net metering mechanism has proven to be an effective and simple way of compensating DER providers for the value their systems bring to the grid, and development of a DER Rider rate is not incompatible with the net metering mechanism.[13] The Solar Parties agree and put forth an approach that maintains the net metering mechanism while embracing the development of an increasingly granular approach to the valuation of DER that is consistent with the goals of REV.

a. Compensation Mechanism for DER Providers on DER Rider Rate

To determine a customer's bill for solar customers on the DER Rider, the utility should calculate the solar customer's electric bill by netting, on a monthly basis, the customer's energy usage from the grid against excess energy generated by the customer and exported to the grid. The solar customer will be charged for their net monthly energy usage at their retail rate and will receive a credit from utilities for net monthly excess energy exported to the grid at the DER Rider rate, resulting in either a charge or credit on the customer's bill for the netting period. In months where there is a net excess, the customer will be credited at the DER Rider rate. For such months, monetary credits will roll over to the customer's bill in the next month.

Under this approach, customer generation used on-site is treated like load reduction and continues to be valued at the retail rate (see *Treatment of Generation Used On-Site*). The netting period should be monthly as this timetable is compatible with most rate design, easy for the customer to understand, and is in line with most utility billing practices.

1. Possible Transition Towards More Granular and Accurate Pricing

As smart meters, communications, and other enabling technologies are deployed on the distribution grid, and as customers gain the knowledge and ability to better react to price signals, this may trigger an evaluation of shorter netting periods to follow the evolution of rate design.

[13] See *Staff White Paper on Ratemaking and Utility Business Models*, July 28, 2015 Proceeding on Motion of the Commission in Regard to Reforming the Energy Vision (Case 14-M-0101) at 94; 108; See *Order Establishing a Community Distributed Generation Program and Making Other Findings* July 17, 2015 Proceeding on Motion of the Commission as to the Policies, Requirements and Conditions for Implementing a Community Net Metering Program (Case 15-E-0082) at 32

Any change to the netting period should be implemented only upon a determination that making such a change would help to further animate DER markets in line with the objectives of REV and appropriately value the contribution of DER to the grid. Additionally, changes should be based on a full and fair cost benefit analysis undertaken within the context of a utility rate case or distribution system implementation plan (DSIP) filing, and should incorporate a transition period that allows customers and suppliers to adapt.

Finally, while the Solar Parties support increased granularity of pricing and DER compensation, we oppose moving towards a buy-all sell-all approach and separate metering for solar customers, as this will undermine customers' ability to control their energy usage and limit their ability to maximize the value of DER.

b. Valuation of Benefits Provided by DER to the System

The following section discusses the Solar Parties' recommended approach to valuing the DER Rider.

1. Development of Accurate Price Signal Based on the Full Long Term Value of DER

The goal of the DER Rider valuation should be to produce an accurate price signal at the time of investment that encourages market participants to make the significant up-front investment required to finance DER. This requires establishing a price signal that is consistent with the long term value of DER to the system, such as deferral and depreciation of long-lived utility assets that DER investment avoids.[14] A price signal based on short term value that fails to take into account the expected future value of DER to the grid will not fully reflect the value of DER to the system, resulting in an ineffective price signal to the customer. This will undermine the Commission's effort to drive customer investment towards high value DER. The Solar Parties recognize that establishing an accurate price signal based on long term value may require forecasting certain DER benefits, and that such forecasts may be need to be revised periodically

[14] Staff recognizes the importance of valuing DER as an alternative to long term investments in its *Questions on the Value of Distributed Energy Resources and Options Related to Establishing an Interim Methodology* December 23, 2015 In the Matter of the Value of Distributed Energy Resources (Case 15-E-0751) at 3

for new DER, however this long run view is essential to establish an accurate price signal that motivates customers to invest in high value DER.[15]

Additionally, DER customers must be confident that the compensation they will receive over the life of their investment is stable. If a customer believes that compensation from DER is unpredictable due to regulatory risk or a valuation methodology that leads to volatile compensation levels, customers will not see the benefit of moving from their status quo to a DER system, and will thus be deterred from doing so.

For these reasons, the Solar Parties strongly urge the Commission to fix a number of value components in the DER Rider rate over the long term. If necessary, the Commission may undergo a periodic review of the DER Rider rate and update the value as appropriate. However, a new valuation for the DER Rider rate should only be applied to projects that come online after the new value is established on a forward looking basis.

2. Value Components for Development of DER Rider Rate

The value of net energy exported to the grid in the DER Rider should include all categories of benefits provided by distributed energy resources to the grid and should be an appropriate quantification of these benefits. These values include a combination of fixed and variable values that will apply to all projects on the DER Rider, and then additional values that may be captured by certain projects for incremental locational or capability benefits. Additionally, the value of energy generated and used on-site should continue to be valued at the retail rate.

The benefit-cost framework used by the Commission to determine the value of DER to the grid should be applied to all DER types equally. However, each type of DER may be compensated at a unique value based on the specific benefits delivered by that DER. The Solar Parties' proposal focuses on the specific benefits delivered by distributed solar energy to the grid, but should be viewed as a platform that can be applied to all DER types to enable DER deployment broadly.

[15] Evaluating resource additions over the long run is consistent with large-scale utility resources. Decisions are routinely made to invest in large-scale generation and transmission projects based on future benefit and cost projections.

