STATE OF NEW YORK
PUBLIC SERVICE COMMISSION

At a session of the Public Service Commission held in the City of New York on December 12, 2019

COMMISSIONERS PRESENT:

John B. Rhodes, Chair
Diane X. Burman, concurring, in part and dissenting, in part
James S. Alesi
Tracey A. Edwards
John B. Howard

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)

BY THE COMMISSION:

INTRODUCTION

Through the Value of Distributed Energy Resources (VDER) proceeding, the Public Service Commission (Commission) has directed the transition of compensation for distributed generators (DG) from previous methods with limited accuracy and granularity, like net energy metering (NEM), to the Value Stack, which provides compensation based on the actual, calculable values that the generator output provides to the electric system. The Value Stack applies to resource types that had been eligible for net metering, including solar photovoltaic (PV), farm waste-based anerobic digester, wind, micro-hydroelectric, fuel cell, and micro-combined heat and power generation systems, as well as certain additional resources. Where a resource receiving Value Stack compensation is participating in Community Distributed Generation (CDG), offtakers receiving compensation

for that project's generation, often called subscribers, may receive, in addition to the Value Stack, a Market Transition Credit (MTC) or Community Credit, based on the project's vintage and service territory and the offtaker's service class.

On May 10, 2019, the Joint Utilities[1] filed a Petition Seeking Clarification of the Treatment of High-Capacity-Factor Resources Eligible for Community Distributed Generation (JU Petition) expressing concern that the application of the MTC and 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 JU Petition explains that this issue has become particularly relevant in light of a number of prospective fuel cell CDG projects entering the interconnection queue in Con Edison territory. The Joint Utilities requested that the Commission direct utilities to either: (1) count the contributions of high-capacity-factor resources towards each MTC or Community Credit Tranche based on the ratio of the expected production to the solar 15 percent capacity factor assumed by the Commission in setting the Tranche and allocation limits; or, (2) reduce compensation to high-capacity-factor resources participating in CDG to be comparable on a $/kW installed basis to that of a solar facility.

On August 13, 2019, Department of Public Service Staff (Staff) filed a Whitepaper Regarding High-Capacity-Factor Resources (Staff Whitepaper) that recommends modifications to the treatment of certain high-capacity-factor DG in the Value

[1] The Joint Utilities are Central Hudson Gas & Electric Corporation (Central Hudson), Consolidated Edison Company of New York, Inc. (Con Edison), New York State Electric and Gas Corporation (NYSEG), Niagara Mohawk Power Corporation d/b/a National Grid (National Grid), Orange and Rockland Utilities, Inc. (O&R), and Rochester Gas & Electric Corporation (RG&E).

Stack framework, including modifications related to the relief requested in the JU Petition, as well as adjustments to the Value Stack to reflect the recently enacted Climate Leadership and Community Protection Act (CLCPA). Specifically, the Staff Whitepaper recommends that any high-capacity-factor resource that qualifies after August 13, 2019, 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. The Staff Whitepaper also recommends limiting the Environmental Value component of the Value Stack to resources that are listed under the definition of renewable energy systems under Public Service Law (PSL) §66-p, subject to certain grandfathering provisions.

This Order adopts the recommendations in the Staff Whitepaper, with modifications. Specifically, the Order adopts the following changes: (a) a fuel cell CDG receiving Value Stack compensation, as a dispatchable high-capacity factor resource, shall receive an adjusted MTC or Community Credit, if otherwise eligible, based on average fuel cell capacity factor as compared to the average solar capacity factor, unless the resource qualified before August 13, 2019; (b) a resource receiving Value Stack compensation shall only receive the Environmental Value, if otherwise eligible, if it meets the definition of renewable energy systems in PSL §66-p, unless the resource qualified before August 13, 2019; (c) a fuel cell that qualified on or before August 13, 2019, should receive an Environmental Value and MTC or Community Credit, if otherwise eligible, based on the applicable values at the time of qualification; and, (d) for any fuel cell that receives an unadjusted MTC or Community Credit, the interconnecting utility should reduce available MWs in the applicable MTC or Community Credit Tranche by the capacity of each resource multiplied by the ratio of that resource's

estimated average capacity factor to an average solar capacity factor.

BACKGROUND

The VDER Transition Order directed the transition of compensation for eligible Distributed Energy Resources (DERs) from NEM to the Value Stack for various rate classes and project types.[2] The Value Stack is a methodology that bases compensation on the actual, calculable benefits that DERs create. DERs subject to the Value Stack receive compensation for the energy they inject into the utility system according to a set of values that are calculated based on the utility costs they offset, including: Energy Value, based on the energy commodity purchase requirements offset by each kilowatt-hour (kWh) injected; Capacity Value, based on the Installed Capacity (ICAP) purchase requirements offset by injections; Demand Reduction Value (DRV), based on the distribution costs offset by injections, averaged across the utility's service territory; and, Locational System Relief Value (LSRV), available only in locations that the utility has identified as having needs that can be addressed by DERs, and based on the higher, specific distribution costs offset by injections in that area.

The Value Stack also includes an element reflecting the environmental value of the generation. The Value Stack Environmental Value applies to resources eligible to participate in the Clean Energy Standard (CES) and compensates those resources for their Renewable Energy Certificates (RECs), which are then transferred to the interconnecting utility and used for

[2] Case 15-E-0751, Value of Distributed Energy Resources, Order on Net Energy Metering Transition, Phase One of Value of Distributed Energy Resources, and Related Matters (issued March 9, 2017) (VDER Transition Order).

that utility's CES compliance. The current CES eligibility rules include fuel cells, including fuel cells that use natural gas to generate electricity, anaerobic digesters, and certain hydro facilities, among others.[3]

The VDER Transition Order also established a number of transitional mechanisms to moderate the changeover from NEM to the Value Stack for various customer classes and project types, including Phase One NEM, which is a limited continuation of NEM-style compensation, and the MTC, which is an adder to the Value Stack for mass market customers participating in CDG projects designed make Value Stack compensation approach the previous level of compensation under NEM.

The Value Stack applies to resource types that had been eligible for net metering, including solar photovoltaic, farm waste-based anerobic digester, wind, micro-hydroelectric, fuel cell, and micro-combined heat and power generation systems, as well as certain additional resources. Initial eligibility rules were established in the VDER Transition Order.[4] Eligibility was extended to certain additional resources and project configurations in the Eligibility Expansion Order.[5]

On April 18, 2019, the Commission issued the VDER Compensation Order, which modified the calculation and compensation methodology of a number of elements of the Value

[3] Case 15-E-0302, Clean Energy Standard, Order Adopting a Clean Energy Standard (issued August 1, 2016). Eligibility rules appear in Appendix A.

[4] Case 15-E-0751, supra, VDER Transition Order.

[5] Case 15-E-0751, supra, Order on Value Stack Eligibility Expansion and Other Matters (issued September 12, 2018) (Eligibility Expansion Order).

Stack.[6] Specifically, inter alia, it replaced the MTC for new projects in certain utility territories with the Community Credit. The Community Credit is, like the MTC, a per kWh adder to the Value Stack for CDG members; unlike the MTC, it is not limited to only mass market customers but instead goes to all CDG members. In addition, while customers receiving the MTC do not receive the DRV, customers who receive the Community Credit do also receive the DRV.

The MTC applies to mass market subscribers of CDG projects in Tranches 1-4 in all electric utility service territories.[7] The Community Credit applies to all subscribers of CDG projects in the Community Credit Tranche in the Con Edison, National Grid, NYSEG, and RG&E service territories.[8] The MTC and Community Credit are intended as transitional mechanisms to moderate the changeover from NEM to the Value Stack for various customer classes and project types, and to maintain an annual net revenue impact of less than 2% in order to limit the potential cost shift to nonparticipating ratepayers. The Commission directed the utilities to calculate the 2% revenue impact target based on the assumed output of a solar generator, and established capacity-based Tranches for the MTC and Community Credit that were consistent with this 2% revenue impact target.[9]

---

[6] Case 15-E-0751, supra, Order Regarding Value Stack Compensation (issued April 18, 2019) (VDER Compensation Order).

[7] Case 15-E-0751, supra, VDER Transition Order.

[8] Case 15-E-0751, supra, VDER Compensation Order.

[9] VDER Transition Order, p.126-127; Value Stack Order, p. 25-27.

SUMMARY OF PETITION AND STAFF WHITEPAPER

The JU Petition expresses concern that the application of certain Value Stack elements, in particular the MTC and Community Credit, to offtakers of certain high-capacity-factor DG like fuel cells could result in excessive cost shifts inconsistent with Commission decisions and guidance.[10] The Joint Utilities request that the Commission direct utilities to either: (1) count the contributions of high-capacity-factor resources towards each MTC or Community Credit Tranche or allocation based on the ratio of the expected production to the solar 15 percent capacity factor assumed by the Commission in setting the MW Tranche and allocation limits; or (2) reduce compensation to high-capacity-factor resources participating in CDG to be comparable on a $/kW installed basis to that of a solar facility.

The Staff Whitepaper recommends modifications to the treatment of certain high-capacity-factor DG in the Value Stack framework, including modifications related to the relief requested in the JU Petition, as well as adjustments to the Value Stack to reflect the CLCPA. Specifically, the Staff Whitepaper recommends that any high-capacity-factor resource that qualifies after August 13, 2019, 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. The Staff Whitepaper also recommends limiting the Environmental Value component of the Value Stack to resources that are listed under the definition of renewable

[10] Capacity factor describes the ability of a resource to produce electricity throughout the year. Resources with a high capacity factor such as fuel cells that consume natural gas, can operate virtually all year long. In contrast, low capacity factor resources like solar generation are dependent on fuels that are intermittent, like sunlight.

energy systems under PSL §66-p, subject to certain grandfathering provisions.

Staff recommends in its Whitepaper that new high-capacity-factor resources receive a Community Credit adjusted based on the ratio of an average solar PV capacity factor to that resource's estimated average capacity factor, as illustrated in Staff's chart below. Based on the data provided in Appendix E of the VDER Compensation Order, the average annual PV capacity factor for the state is approximately 14%. The table below is Staff's recommended MTC/Community Credit adjustment factor by technology, based on anticipated average capacity factors.

	Average Capacity Factor	Adjustment Factor for Community Credit
Solar PV	0.14	1.00
Wind	0.23	0.61
Small Hydro	0.50	0.28
Fuel Cells	0.87	0.16

The Staff Whitepaper also notes that the CLCPA added PSL §66-p, 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 is zero emissions by 2040. The statute 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."

The Staff Whitepaper recommends that as the Commission develops the policies needed to fully implement the CLCPA and achieve its goals, it will be necessary to ensure that clean energy requirements applied to utilities match the requirements of the CLCPA. Therefore, resources that do not meet those requirements will not be able to offset utility compliance costs. In addition, Staff explains that fuel cells using natural gas for generation often have greenhouse gas emissions similar to average greenhouse gas emissions of New York's grid, which means that generation by fuel cells that replaces use of the grid may have a minimal or no impact on net greenhouse gas emissions. This is particularly true where the waste heat from the generator is not employed to heat buildings or for another useful purpose. Furthermore, as New York's grid becomes cleaner as the result of the CES and CLCPA, these resources are likely to have greater carbon emissions than the grid average. Therefore, Staff concludes that in addition to not clearly reflecting utility savings, continuing to provide the Environmental Value to fuel cells using natural gas and other non-eligible technologies would not reflect the actual environmental benefits, or lack thereof.

Staff notes that the Commission has historically allowed projects that qualified prior to notice of a potential policy change to receive compensation under earlier policies, subject in some cases to a capacity limit to manage potential impact on nonparticipating ratepayers. Staff recommends the same approach be taken in this case, as developers of fuel cells and other high-capacity-factor resources are likely to have expended significant effort and funds based on estimated revenues including an unadjusted MTC or Community Credit and an Environmental Value. While arguably those developers were on notice of potential changes when the JU Petition was filed,

Staff recommends that the date of the Whitepaper's publication instead be used as the cutoff date, since the JU Petition did not substantially address the Environmental Value issue and since more thorough notice was provided of the Staff Whitepaper than of the JU Petition.

NOTICE OF PROPOSED RULE MAKING

Pursuant to SAPA §202(1), a Notice of Proposed Rulemaking regarding the Petition and the Staff Whitepaper was published in the State Register on August 28, 2019 [SAPA No. 15-E-0751SP24]. In addition, a Notice Soliciting Comments on Petition and Staff Whitepaper was issued on August 14, 2019. The time for submission of comments pursuant to the notices expired on October 28, 2019. Comments are summarized in Appendix A and addressed below.

LEGAL AUTHORITY

As described in the VDER Transition Order, the Commission has the authority to direct the treatment of DER by electric corporations pursuant to, inter alia, PSL §§ 5(2), 66(1), 66(2), and 66(3). Pursuant to the PSL, the Commission determines what treatment will result in the provision of safe and adequate service at just and reasonable rates consistent with the public interest.