The following chart lays out the values that the Solar Parties believe are suitable for consideration when determining the value of the DER Rider for distributed solar, and length of time for which each value should be set. This table is largely based on the Benefit Cost Analysis (BCA) Framework and represents expected value categories.[16] However, the Solar Parties expect to submit a quantitative analysis of the DER Rider in the next phase of this proceeding and reserve the right to provide additional comment on the value categories at that time as appropriate.[17]

Categories	Varies w/Market Price	Fixed for Greater of 25 Years or Useful Life of Project
Locational Marginal Price	X	
Wholesale Capacity Benefits	X	
Market Based Ancillary Services	X	
DRIPE		X
Reduced Transmission Capacity Needs		X
Reduced Distribution Capacity Needs		X
Equipment Life Extension		X
Avoided Line Losses		X
Fuel Price Hedge		X
Reliability & Resiliency		X
Economic Development		X
Carbon Emissions		X
Criteria Air Pollutants		X
Water		X
Land		X
Conservation Voltage Reduction		X

[16] See *Order Establishing the Benefit Cost Analysis Framework* January 21, 2016 Proceeding on Motion of the Commission in Regard to Reforming the Energy Vision (Case 14-M-0101)

[17] In its Notice, Staff directed parties to use the BCA Framework in their DER compensation proposals. However, Staff also acknowledged that there may be certain values not included in the BCA Framework that may apply to specific applications of DER. Therefore, the table put forth here is based on the BCA Framework and includes some additional categories that the Solar Parties believe merit consideration in this proceeding (See *Notice Soliciting Comments and Proposals on an Interim Successor to Net Energy Metering and of a Preliminary Conference* December 23, 2015 Case 15-E-0751 at 3-4)

Voltage and Power Quality		X
Siting in High-Value Locations		X
Peak-Demand Reduction (*e.g.* West-Facing Systems)		X

These issues are explored in further detail below.

i. Treatment of Generation Used On-Site

The value of energy that is generated and used on-site should not be subject to the DER Rider and instead should offset retail rate demand in recognition of the customer's right to self-consume. This should hold true even if the DER Rider becomes more granular over time. Customers should never be charged a fee for electricity that is generated and used on-site.

ii. Treatment of Net Excess Generation Under DER Rider

For customers on the DER Rider, net excess generation exported to the grid should be compensated at the DER Rider rate. This rate will include components that are fixed for the life of the DER project and others that vary on a short time-scale, such as every six months or every day. The DER Rider may also include additional value for benefits captured by projects on an individual or portfolio basis.[18] All projects on the DER Rider will receive the following fixed and variable values:

iii. Fixed Value of DER (Referred to as "D")

The fixed value portion of the DER Rider will be set every five years and would apply for the greater of 25 years or the useful life of the project, for all projects built in the time period. Projects built in the next five years would receive the next revised value for their project lifetime. This value will include transmission, distribution, economic and certain environmental benefits over the useful life of the asset. The Commission will review the fixed values every five years and publish any updated values six months before implementation, and all projects built during the applicability of a given value will receive that value for the greater of 25 years or the project's useful life. This will ensure that projects are financeable and customers will have high

[18] http://www.solarcity.com/sites/default/files/SolarCity_Distributed_Grid-021016.pdf

confidence in the value of their DER systems, balanced with the objective of accurately capturing the potential changes in the value of long-term system benefits of DER. To ensure a full and fair analysis, review and updates of fixed values for the DER Rider should be done through a utility rate case or as part of a utility's DSIP filing.

In addition, the Solar Parties recommend a locational adder in particularly stressed areas to reflect the value that may be greater than average avoided transmission and distribution costs over the entire system. Locational value can become more granular once more detailed locational data is available and accepted methodologies for valuing location have been developed, and may be subject to update more frequently than other components of long-term value, based on, for example, sufficient DER response to substantially eliminate the local stress.

iv. Variable Value of DER

Certain components of the value of DER are variable over time and location, and may be adjusted as such. LMP, ancillary, and wholesale capacity prices may be based on actual market prices over the course of the customer billing period. This is consistent with current practice for setting supply service rates for customers served by utilities and is aligned with the objective of sending accurate energy, ancillary, and capacity price signals to customers.[19]

v. Additional Value of DER

Customers should be encouraged to maximize additional value for all customers through compensation for benefits not otherwise captured in the DER Rider that result from additional customer investment. These values could be added on a project by project or aggregated portfolio basis for characteristics such as grid services provided by smart inverters, additional peak demand reduction not captured by LMP or other value streams, and west facing systems. To start, these values could be set every five years and published six months before implementation, and should be set for the useful life of the project. Moving forward, the Commission may also explore developing markets to allow customers to capture these additional

[19] See General Rule 25 of ConEd's retail rate tariff stating "Except for Customers served under Rider M, the cost of energy per kilowatthour applicable during each Customer's billing period will be based on NYISO day-ahead Locational Based Marginal Prices load-weighted by the applicable rate class's hourly load shape" at Tariff Leaf #328 ff (https://www2.dps.ny.gov/ETS/jobs/display/download/5808980.pdf)

values on a more granular basis as the DER Rider is developed (i.e. a distributed grid ancillary services market).

Once the interim DER Rider has been established based on the values discussed herein, the Commission may also consider exploring implementation of more complex transactions between the utility and the developer directly to provide additional value to the electric grid. The Commission should do so while keeping retail-customer-facing products and tariffs simple to enable adoption and financing.