DISCUSSION

The Commission has clearly contemplated throughout the VDER proceeding that the Value Stack remains an initial, transitional tariff that would require further development. Therefore, developments during the implementation period, including the status of the market, statutory changes, and other exogenous factors, are evaluated and addressed, as needed,

through refinements to the Value Stack and other VDER policy elements. The JU Petition and the Staff Whitepaper present such developments and demonstrate that action is needed to preserve the 2% net revenue impact target, ensure continued opportunities for DG development in all areas, and avoid inappropriate incentives and unintended disconnects between value and compensation.

The MTC and Community Credit are intended as transitional mechanisms intended to support development of clean and distributed resources, while maintaining an annual net revenue impact of less than 2% in order to limit the potential cost shift to nonparticipating ratepayers. The JU Petition and the Staff Whitepaper demonstrate that the development of fuel cells, a high-capacity-factor resource, has substantially accelerated in the Con Edison service territory. The application of the MTC or Community Credit to a high-capacity-factor resource results in substantially greater annual cost than to a solar PV generator of comparable size. Therefore, if not addressed by the Commission, the development of fuel cells could result in significantly higher costs than forecasted and therefore exceedance of the 2% net revenue impact target, as well as more limited opportunities for the development of other resources like solar, or both. Similarly, the passage of the CLCPA requires the Commission to adjust its programs for consistency with the directives in the statute, including adjustments to the Value Stack that limit the environmental compensation provided for resources that are excluded from the definition of renewable energy systems.

High-Capacity-Factor Resources

The annual net revenue impact of the MTC or Community Credit associated with a particular CDG project is based directly on the number of kWh generated by that project in a

year. The capacity factor of a resource can be used to determine, given a resource's total size, how many kWh it will generate in a year. Therefore, higher capacity factor resources will inevitability cause a higher net revenue impact than lower capacity factor resources of the same size. In order to maintain the 2% target, the VDER Transition Order and VDER Compensation Order calculated the annual net revenue impact of the MTC and the Community Credit by multiplying the assigned dollar per kWh value for each Tranche by the number of anticipated average kWh generated per year by projects in that Tranche once it reaches full capacity, based on the solar PV capacity factor. Therefore, when a resource with a higher capacity factor than solar PV is placed in a Tranche and receives the full MTC or Community Credit for that Tranche for all of its generation, the potential net revenue impact associated with that Tranche will increase.

Allowing high-capacity-factor resources to receive an unadjusted MTC or Community Credit, and only applying their base capacity to the Tranche, would result in net revenue impacts well above the 2% targets. Conversely, if all fuel cells currently in Con Edison's interconnection queue were built and received an unadjusted Community Credit, and the Community Credit Tranche was reduced by their capacity, almost the entire Tranche would be filled by those fuel cells. Consequently, allowing high-capacity-factor resources to receive an unadjusted MTC or Community Credit and applying their capacity to the Tranche with an adjustment based on their load factor, as compared to the solar PV load factor, could result in Tranches being closed much more quickly than intended with less generation built, and with some Tranches dominated by those resources.

Furthermore, for dispatchable resources such as fuel cells, offering the full MTC or Community Credit has the potential to substantially distort the incentives the Value Stack is intended to create. Particularly in the Con Edison service territory where, during many parts of the year, the Community Credit will equal or exceed the rest of Value Stack combined, it will likely incentivize those resources to generate as many kWh as possible without any regard to system needs or differential costs and values. The Commission's previous decision to limit the MTC and Community Credit to generation resources, rather than applying those elements to the output of storage resources charged by grid power, was based on similar concerns that it would lead to uneconomic arbitrage.[11]

The Commission is not persuaded by the argument, presented by some commenters, that these recommendations violate the long-standing Commission policy of technological neutrality. The point of this policy has always been to evaluate resources based on their performance, rather than arbitrary distinctions between different technologies. In this case, the proposed adjustment of the MTC and Community Credit is directly related to an aspect of performance, capacity factor. In fact, to take no action in this situation would unduly preference fuel cells, as each fuel cell project would have access to more than six times as much compensation from the MTC and Community Credit. The linkage between capacity factor and MTC or Community Credit is explicit in the VDER Transition Order and VDER Compensation Order, which explicitly employ solar PV's capacity factor to calculate net revenue impacts.

The argument that the MTC and Community Credit should not be adjusted because fuel cells and similar resources can

[11] Case 15-E-0751, supra, VDER Transition Order and Expanded Eligibility Order.

provide significant value to the system, including through their ability to perform at the times of greatest system need and to be more easily located in stressed areas, is similarly unpersuasive. To the extent that fuel cells can create significant value by, for example, locating in LSRV zones and ensuring maximum production during peak local and system hours, fuel cells already have access to compensation for that value in the Value Stack. For example, a fuel cell that performs during system peak hours is likely to receive six times more compensation on average than a solar project of similar size, assuming that solar project is not paired with energy storage. Similarly, a fuel cell will receive significantly higher DRV and LSRV compensation on average than a solar project of a similar size.

Furthermore, for all of those values, a solar project's compensation is likely to vary substantially each year based on weather patterns and other factors, while a fuel cell's ability to manage its generation will create substantially more certainty in year-to-year compensation. As the commenters note, fuel cell developers are often also better able to take advantage of LSRV zones due to the smaller footprint and more flexible placement options of fuel cells compared to solar PV. However, the increased value fuel cells can offer in these areas will be exactly proportional to the increased compensation they can access through those Value Stack elements. Therefore, offering inflated MTC or Community Credit compensation on the basis of these values would represent overcompensation and distort the very incentives that those values are intended to create.

For these reasons, the Commission adopts Staff's recommendation that the MTC or Community Credit applicable to dispatchable high-capacity-factor resources, specifically fuel

cells, be adjusted based on anticipated average capacity factors. The Commission adopts the adjustment factor of 0.16, based on an average capacity factor of 0.87, proposed in the Staff Whitepaper.

However, other resources referenced in the Staff Whitepaper, including wind and small hydro, merit separate consideration. The JU Petition specifically addressed only fuel cells and the record in this case shows that, to date, only fuel cells have shown a significant increase in deployment. The cost shift calculations in the JU Petition are similarly limited to fuel cells in the Con Edison territory. Furthermore, both small hydro and wind have a significantly lower capacity factor than fuel cells and different small hydro projects have a wide range of different capacity factors, such that applying a single average capacity factor would create inequitable results.

As a number of commenters note, these other technologies are either more limited naturally, as small hydro is, or are still relatively nascent, as small wind is, and do not presently pose a risk of excessive cost shifts due to unrestrained growth. Unlike fuel cells, which have a small footprint and can be deployed in a variety of locations, there are significant physical and geographic limitations to the deployment of such technologies. Moreover, Staff's proposed methodology may have inadvertently exposed hybrid facilities (eligible generation paired with energy storage systems) to the proposed adjustment mechanism.

Furthermore, non-dispatchable technologies, such as small hydro and wind, do not present the same incentive issues as dispatchable technologies. Once a non-dispatchable resource has been installed, the developer has little or no control over when the resource generates electricity or how much is generated. The only exception is where the resource is

collocated with an energy storage resource. As described above, such hybrid systems are only eligible for MTC or Community Credit based on electricity originating from the generation resources, which means that the only applicable incentive for timing generation is to maximize the actual values reflected in the Value Stack. Therefore, instead of directing any change in the MTC or Community Credit applicable to these resources, the Commission instead directs Staff to monitor interconnection queues and Value Stack participation and make future recommendations as appropriate.

Environmental Value Eligibility

The elements of the Value Stack, including the Environmental Value, reflect actual, calculable cost reductions for the interconnecting utility based on the injection of electricity. Because the CES requires utilities to purchase RECs from eligible generators, the interconnecting utility offsets CES compliance costs when it purchases RECs from an eligible VDER participant. For that reason, projects only receive the Environmental Value if they are eligible resources under CES rules. This results in some current resources being ineligible for receipt of the Environmental Value, such as small hydro resources that do not meet the vintage requirement limiting CES eligibility to generators that came into operation on or after January 1, 2015. However, the PSL §66-p definition of renewable energy systems excludes certain resources currently eligible under CES rules, including fuel cells using natural gas and anerobic digesters. Those resources therefore do not contribute to the achievement of the CLCPA goals, which for each relevant period are the same as or higher than CES goals.

The Commission adopts the Staff Whitepaper recommendation that new resources not included in the CLCPA definition receive no Environmental Value under the Value Stack.

High-capacity-factor resources that do meet the definition of renewable energy systems in PSL §66-p, such as fuel cells powered using renewable resources, should continue to be eligible for the Environmental Value as consistent with current VDER policy. Resources that do not meet the CLCPA requirements will ultimately not offset utility compliance costs. The Commission is not persuaded by commenters who suggest that Value Stack rules should not be changed until after changes to the CES are adopted. VDER policy offers a 25-year commitment to Environmental Value at a fixed $/REC level. It would be unreasonable and create additional costs for ratepayers to make additional commitments now that new overarching rules have been established. Because these resources will not receive the Environmental Value, they will retain their own Attributes, consistent with the Customer-Retention-Option described in the VDER Transition Order. To the extent that any changes are made to CLCPA eligibility in the future, new resources meeting the new requirements will be eligible for the Environmental Value and existing projects not receiving the Environmental Value will have the option to switch to the Interconnection-LSE-Option and receive Environmental Value moving forward, once such a change has been enacted.

For the above reasons, continuing to provide the Environmental Value to fuel cells using natural gas and other resources not eligible under the CLCPA would cause increased costs to ratepayers without concomitant reductions in utility costs.

Existing Projects

The Commission's longstanding policy is to protect developers with projects in advanced stages of development, as those projects were developed based on good faith reliance on existing policies, particularly as it regularly refines the

Value Stack and related polices. Specifically, the Commission has generally allowed projects that qualified prior to notice of a potential policy change to receive compensation under earlier policies, subject in some cases to a capacity limit to manage potential impact on nonparticipating ratepayers.

The Commission adopts Staff's recommendation that any project that qualified[12] on or before August 13, 2019, and is otherwise eligible, receive an unadjusted MTC or Community Credit and an Environmental Value at the level applicable at the time of the project's qualification and for the 25-year period set at that time. The Staff Whitepaper date provides a realistic notice that changes may be occurring and to adjust accordingly. The Commission is satisfied that this date provided constructive notice to potential developers and investors.

Using the Staff Whitepaper date is also consistent with the Commission's determinations in other orders, including the recent VDER Compensation Order, to base compensation on qualification date and to apply changes in compensation only to projects that qualified after notice of a potential change was provided. A 90-day transition or other time period, or a phased step-down to Community Credit payments, as some commenters suggest, is inconsistent with recent Commission practice on VDER-related issues and would increase impacts on nonparticipating ratepayers. Moreover, deadlines in the CLCPA,

[12] Consistent with the VDER Transition Order and subsequent orders, a project qualifies when it meets the standard for placement in a Tranche; that is, 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. A project that was eligible for another compensation mechanism, such as net metering, that is eligible to opt into Value Stack compensation qualifies if and when it opts in.

which a commenter suggested should align with the Environmental Value changes, are irrelevant to considering the need to limit ratepayer exposure to a charge that, once locked-in, is available for 25 years. The Commission must act now to ensure ratepayers are protected from paying for resources that are not supporting current State goals.

To avoid excessive net revenue impacts, utilities should apply the capacity of any such resources to the applicable Tranches with an adjustment based on their load factor as compared to the solar PV load factor. Given the limited number of qualified high-capacity-factor projects, this should not meaningfully impair the development of solar PV and other renewable energy systems.

The Joint Utilities are directed to file tariff changes to implement the decisions made in this Order. Given the limited application of this change and the substantial public process in this proceeding, the newspaper publication requirements for those tariff changes are waived.

CONCLUSION

The decisions in this Order reflect three fundamental principles of VDER policy. First, that core elements of the Value Stack, such as the Environmental Value, have a direct basis in utility avoided costs and should only apply to projects that result in those avoided costs. Second, that the Value Stack incentivizes developers to build and operate their DG in ways that maximize the benefits created for the utility system and society through appropriate compensation for those benefits. And third, that availability and calculation of transitional compensation on top of other Value Stack elements be subject to and consistent with the 2% net revenue impact established in the VDER Transition Order.

The VDER policy, as revised in this Order, will continue to drive the development of clean and distributed energy projects for the benefit of customers and the utility system, while appropriately managing impacts on nonparticipating ratepayers. The Commission will continue to monitor the development of the DERs and take action as appropriate to ensure robust deployment of DERs to the benefit of customers and the utility system.