D. APPLICABILITY OF DER RIDER TO SOLAR MARKET SEGMENTS

As stated, the Solar Parties' proposal should be viewed as a neutral platform that can be used to value and compensate all DER types. However, these comments focus on applicability of the DER Rider to the distributed solar market. The following section discusses the applicability of the DER Rider to New York's distributed solar market segments. As proposed by Staff in the Track 2 Whitepaper, the DER Rider rate should apply to new off-site systems.[20] These systems are net exporters, provide significant grid benefits when placed in high value locations, and, with the exception of mass market CDG subscribers discussed in detail below, are likely to serve commercial and industrial (C&I) customers that are equipped to respond to the price signal created by the DER Rider rate. The Solar Parties' recommendations regarding the applicability of the DER Rider rate are outlined in further detail below.

a. Treatment of New and Existing Systems

- All **existing** systems should be grandfathered at retail rate net metering on their current tariff for their useful life.
    - The Solar Parties propose that "existing systems" be defined as solar projects that are currently interconnected, that are under an interconnection contract, or for which the CESIR has been paid up to six months after the Commission issues its order establishing the valuation of the DER Rider (hereafter referred to as approving DER Rider).
- All **new** systems for which the DER Rider is applicable should be placed on the DER Rider rate.

[20] See *Staff White Paper on Ratemaking and Utility Business Models*, July 28, 2015 (Case 14-M-0101) at 108

- The Solar Parties suggest that "new systems" in this context are those projects that do not fit the definition of existing projects.

- All solar customers, **existing** and **new**, should have the option to move to the DER Rider at any time.

b. Treatment of Solar Customers by Market Segment

Solar Market Segment		Permanent Choice of Retail Rate NEM	Option to Choose DER Rider	DER Rider
Existing Systems	Mass Market: On-site[21] Systems ≤ 250kW	X	X	
	On-site Systems > 250kw	X	X	
	Community Distributed Generation (CDG) Systems	X	X	
	Remote Net Metered[22] Systems	X	X	
New Systems	Mass Market: On-site Systems ≤ 250kW	X	X	
	On-site Systems > 250kw[23]	X	X	
	Community DG Systems			X
	RNM Systems			X

Blue: Existing Systems **Brown:** New Systems

c. Discussion of Applicability of DER Rider to Solar Market Segments

1. Existing Solar Customers

The Solar Parties define existing solar customers as all customers who are currently interconnected, have an interconnection agreement in place, or have submitted payment for their Coordinated Electric System Interconnection Review (CESIR) within six months after issuance

[21] On-site refers to projects that use at least 66% of generation on-site on a yearly basis, other than CDG.
[22] Remote net metered refers to projects that use less than 66% of generation on-site on a yearly basis.
[23] As discussed in Section c. 3 below, the Solar Parties recognize that large on-site solar customers may be suitable for the DER Rider in the future. However, in the near term the Solar Parties recommend that these customers be allowed to opt into the DER Rider rate until the Commission has had an opportunity to review uptake and market impact.

of the order approving the DER Rider. The six-month period provides the absolute minimum workable period for solar and other DER developers to transition their sales offerings from the existing tariff and compensation structure to a new one. This period allows for the design and permitting period required after the execution of a deal with a customer and before construction can begin. Without such a lag in the effectiveness of the new rules, DER developers would need to stop selling well in advance of the Commission's decision, significantly disrupting the progress of DER deployment.

Existing solar customers should be grandfathered on retail rate net metering for their system's useful life on their existing service classification and exempt from the DER Rider. However, existing customers should have the option to move to the DER Rider should they choose to do so. Allowing existing solar customers to stay on their existing tariff or migrate to the DER Rider will protect customer investments while offering customers the opportunity to respond to the price signal created by the DER Rider.

Therefore, the Solar Parties recommend that all existing solar customers should be grandfathered on retail rate net metering at their current service classification for the useful life of their system and exempt from the DER Rider for their projects' useful life. Existing customers should have the option to move to the DER Rider should they choose to do so.

2. Mass Market Solar Customers

The Solar Parties recommend that mass market solar customers be defined as those customers with onsite solar systems sized 250 kW or smaller. This threshold is consistent with Staff's definition of mass market customers as residential and small commercial customers, and captures the bulk of New York's existing on-site solar market.[24] Further, the Solar Parties recommend that on-site solar projects are defined as those projects that use at least 66% of generation on-site on a yearly basis (excluding Community Distributed Generation).[25]

[24] See Staff definition of mass market as residential and small commercial customers, which Staff distinguishes from large commercial and industrial customers. *Staff Recommendation See Staff White Paper on Ratemaking and Utility Business Models*, July 28, 2015 (Case 14-M-0101) at 78

[25] This is the threshold used in the Massachusetts SREC program and provides sufficient latitude to oversize a system to meet future on-site load growth.

Both existing and new mass market customers should remain on retail rate net metering based on their existing service classification.[26] As Staff recognizes, this market segment is comprised of residential and small commercial customers for whom simplicity is essential to encourage customer adoption and to enable system financing.[27] Additionally, it would be very difficult for mass market customers to respond to the price signal created by the DER Rider, especially without smart metering technology that is not yet available to the mass market.[28]

However, as Staff noted in its Track 2 Whitepaper, there may be certain mass market "active consumers" and "prosumers" who have invested in smart grid technologies and are highly engaged in their energy use that may find value in the DER Rider, or the DER Rider may present a better economic profile at some point in the future.[29] The Commission should allow existing mass market solar customers to move to the DER Rider on an individual basis to encourage early movers in the REV market.