The Commission orders:

1. Central Hudson Gas & Electric Corporation, Consolidated Edison Company of New York, Inc., New York State Electric and Gas Corporation, Niagara Mohawk Power Corporation d/b/a National Grid, Orange and Rockland Utilities, Inc., and Rochester Gas & Electric Corporation are directed to file, in conformance with the discussion in the body of this Order, tariff leaves implementing the modifications to the Value of Distributed Energy Resources policy and to the Value Stack in this Order, on not less than 20 days' notice to become effective on February 1, 2020.

2. The requirements of Public Service Law §66(12)(b) and 16 NYCRR §720-8.1, related to newspaper publication of the tariff amendments described by Ordering Clause 1, are waived.

3. In the Secretary's sole discretion, the deadlines set forth in this order may be extended. Any request for an extension must be in writing, must include a justification for the extension, and must be filed at least one day prior to the affected deadline.

4. This proceeding is continued.

By the Commission,

(SIGNED) MICHELLE L. PHILLIPS
Secretary

SUMMARY OF COMMENTS

Party Comments

Advanced Energy Economy Institute (AEE)
Alliance for Green Economy, Alliance for Clean Energy New York, Binghamton Regional Sustainability Coalition, Citizens for Local Power, Grassroots Environmental Education, Climate Justice Committee of CNY Solidarity Coalition, Fossil Free Tompkins, Hudson River Sloop Clearwater Inc., Indian Point Safe Energy Coalition, New York City DSA Ecosocialist Working Group, New York Interfaith Power & Light, Safe Energy Rights Group, Sane Energy Project, WESPAC Foundation, and Renewable Energy Taskforce Force of the WNY Peace Center (AGE)
Bloom Energy Corporation (Bloom)
Borrego Solar (Borrego)
CertainSolar (Certain Solar)
City of New York (The City)
Coalition for Community Solar Access (CCSA)
FuelCell Energy (FuelCell)
Generate Capital (Generate)
Albany Engineering Corporation, Ampersand Energy Partners, Azure Mountain Power, Boralex Hydro Operations, Boundless Energy, Brookfield Renewable, Buttermilk Falls Hydro, Cube Hydro Partners, Current Hydro, Davis Hydro, Eagle Creek Renewable Energy, EONY Generation Limited, Gravity Renewables, Kruger Energy, Natural Power Group, Northern Power & Light, Salisbury Hydro Associates, Wappingers Falls Hydroelectric and the National Hydropower Association (Hydro Parties)
Joint Utilities: Central Hudson Gas & Electric Corporation, Consolidated Edison Company of New York, Inc, New York State Electric & Gas Corporation, Niagara Mohawk Power Corporation d/b/a National Grid, Orange and Rockland Utilities, Inc., and Rochester Gas and Electric Corporation (JU)
Multiple Intervenors (MI)
National Fuel Cell Research Center (NFCRC)
New York Energy Consumers Council (NYECC)
WattTime (WattTime)

Public Comments

ArcStar Energy, LLC (ArcStar)
Cornell University College of Agriculture and Life Sciences (Cornell)
Elizabeth O'C. Little, Senator, 45th District (Senator Little)
D. Billy Jones, Assemblyman 115th District (Assemblyman Jones)
Village of Saranac Lake (Saranac Lake)

AEE believes that the current Staff Whitepaper does not reflect recognition of the importance of respecting investment made under existing Commission policy. AEE believes that a retroactive change in the Value Stack will be highly damaging to the confidence of the market in future Commission decisions, and may raise financing costs and discourage market participation. AEE recommends that the Commission adopt the same grandfathering policy that it found reasonable in the initial transition from NEM to the Value Stack. Adopting the same policy here would be consistent with what the Commission previously found reasonable in similar circumstances. AEE argues that grandfathering would only allow the most advanced projects what were conceived under existing rules for the Value Stack to proceed under existing rules. AEE states that adopting substantial changes in compensation without providing adequate notice will ultimately lead developers to shy away from deploying DER under VDER out of concern the rules in place today may not be the same rules when the project begins operating.

AGE urges the Commission to reject Staff's proposal to reduce the Community Credit, which improperly focuses on technology rather than value and which would retroactively and drastically reduce the Value Stack for distributed renewable energy resources, especially micro-hydroelectric and distributed wind. AGE states that the Staff Whitepaper proposes to reduce the Community Credit value for certain technologies with no relation to the value of either their electricity output or the value of their projects to communities and to backdate the effect of these changes to April 2019. AGE finds these recommendations are particularly troubling in that they apply to technologies which were not mentioned in the original JU Petition, and for which the danger of cost-shifts has not been quantified.

AGE notes that the development of CDG projects can take years, and when refinements to the crediting system outpace project development, time and money is wasted, and customers get confused. AGE urges that if more granularity for CDG projects is desired, that these benefits be quantified and compared fairly across all renewable CDG before the Commission develops differentiated Community Credits by technology. Further, AGE urges the Commission not to base differentiation only on one arbitrary and non-project-specific factor (arguably a factor unrelated to state policy goals or grid value).

ArcStar wishes to register the direct and collateral damage that the JU Petition has inflicted on our company and the many host land and facility owners who have been deeply engaged with us. ArcStar argues that the short notice and cutoff date stimulated by the JU filing has suspended, and potentially

stranded, a large amount of invested capital and time and has created great uncertainty for the company, investors and land and facility owners. ArcStar states that it is financially absurd to set incentive levels for fuel cells in direct relation to capacity factors and incentives for solar installations because the two technologies have completely dissimilar siting and development costs, and provide different capabilities and benefits. ArcStar asserts that the argument being made by the JU that the current incentives will encourage high levels of adoption and deployment runs directly counter to these State mandates and disregards the near-complete absence of these valuable assets operating in the core of New York utility networks and the very small number operating today.

ArcStar suggests that fuel cells are the most efficient and reliable form of clean, continuous electrical generation, making them the only resource other than combustion engines capable of powering mission-critical and emergency services during extended grid outages and extreme weather. Further, ArcStar notes that fuel cell technologies are acknowledged globally to be well-proven and necessary contributors to reaching climate goals and strategic contributors to economic growth. ArcStar urges the PSC to recognize that the near-term financial risks of having a large number of fuel cell deployments are minimal when compared to the cost of having too few. ArcStar requests that the Commission choose to sustain their levels of support and increase the requirements of utilities to allow these technologies to demonstrate their worth as core components operating within their networks.

Assemblyman Jones urges the Commission to consider the value of CDG to securing the longevity of independent hydro, sources and their contribution to meeting New York State's renewable energy goals, when considering the proposed changes to the program.

Bloom Energy believes that the JU Petition significantly overestimated the assumption that all the 53 megawatts of high factor CDG projects in the queue would be developed. Bloom Energy points out that development of CDG projects involves significant unknowns and challenges. Further, Bloom Energy notes that most projects in the interconnection queue have not paid the required 25% deposit. Bloom Energy adds that 43% of active projects in the interconnection queue are in areas designated for LSRV payments and will provide corresponding cost savings to ratepayers by deferring or avoiding the need for traditional investments in transmission and distribution infrastructure. Bloom Energy states that the JU has mistakenly referenced fuel cell project deployments in National Grid’s upstate territory as CDG projects, but in fact are behind customer meters in

conjunction with energy storage assets in a “mini-microgrid” format.

Bloom Energy strongly supports the Staff recommendation that those projects that have already paid 25% of their interconnection deposit should move forward without changes to the Community Credit or E Value that their subscribers receive. Bloom Energy argues that there are significant investments made upon reliance on a published tariff that provides certainty to develop, and earn a return on projects. Bloom Energy points out that not only the developers rely on published tariffs but also project subscribers, local governments, permitting authorities and host landowners. Bloom Energy believes that it is critical that the tariff provision be honored for utilities to maintain the trust of their customers and business partners. Bloom Energy opposes the Commission or utilities retroactively modifying its tariffs, given the good faith reliance placed on them by a wide range of parties, project subscribers and their partners.

Bloom Energy argues that the Staff’s Whitepaper was issued an hour before the proposed deadline for projects to secure the economics described in Rider R of Con Edison’s tariff. Staff’s Whitepaper deadline diverges from the previous Commission actions that allowed projects already under development sufficient time to complete required utility studies. The same 90-day allowance that was granted in the Order on Net Metering should be granted to this situation. Bloom Energy does not support Staff’s argument that developers were on notice of potential changes when the JU filed their petition. However, Bloom Energy points out that the JU simply asked to resolve how CDG projects using HCF Resources should be treated about the cap on Community Credit. Further, the JU Petition provided two scenarios, one of which did not change the Value Stack and did not address other CF resources such as wind and micro-hydroelectric projects that are now included in the Staff proposal. Bloom Energy argues that providing a fixed date has the effect of creating an incentive to develop suboptimal projects based on their timing of development rather than develop projects of most value to society. Additionally, these proposed changes could interrupt development of projects intended to provide load relief in congested areas such as the Con Edison distribution system.

Bloom Energy recommends enacting a pre-defined step-down schedule such as a step down of the Community Credit by 25% of its current value for the next seven megawatts, and so on until the Community Credit is two cents per kilowatt-hour as proposed by Staff. Bloom Energy believes this approach would help deliver a larger number of projects, emission reductions and grid support without exceeding the two percent impact to ratepayers. Bloom Energy notes that Staff states that providing the E Value to fuel cells using natural gas and other non-eligible

technologies would not reflect the actual environmental benefits or lack thereof; however, Bloom Energy argues it appears to be based on a presumption that fuel source and statutory eligibility precisely correspond with quantifiable environmental benefits when they provable do not.

Bloom Energy believes that this approach ignores the health and environmental benefits of avoided combustion-related pollutants which is not captured in the Value Stack. Further, Bloom Energy states that the Staff Whitepaper suggests that the Commission should predicate value entirely on a whether a technology fits within the definition of renewable without reference to its actual environmental characteristics. Bloom Energy states that fuel cells emit no local combustion related pollutants and avoid significant volumes of these pollutants by merit of their high capacity factor and this proceeding represents an opportunity for the Commission to recognize the significant impacts and important benefits of avoiding local combustion related pollutants. Bloom Energy argues that the Commission would be more than justified to implement a phased step-down to Community Credit payments as described to enable local pollutant reductions that would be difficult or impossible to achieve via other forms of CDG projects.

Bloom Energy does not agree with the Staff's Whitepaper description of limited emissions impact of fuel cell projects. Bloom Energy suggests that the Commission compare the emissions impacts against the NYISO Zone in which a project is interconnected. Additionally, in the Order Establishing the Benefit Cost Analysis Framework, the Commission established a framework based on the avoided emission of marginal impacts as did the Energy Storage Roadmap. Bloom Energy points out that the Staff Whitepaper inexplicably appears to apply a different metric to fuel cells. Bloom Energy does not believe its accurate to say that fuel cells running on natural gas provide "a minimal or no impact on net GHG emission." Similarly, Bloom Energy states that it is not accurate that allocating the environmental value to fuel cells "would not reflect the actual environmental benefits" because the environmental benefit of a DER with virtually no NOX, SO2, or PM emissions can be as much as 9 times greater than the E Value of 2.7 cents per kilowatt-hour. Displacing less efficient marginal generation with more efficient distributed generation is an effective way to reduce GHG emissions immediately. By delivering reliable power that has been targeted by VDER signals into appropriate locations on the distribution system, Bloom Energy argues that CDG fuel cells will provide significant resilience benefits to the system.

According to Bloom Energy, it is critically important that the Commission not view technologies as a monolithic block based upon present use of a particular fuel as is especially true for fuel cells, which do not combust natural gas, but instead

utilize natural gas as the primary fuel source simply because it is the most practical source of hydrogen available today. Bloom Energy claims that fuel cells deliver immediate term emissions reductions by incrementally displacing large central station combustion plants with smaller, distributed non-combustion generators while the market for renewable hydrogen continues to develop. Bloom Energy notes that the new definition in the Climate Leadership and Community Protection Act singles out "fuel cells that do not utilize fossil fuels in the process of generating electricity," and is hopeful that the Commission will provide clarity to allow for the advancement of fuel cell projects operating on biogas and pipeline directed biogas in an upcoming proceeding. Bloom Energy believes that as "green hydrogen" costs decline, fuel cell projects installed today have immediate environmental benefits but may also constitute a down payment on the renewable hydrogen infrastructure of the future.

Borrego supports the Staff recommendations as they relate to any changes to gas-based fuel cells; however, they have significant concerns with Staff's proposal to apply the same treatment to other truly renewable energy technologies, especially distributed (DG) wind. If the Staff proposal is adopted without modification, Borrego believes that the small DG wind market will be unfairly penalized. Therefore, Borrego recommends that the Commission limit any adjustments to the community credit value exclusively to gas-based fuel cells until more evidence suggests that higher capacity distributed renewable resources are in fact a threat to the community credit budget.