Therefore, the Solar Parties recommend that all mass market solar customers, existing and new, be kept on retail rate net metering at their current service classification, with the option to the move to the DER Rider.

3. Onsite Solar Customers System Sized > 250 kW

The Solar Parties recommend distinguishing solar customers with onsite systems sized larger than 250 kW from the mass market. These customers are generally larger commercial and industrial customers that are more likely to be engaged in managing their energy usage and costs than mass market customers, and therefore may have the ability to respond to the price signal created by the DER Rider. Further, customers with systems above 250 kW may be able to take advantage of additional value streams resulting from system specific investments available under the DER Rider (see *Additional Value* discussion below).

[26] See *Staff Recommendation See Staff White Paper on Ratemaking and Utility Business Models*, July 28, 2015 (Case 14-M-0101) at pg. 108; 92-93
[27] Id. at 92-93
[28] Id.
[29] Id. at 85; 94

While Staff recognizes this distinction in its Track 2 Whitepaper, Staff also recognizes that onsite solar customers' ability to respond to the price signal created by more granular rates such as the DER Rider is dependent on the deployment of smart meters, and that additional advanced DER technology will be needed if more value is to be captured from these systems.[30] Presumably in recognition of these limitations, Staff has not recommended that the DER Rider apply to new large on-site solar customers at the outset.[31] However, if properly developed, the Solar Parties expect that the DER Rider will provide a more accurate valuation of the full benefits provided by large onsite solar customers to the system than currently provided by retail rate net metering, which will incentivize this group of customers to move to the DER Rider rate over time.

Therefore, the Solar Parties recommend that the DER Rider rate be optional for new onsite solar customers with systems sized larger than 250 kW. This is consistent with the concept that the LMP+D effort is a continuum and will give large solar customers the opportunity to adopt the DER Rider rate without threatening continued growth in this market segment. The Commission can review adoption of the DER Rider rate and its impact on this market segment after an appropriate period of time, and subsequently make a determination as to whether new on-site solar customers with systems sized larger than 250 kW should be placed on the DER Rider going forward.[32]

4. Community Distributed Generation Solar Systems

In 2015, the Commission launched a proceeding to establish a Community Distributed Generation market (also known as Community Net Metering and CDG) to serve customers who may not otherwise participate in the New York solar market.[33] The CDG program will enable customers that do not have suitable situations for solar or other DER technologies to access the DER market.[34] The Commission has indicated that CDG systems should be on the DER Rider rate (also called LMP+D) because these systems are net exporters, and are large systems that

[30] Id. at 92-93; 98-99; 102
[31] Id. at 108
[32] This is also consistent with Staff's recommendation in the Track 2 Whitepaper, in which Staff indicated that while C&I customers may benefit from more accurate price signals, the LMP+D rate (DER Rider rate) should only be applied to CDG and RNM customers in the near term See *Staff White Paper on Ratemaking and Utility Business Models*, July 28, 2015 (Case 14-M-0101) at 108
[33] See Case No. 15-E-0082
[34] See http://www.nyserda.ny.gov/All-Programs/Programs/NY-Sun/Communities/Shared-Solar

should be encouraged to be developed in high value locations through the DER Rider rate.[35] However, Staff also recognizes that subscribers to CDG systems should not be placed at a disadvantage vis a vis mass market customers who have on-site systems.[36] Therefore, Staff recommends that if the value of the DER Rider rate for a CDG customer is less than the value that the customer would have received for onsite DER, then the Commission should consider further adjustments to avoid inequities between CDG and mass market customers.[37]

The Solar Parties support Staff's recommended approach to CDG.[38] New CDG systems should be placed on the DER Rider rate to encourage deployment in high value locations, and existing CDG projects should be grandfathered on retail rate net metering for the useful life of the system with the opportunity to offer their subscribers revised terms based on the DER Rider rate should they choose to do so. Further, CDG customers in the same service classification as mass market customers should receive equitable compensation for their generation. The Commission should review the DER Rider once developed and, if necessary, adjust the compensation level for CDG customers to be the same as retail rate net metering for mass market on-site customers. This is especially important for low and moderate income customers who are likely to participate in CDG programs as a means of accessing the DER market.

Further, the Solar Parties caution the Commission that the CDG market, especially in the Upstate region, is a very nascent market that is facing a number of challenges including interconnection issues, property tax issues, zoning barriers, customer risk aversion, and first time financings. Therefore, it is imperative that the Commission closely consider the impact of the DER Rider and limit disruption to the CDG market as the DER Rider rate is developed and implemented.

Finally, the Solar Parties recommend that the DER Rider be applied to the CDG market at a project level to align with project financing. Financing for CDG is done on a project basis,

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[35] See *Staff White Paper on Ratemaking and Utility Business Models*, July 28, 2015 (Case 14-M-0101) at 108; See *Order Establishing a Community Distributed Generation Program and Making Other Findings*, July 17, 2005 (Case 14-M-0101) at 31-32

[36] See *Staff White Paper on Ratemaking and Utility Business Models*, July 28, 2015 (Case 14-M-0101) at 94

[37] Id.