Borrego would be supportive of prohibiting these fossil-fueled resources from receiving any community credit whatsoever - a treatment that would match the Commission's treatment of grid-charged energy storage resources under VDER. Borrego is concerned that Staff's laudable proposal to prevent these fossil-fueled resources from exploiting a loophole in the VDER tariff may inadvertently harm the deployment of truly renewable resources with higher capacity factors than solar and impair the ability of small community wind projects from being financed. Although Borrego believes that with modest support from the state, DG wind projects in areas with strong wind resources could be financed, Staff's proposal to adjust the community credit based on capacity factor will, perhaps inadvertently, make these projects more difficult to deploy.

Borrego does not share Staff's concern about the potential for truly renewable resources to dominate the dwindling Community Credit Tranches. Borrego suggests monitoring the progress of the remaining Tranche capacity. Borrego would support adjusting the VDER tariff to treat gas fuel cells similarly to energy storage systems, which cannot receive either

the Community Credit or the Environmental Value because their source of power is (at least partly) fossil-fueled.

CertainSolar strongly supports grandfathering existing projects, and believes that existing projects must be grandfathered into the current VDER compensation rates, including the Community Credit and Environmental Credit. Not following this Staff recommendation and making retroactive changes to the VDER compensation of existing projects will suggest to the broader developer, finance, and CDG participant community that VDER regulations are uncertain, unbankable, and significantly risky for all eligible technologies, CertainSolar adds.

Additionally, CertainSolar argues that grandfathering must be ordered at the November 14, 2019 Session because of the reduction of the Federal Investment Tax Credit after December 31, 2019, will have a significant impact on the economics of CDG projects. CertainSolar maintains that uncertainty in grandfathering of existing projects prior to this deadline means that projects may not be financeable in 2019. CertainSolar states that if the Commission does not act with sufficient time for financiers to make prudent investment decisions, it will signal to the business community that the Commission and State are not reactive to the real-world clean energy market in setting their VDER regulations.

CertainSolar argues that the Staff intent to include a Community Credit Adjustment Factor in the Value Stack compensation based on the ratio of capacity factors to solar PV projects for future CDG high-capacity-factor (HCF) resources is justified and sound. However, CertainSolar suggests the arbitrary date of August 13, 2019, for determining “existing” versus “future” projects is unjustified and prejudicial and the Staff justification that “developers were on notice of potential changes when the JU Petition was filed” is unfounded. While CertainSolar was notified of the JU’s suggestions for HCF resources, it is CertainSolar’s understanding that multiple CDG HCF developers using hydro and small wind energy technologies were not notified of any pending impacts to their Value Stack compensation structures. Further, CertainSolar believes that a retroactive date set prior to a Commission order will motivate developers to maintain non-optimal projects with otherwise prohibitive soft cost and extended interconnection timelines rather than selecting projects with optimized project economics and value to the distribution grid. Further, CertainSolar does not support the blunt application of the proposed Community Credit Adjustment Factor. CertainSolar notes that the economics and policies for hybrid facilities (solar generation paired with battery energy storage systems) effectively put them under the Staff’s proposed definition of HCF resources and believes this

may be an unintentional impact of the Staff proposal.

CertainSolar supports the Staff intent to align VDER regulations with the CLCPA; however, the proposal for an immediate elimination of the Environmental Value for future fuel cell projects is not justified based on the language and intent of the CLCPA. First, PSL §66-p does not become effective until January 1, 2020. Second, PSL §66-p strictly applies to energy supplied by Load Serving Entities (LSEs) and not behind-the-meter (BTM) resources such as CDG projects. Third, there is an intentionally gradual phase-in of the clean energy goals in 2030 and 2040 as to avoid significant immediate and unnecessary market disruption. Instead, as per the VDER Orders, CertainSolar states that a modification to the eligibility of the Environmental Value can only become effective by modification of the Clean Energy Standard (CES). Therefore, the Commission must follow this process during its triennial review of the CES in 2020. Additionally, CertainSolar argues that the CLCPA includes provisions to enhance incentives for CDG projects and demonstrating new CDG business models. Further, a diversity of CDG projects, including the use of HCF resources, allows the business community to test and refine a diversity of deployment and financing strategies.

CertainSolar believes that customer-retention of RECs must be grandfathered for 25 years and CES Orders are silent on how then-eligible resources are to be treated after removal from the list of eligible resources. CertainSolar argues that given that the VDER Order locks in the Environmental Value for a period of 25 years under the default-LSE-transfer option, it is implied that DER projects at their time of qualification that are then-eligible as Tier-1 resources will be grandfathered for at least 25 years. The Commission must make this eligibility definition explicit.

CertainSolar believes that the Commission’s method for calculating the approximate 2% revenue impact level does not accurately capture the actual utility revenue for CDG participating rate classes and recommends the Commission should revisit its methodology for setting the Community Credit allocation limits for Con Edison, National Grid, NYSEG, and RGE utility territories.

CertainSolar favors the Commission using the Community Credit mechanism to spur deployment of CDG storage. CertainSolar states, that for a dispatchable CDG storage designed to provide exports during peak grid events, as set by the CSRP, DRV, LSRV, and ICAP call windows and/or events, the Community Credit should apply to incentivize project development and encourage subscriptions, especially to disadvantaged and LMI consumers.

The City conceptually supports Staff’s recommendations in the Whitepaper, and is concerned that increased proliferation of

natural gas-fired fuel cells will limit solar and other zero-emission resource. The City agrees that natural gas-fired fuel cells should not receive environmental attributes and such a change should also be effectuated through the CES proceeding rather than only through modifications to the Value Stack. The City supports Staff's proposals to adjust the payment of the Community Credit to high capacity-factor resources and to modify tranche allocation for such resources. The City states that the magnitude to which fuel cells currently are displacing solar CDG is currently somewhat limited and assuming the Staff's recommendations are adopted there is still almost 200 MW of tranche capacity available for solar CDG development in Con Edison territory. Further, the City supports proportionally decreasing the Community Credit for HCF resources on or after August 13, 2019, to maintain sufficient tranche space.

The City urges the Commission to continue to monitor DER development. The City suggests the Commission could take steps to create more opportunity for zero-carbon resources growth or could potentially revisit the two percent cap. Additionally, the City supports implementing a Community Adder to incentivize incremental solar and other zero-carbon CDG. The City believes that natural gas-fired fuel cells qualifying after August 13, 2019 should not receive compensation for their environmental attributes.