[38] See *Order Establishing a Community Distributed Generation Program and Making Other Findings*, July 17, 2005 (Case 14-M-0101) at 32; See *Staff White Paper on Ratemaking and Utility Business Models*, July 28, 2015 (Case 14-M-0101) at 108

rather than on a customer basis, and the compensation framework for CDG should be as well. This means that grandfathering should be applied to a whole project, such that if a grandfathered project experiences customer turnover, new customers for the project will receive the project's grandfathered rate. This is necessary to ensure predictability of revenue for project financing in the case of customer turnover within a given CDG project.

5. Remote Net Metered Solar Customers

In 2011, New York expanded behind-the-meter generation and established remote net metering (RNM) for renewable energy systems to allow the electricity generated to be distributed among many utility accounts.[39] Under RNM, customers own or invest in solar systems that are not located at the same site as their load. The Solar Parties suggest that the Commission consider RNM projects to be those projects that use less than 66% of generation on-site on a yearly basis.

In its Track Two Whitepaper, Staff recommended that RNM customers be placed on the DER Rider rate (referred to as LMP+D in the Whitepaper).[40] Presumably, Staff reasoned that RNM systems are suitable for the DER Rider because RNM systems are net exporters that tend to be large and therefore can provide significant benefits to all electric consumers, especially when deployed in high value locations. Additionally, RNM customers are generally larger C&I customers with more resources to devote to their energy usage and costs than mass market customers, and are therefore more likely to be able to evaluate and manage the value presented by the DER Rider.

Therefore, the Solar Parties generally support Staff's approach to RNM customers.[41] Namely, the DER Rider should apply to new RNM customers and existing RNM customers should have the option to move to the DER Rider at any time, but should not be required to do so.
Finally, the RNM market is also facing significant challenges, especially in the Upstate region. These challenges include low rates and many of the same barriers and complexities faced by the CDG market. It is key that RNM projects make economic sense for customers, have sufficiently stable value streams to be financed, and that customers are confident in the value of RNM

[39] http://www.nyserda.ny.gov/Cleantech-and-Innovation/Power-Generation/Net-Metering-Interconnection
[40] See *Staff White Paper on Ratemaking and Utility Business Models*, July 28, 2015 (Case 14-M-0101) at 108
[41] Id. at 94; 108

projects as long term investments. Therefore, the Solar Parties urge the Commission to remain mindful of the challenges currently faced by the RNM market and limit disruption of this market segment as the DER Rider is developed and implemented.

d. Migrating to DER Rider

The following section outlines the Solar Parties' proposed policy for allowing solar customers to move between retail rate net metering and the DER Rider.

1. Existing Solar Customers

As discussed, grandfathering is a cornerstone of maintaining steady market growth. For this reason, all existing solar customers should be grandfathered for the useful life of their system on their existing service classification, and the DER Rider should only apply prospectively. However, customers should also be encouraged through education to adopt new tariffs as they are developed to spur new market development.

Thus, the Solar Parties recommend that the Commission grandfather all systems currently in place for the useful life of the system but allow existing solar customers to migrate to the DER Rider should they choose to do so.

2. New Mass Market Solar Customers

It is important to allow mass market customers to switch between retail rate net metering and the DER Rider to encourage customer adoption of new tariff design and develop the REV market. However, early movers in the mass market may be hesitant to move to new DER rates that are unknown to them and present a perceived risk. Therefore, to mitigate a potential chilling effect on early movers from the mass market created by a perceived risk associated with moving to a new DER rate, the Commission should allow mass market customers to switch between retail rate net metering and the DER Rider up to once per year. This policy is consistent with the current practice of many states to allow customers to move on and off time of use rates voluntarily to encourage customer adoption of dynamic rates.[42]

[42] See *Staff Recommendation See Staff White Paper on Ratemaking and Utility Business Models*, July 28, 2015 (Case 14-M-0101) at 86-87 citing Ahmad Faruqui, Ryan Hledik and Neil Lessem, "Smart by Default," Public Utilities Fortnightly (August 2014); Ahmad Faruqui, Ryan Hledik and Jennifer Palmer, "Time-Varying and Dynamic Rate Design" (Regulatory Assistance Project and The Brattle Group July 2012)

3. New Customers in all Other Solar Market Segments

As stated, other market segments are distinct from mass market customers. Therefore, the Solar Parties recognize that a different policy regarding migration between retail rate net metering and the DER Rider rate may be appropriate. The Solar Parties recommend that non-mass market customers that elect the DER Rider rate are permitted to use shadow billing for one year during which time they may revoke their election and return to their previous tariff. After a year of shadow billing on the DER Rider rate, the non-mass market customers that elect the DER Rider rate will be placed on the DER Rider permanently.

E. PROCEDURAL RECOMMENDATIONS TO DEVELOP THE DER RIDER

The Solar Parties recommend the following process be followed for the remainder of this proceeding.

Phase I: Framework Phase

1. **Initial Comments (due April 18, 2016):** Parties submit frameworks of DER Rider
2. **Reply Comments:** Parties reply to initial comments
3. **Technical Conference:** Opportunity for parties to confer with Staff on key issues from comments
4. **Staff Draft Framework:** Staff issues draft proposal for interim framework based on comments
    a. Proposal Includes:
        i. Components of DER Rider rate
        ii. Identification of fixed vs. variable components
        iii. Statement regarding how often components will be set
5. **Comment Period:** Opportunity for parties to comment on Staff draft framework
6. **Commission Approval of Staff Framework:** Commission rules on Staff proposed framework of DER Rider, including components of DER Rider rate

Phase II: Quantitative Phase

1. **Staff Proposal of DER Rider Valuation:** Proposal from Staff recommending valuations of each component within DER Rider rate

2. **Discovery Phase:** Opportunity for parties to engage in discovery in preparation for comment on Staff proposed DER Rider valuation
3. **Comment Period on Staff Proposal:** Comment period in which parties offer critique and propose modifications of Staff's proposed DER Rider valuations
4. **Commission Approval of Staff's Proposed DER Rider:** Staff submits proposed DER Rider to Commission for approval

F. CONCLUSION

The Solar Parties appreciate the Commission's careful consideration of the issues raised in this proceeding and urge the Commission to adopt the approach for valuing and compensating DER put forth in these comments.

Sincerely,

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ATTACHMENT A

G. SOLAR PARTIES' RESPONSES TO STAFF FRAMING QUESTIONS

A. Proposal for Interim Methodology

1. Identify and describe, in as much detail as possible, a mechanism or mechanisms to more precisely value DER as bridge, as currently effectuated in tariff today, while the complete value of D tool and methodologies are developed.

See the Solar Parties' DER Rider proposal.

2. For each mechanism proposed, or for any mechanism ultimately adopted, identify the input assumptions and the types of benefits and costs relevant to the mechanism, including analysis of their relative significance in magnitude.

The Solar Parties have put forth a framework and expected benefits of DER that should be considered for valuation of the DER Rider. However, the Solar Parties will put forth a methodology and quantitative analysis of the benefits of DER in the next phase of this proceeding.

3. How can the contractual and financial expectations of existing projects be respected?

The Commission should continue to prioritize grandfathering to preserve existing project economics, protect existing customer investment, and signal the Commission's strong commitment to honoring the settled expectations of customers and investors as the REV environment is developed. The Commissions' grandfathering policy should, at the very least, require preserving a project's rate class and tariff structure as regulatory reforms are implemented, acknowledging that the rates underlying the tariff structure may change over time. The Commission should grandfather systems for their useful life.

4. Bill impacts are a critical metric for assessing any proposal. How should bill impacts be identified and analyzed? What criteria should be employed to assess the bill impacts of a given proposal?

One of the primary goals of REV is to provide enhanced customer knowledge and tools that will support effective management of the total energy bill.[43] Given this objective, the evaluation of bill impacts needs to take into account the anticipated customer responses to new billing

[43] See *Order Adopting Regulatory Policy Framework and Implementation Plan*, February 26, 2015 (Case 14-M-0101) at 4.

structures and presentations. The long term benefits of DER to the system will be experienced by all electric consumers. Rather than focus on short term rate impacts, the Commission should focus on long term value. It will take time to see widespread reductions in bills resulting from the impacts of DER, but system-wide efficiencies – in reduced transmission and distribution ratebase investment and greater utilization factors throughout the system – will deliver the long-term savings envisioned under REV. The Solar Parties' proposed DER Rider represents an important step in restructuring the approach to compensating DER that will accurately reflect the benefits provided by distributed generation and increases customers' ability to manage their DER production, their own usage, and their overall bills.

5. **For each mechanism, describe with as much specificity as possible:**

   A) The benefits and costs to:
   i) participants;
   ii) non-participants; and
   iii) society

Consistent with the overall REV objective of market animation and providing customers with additional information and tools to manage their energy bills, the Solar Parties' proposed DER Rider would enhance the transparency of DER compensation and support continued deployment of DER through its incremental changes from the current net metering approach. Participating customers would benefit from bill savings due to net reductions to load and from DER bill credits to the extent that there is net excess generation from the DER. Participants and non-participants alike would also benefit from avoided utility / grid costs and reductions in wholesale market energy and capacity prices. Finally, both participants and non-participants would benefit from avoided environmental externalities and other non-energy benefits.

Costs to a utility's delivery customers would include the utility's contributions, if any, to DER capital, interconnection, and O&M costs and any utility administrative costs, to the extent those costs were socialized across all electric consumers.

Like participants, non-participants would benefit from avoided utility / grid costs and reductions in wholesale market energy and capacity prices, and from avoided environmental externalities and other non-energy benefits.

The only cost to non-participants would be utility administrative costs, to the extent socialized across participants and non-participants. (Lost utility revenues are not a true economic cost, but a transfer between participants and non-participants.)

Beyond benefits to participants and non-participants within a particular utility's territory, societal benefits would include wholesale market price reductions shared by customers of other utilities in NYISO, avoided environmental externalities, and other non-energy benefits.

There would not be any costs to society as a whole, other than those costs incurred by a utility's participants and non-participants.

B) How the benefits and costs vary when the customer is demand billed versus non-demand billed.

Retail rate net metering currently undervalues the benefits provided by DER customers on demand rates. The DER Rider will fully value the benefits of the exported energy of DER customers on demand rates and therefore moves in the direction of sending a more accurate price signal to these customers.

The Commission should also consider launching a pilot program for demand customers styled after the Option R rate available to C&I customers in California.[44] This rate would reduce demand charges and increase time of use energy rates for C&I customers, thereby improving the alignment of capacity related costs with electricity rates for large on-site solar customers that provide significant capacity benefits to the system during periods of peak demand. This rate design is consistent with the Commission's goal of aligning price signals with the value of DER to the system, and with Staff's recommendation to review demand charges and rate design for C&I customers in the Track 2 Whitepaper.[45]

[44] http://docs.cpuc.ca.gov/SearchRes.aspx?docformat=ALL&DocID=152291659 (Application 12-2-002 Filed December 3, 2102 California Public Utilities Commission)

[45] See *Staff Recommendation See Staff White Paper on Ratemaking and Utility Business Models*, July 28, 2015 (Case 14-M-0101) at 102

C) How the benefits and costs vary when the project is targeted to a system need versus randomly distributed.

Targeted distributed solar projects will bring more value to the system than non-targeted projects. Therefore, the Solar Parties' proposal includes a locational adder that reflects the additional benefit of siting projects in high value locations. While the Solar Parties recommend a locational adder in the early iterations of the DER Rider, locational valuation may become more granular once more detailed locational data is available and accepted methodologies for valuing location have been developed. Finally, although targeted systems should receive an adder for locational value, the Commission should not discount the DER Rider for non-targeted systems. In other words, the principle should be to incentivize, not penalize. The DER Rider should be determined first for all applicable systems, and then targeted systems should receive an incremental locational adder.

D) How the mechanism applies to energy injections into the grid, versus load reduction.

For DER Rider customers, net energy injections will be valued at the DER Rider rate and net load reductions will be valued at the retail rate. For retail rate net metered customers, both energy injections and load reduction will be valued at the retail rate.

6. Describe how the mechanism would affect and reflect:

A) More accurate and precise value signaling
B) Simplicity in the customer experience and ability to encourage customer adoption.
C) The Commission's REV policy objectives.

A) The DER Rider proposed by the Solar Parties provides more accurate and precise value signaling to DER customers by incorporating a full and fair valuation of the benefits of DER, and by encouraging DER customers to maximize the benefits of their systems to all electric customers by making additional value streams available. However, this will require a long term view of the value of DER to the system.

B) The DER Rider proposed by the Solar Parties maintains the simplicity of retail rate net metering through a straightforward monthly netting mechanism that is easy to calculate and easy to understand. Additionally, the mechanism is predictable and stable, which will encourage customer investment. Finally, the mechanism assures DER customers that they

will get the full value of their systems, including the ability to offset load through onsite generation, maintaining the value proposition for DER customers.

C) The DER Rider proposed by the Solar Parties is aligned with the REV objectives of encouraging adoption of DER while animating the DER market through accurate price signals, and simultaneously mitigating any potential rate impact on non-participating consumers. Additionally, the emphasis on grandfathering will protect customer investment and maintain market momentum.

7. Describe how the mechanism would be consistent with current or foreseeable enabling technology.

The DER Rider should be viewed as a technology agnostic platform that will evolve with enabling technology. For example, the Rider can evolve with metering technology as it is deployed to reflect increasingly granular price signals and more-accurate valuations of net energy injections. Additionally, the proposal recognizes the additional value of foreseeable DER technology such as smart inverters and storage by providing a platform for valuing these technologies.

The DER Rider treats onsite energy usage the same as any other type of DER or load reduction measures by allowing customers to offset energy usage at retail rate. However, the DER Rider also recognizes the unique value of solar energy and therefore applies a unique set of values to net energy injections that are reflective of the value of solar energy and can accommodate other specific values associated with other DER technologies as well.

8. Describe the extent to which the mechanism relies on changes in rate design, including whether rate design changes to implement the mechanism would apply only to participating customers or apply to all customers.

The DER Rider does not rely on rate design changes to effectuate the DER Rider. In fact, the Solar Parties believe the DER Rider should not result in DER specific rates, or rates that discriminate against DER customers. Additionally, as an interim step in the development of REV, the DER Rider is easy to implement as a complement to existing retail service classifications.

9. Describe the implications of the mechanism for fair, efficient, and sustainable recovery of distribution system costs.

The Solar Parties' proposed DER Rider promotes the ability of customers to manage their own energy usage and their overall energy costs through the use of DER, and prices net excess generation based on the full benefits that such DER generation brings to the grid, and does not otherwise change cost responsibility within rate classes. Further, consistent with REV, the DER Rider is designed to be a platform that will benefit all electric consumers over the long term by broadening opportunities for underserved customer segments to participate in DER markets and encouraging strategic deployment of DER that benefits the entire system.

10. Describe the implications of the mechanism for fair, efficient, and sustainable customer investment.

The Solar Parties' proposed DER Rider encourages and enables customer adoption through a consistent and clear price signal, long term valuations, investment certainty, grandfathering, fair compensation of DER resources, and customer control over energy usage.

11. Describe the extent to which the cost of providing distribution service to individual customers utilizing DER is or could be avoided by the DER.

The Solar Parties' DER Rider values injections into the grid based on a full estimate of the value of the operation of DER, including the cost of distribution service avoided by DER energy injections.

12. Describe how a mechanism would focus on, or apply to:

A) Residential or small commercial (i.e., non-demand-billed) onsite projects.

See DER Rider proposal and answer to 5D.

B) Demand-billed projects whose output is not substantially greater than the load at the meter.

See DER Rider proposal and answer to 5D.

C) Large projects whose output is substantially greater than the load at the meter (e.g., Remote Net Metering, Community DG).

See DER Rider proposal and answer to 5D.

13. Provide illustrations of how the proposed compensation mechanism would be applied. Issues for attention should include (but do not need to be limited to):

See DER Rider proposal.

A) Is accounting accomplished via bill credits or via some other mechanism?

Accounting should be done through a bill credit.

B) Is generation netted against consumption or are energy flows accounted for separately?

Generation is netted against consumption over the relevant billing period, and the DER customer is compensated for excess generation through a bill credit at the applicable DER Rider rate.

C) Is measurement and/or accounting of generation conducted on a volumetric or a monetary basis?

Generation is measured on a volumetric basis as an offset to customer usage. Customer usage in excess of generation over the applicable netting period is charged at the retail rate, while generation in excess of customer usage over the applicable netting period is compensated at the DER Rider rate through a monetary bill credit

14. Describe anticipated impacts on participating and non-participating low income customers.

See answer to Question 9.

Additionally, the availability of CDG will be of particular benefit to low and moderate income customers that may otherwise have no feasible access to DER. Finally, the local environmental benefits of solar energy and other distributed renewable energy will benefit low and moderate income customers the most, to the extent these customers disproportionately live near polluting energy resources that will be displaced by increased DER penetration on the grid over time.

15. Describe how the mechanism would distinguish, if at all, between solar PV and other technologies currently eligible for NEM.

The proposed DER Rider is a platform designed to enable all DER, but provides for separate values based on the unique benefits that each DER brings. The Solar Parties' proposal focuses on solar energy, and therefore the value for solar resulting from our proposal is solar specific. However, the proposed DER Rider can be applied to all DER and should result in a unique valuation for each DER type.

16. Describe how the mechanism would, if at all, account for the value of emissions reductions.

The Solar Parties recommend that emission reductions be accounted for as in the BCA Framework. Additionally, the Solar Parties encourage the Commission to consider environmental values not included in the BCA such as particulates and habitat destruction from fossil fuel extraction and transportation.

B. Developing a Full Valuation Methodology

The Commission should move on a spectrum towards increased granularity and more accurate pricing when calculating the benefits provided by DER to the system. (See *Introduction* and *Valuation of Benefits Provided by DER to the System*)

The following additional questions provide line-of-sight to the continuation of the process beyond the development of interim "bridge" methodologies.

17. Describe how a full valuation mechanism should account for the following:

A) Variations in benefits and costs between generation that is dispatchable and generation that is variable or intermittent.

Controllable generation would benefit from dispatch during hours with highest LMP and market-based ancillary-service prices. Also, ability to generate during hours of either localized or overall system stress increases effective capacity rating relative to non-controllable generation, thereby increasing generation capacity value. Importantly, controllable generation also represents an additional valuable characteristic in supporting system reliability, which should be recognized in valuation and compensation.

B) Which types of benefits and costs should be valued on a fixed basis or on a dynamic basis?

See DER Rider proposal for discussion of fixed and variable values, and the period of time for which these values should be set.

C) For those components where a fixed value is proposed, how often would the value be updated, and by what process?

The value would be updated every five years through an administrative proceeding (ratecase or DSIP filing).

D) For those components where a dynamic value is proposed, identify the dimension(s) which should be variable (e.g., temporal, locational, service class, gross usage, and the like).

LMP, ancillary-service, and capacity prices vary in time and location.

18. Describe whether a valuation mechanism should be adjusted for time-varying rates. If a customer is billed on a time-varying rate:

A) How would measurement and/or accounting for time-varying rates be handled? (e.g., How will generation be metered and credited against time periods with differing rates charged to customers?)

B) Would compensation be adjusted to reflect other time-varying elements of system value irrespective of whether a customer's consumption is billed with time varying rates?

The calculation of the monthly credit depends on how the generation is metered, not on how customer load is metered. For example, if the generation is hourly metered, then the monthly LMP credit is simply the sum over all hours in the month of the product of hourly generation and hourly LMP. If generation is cumulatively metered, then hourly generation would be estimated based on an assumed generation profile. The monthly credit would then be calculated in the same fashion as for generation that is hourly.

C) How would compensation be applied to other aspects of a customers' bill (e.g., fixed charges, demand charges, etc.)?

Credits for net excess generation would be monetary, and thus should be applied to a customer's bill to offset charges. The Solar Parties do not propose a limitation on the components of a bill to which the credit could – or could not – be applied.

D) How would these mechanisms be applied to on-site DER compared to offsite or remote DER?

There is no difference in application for on-site DER that chooses the DER Rider, as the DER Rider will be voluntary for on-site customers.

19. Describe how the mechanism would balance price stability and risk mitigation (to facilitate market development) against the objective of accurate and dynamic price signals.

The DER Rider provides efficient price signals by valuing energy, ancillary services, and capacity using actual market prices. The DER Rider promotes price stability by fixing estimated values for other benefits for the long term (the greater of 25 years or the useful life of the project).

20. Describe the extent to which the system value of a single DER project may be a function of the degree of networked DER penetration (e.g., the total amount of DER on a particular circuit serving a similar set of system values).

The long-term valuation of DER should include a recognition that DER aggregators, or perhaps the DSP, will be able to coordinate the operation of multiple DERs for the benefit of local or more generalized system needs. That control and coordination function is an additional source of value that may be achievable only with a portfolio of DER and not with a single DER.