The City raises concerns that the Commission should not change the Value Stack without also changing the CES. The Whitepaper is silent as to whether natural-gas fired fuel cells will still mint Tier 1 RECs under the CES. The City believes that if fuel cells do not elect to retain their RECs, the utilities will be able to use RECS to meet their obligations without compensating the fuel cells. This situation could be a windfall for utilities at the expense of developers. Modifying compensation and eligibility only in the context of Value Stack compensation could signal to developers that Value Stack compensation is unreliable and disincentive then from pursuing viable clean energy projects in the future.

CCSA is supportive of Staff's proposal to exclude natural-gas fueled fuel cells and believes that the capacity-factor-based adjustments to Community Credit should not be applied to other renewable energy resources such as wind and small hydro. CCSA argues that allowing projects fueled with non-renewable natural gas to qualify for E-Value is inconsistent with state law. CCSA is certain that the emissions rate of fuel cells powered by natural gas will be higher than marginal emissions rate of generation on the electric system. CCSA also agrees with Staff's argument that fuel cells will have an adverse impact on the availability of the Community Credit, particularly in the Con Edison territory, and supports their proposal to adjust the

Community Credit based on the ratio of an average solar capacity factor to a fuel cell's estimated average capacity factor. CCSA does not support an adjusted Community Credit for other renewable resources that is pro-rated to match the capacity factor of a solar resource. Because of the challenge of managing limited Community Credit capacity and given the rapidly dwindling capacity available in several service territories, CCSA believes the Commission will need to act on the broader issue of Community Credit capacity.

Cornell states that New York should be maximizing all opportunities to reduce GHG emissions, but the PSC recommendations in the Whitepaper preclude this because they limit the E Value in the Value Stack to those resources specified as "renewable energy systems" in the CLCPA. Cornell notes that perhaps this is a mere oversight of the farm-based ADG-to electricity systems and as such its inclusion should be immediate. Cornell believes that the establishment of a reasonable price for E Value should capture all the externalities associated with electricity production and should be technology neutral. Further, the PSC should include an appropriate E Value in the Value Stack for electricity produced by ADG systems that is not less than the value provided to other renewable energy systems.

FuelCell believes that significant reductions in GHG are achieved with fuel cells through availability and HCF generation and built-in always on resiliency. FuelCell argues that fuel cells system operating on both natural gas and renewable fuel have dramatically reduced GHG emissions in New York. FuelCell noted that the most significant GHG and criteria air pollutants reductions in California's Self-Generation Incentive Program have been achieved primarily from systems operating on natural gas. FuelCell argues that fuel cells are ultra clean and have unique benefits that can further clean energy strategies. FuelCell recommends that the Commission consistently use marginal emissions in calculating the reductions of GHG emissions from fuel cell systems, rather than average emissions as proposed by the Whitepaper. Using this approach is consistent with how New York is calculating the GHG emissions of other technologies and the BCA Framework. FuelCell notes that fuel cells are a non-combustion technology that emit negligible NOx, Sox and other particulate pollutants while efficiently producing power through a chemical reaction. Further, fuel cells emit carbon dioxide but at a fraction emitted by traditional combustion generation.

FuelCell stresses that all current projects should be given the current VDER Environmental Value with a sufficient transition period after a new order is adopted. FuelCell

recommends that the PSC first enact changes to the CES that are required by the CLCPA and then apply these changes to VDER. FuelCell recommends that projects with executed contracts be given a 90-day transition period after acceptance of the order. FuelCell does not support the proposed retroactive application of a new policy that has not yet been procedurally implemented by the Commission. FuelCell notes that the Whitepaper proposals risk the development of 40MW of projects on Long Island that address the reliability and resiliency needs of Long Island.

Generate believes that projects that have relied on published tariffs and have already paid interconnection deposits should receive the Value Stack that was in place at the time. Generate argues that applying a tariff change retroactively risks chilling investment in projects that utilize all clean technologies, slowing progress and increasing overall cost of the energy transition. Generate opposes Staff's proposal to use the August 13, 2019 as the cutoff date because it is consistent with previous decisions. Generate states that seasonal storage through hydrogen can help decarbonize sectors other than electricity including transportation, industrial heat, and chemicals.

Hydro Parties believe that the Community Credit rate discount for hydro resources would bring the net benefit of CDG below the cost of customer administration, effectively excluding hydro from participating in CDG altogether. Staff's proposed changes to the MTC/Community Credit rate makes the ongoing attrition of these existing resources more likely, affecting the baseline for CES mandates. Hydro Parties argues that the Staff Whitepaper provides an overly blunt solution to a narrowly identified problem raised by the JU Petition. Hydro Parties indicate that the JU example does not apply to hydro and hinder DER and there are no qualifying wind or small hydro resources located in the Con Edison territory. According to Hydro Parties comments, including hydro and wind in the solution to perceived problem caused by a different technology under different rate prices and geographic characteristics is arbitrary.

Hydro Parties argues that the cost shift used in the JU Petition is limited to fuel cells in the Con Edison territory and insufficient to justify a broad solution that includes hydro and wind that applies to all utility territories in New York. Further, Hydro Parties note that the JU Petition only provided analysis for fuel cells in the Con Edison queue, but no other analysis was provided for other resources. In their comments, Hydro Parties provided the ISO DER queue for wind and hydro facilities in the territories.

Hydro Parties state that 3.8 MW of CDG hydro in National Grid territory at the median resource average Capacity Factor of

41.6% and receiving full Community Credit value of $.0225/kWh would result in an annual cost shift of $312,000 or $7.8 million over 25 years. Further, a solar array of the same capacity at 14% CF would produce a cost-shift of $105,000 or $6.2 million over the same period. This is not the same scale as the $50 million and $1.3 billion in total cost-shift alleged in the JU Petition, Hydro Parties adds. Unlike fuel cells, Hydro Parties argue that existing hydro is a finite resource and does not pose a risk of excessive cost shifts due to unrestrained growth. Hydro Parties state that the JU justify their concerns about fuel cells partly because there is not physical limitation to the amount of fuel cells that can theoretically be developed; the same cannot be said for hydropower.

According to the Hydro Parties, the total capacity of existing hydro resources which qualify for CDG in each utility territory is very small compared to the total tranche availability and the small number and installed capacity of eligible facilities limits the amount of tranche capacity and the potential revenue shift they may cause. Further, combined with the fact that these facilities have a demonstrably lower average capacity factor than Staff estimates, the potential excess cost-shift they represent is less than a margin of error in the overall CDG program. Hydro Parties believe the 2% Revenue Impact Target is “not a hard cap” and is in no urgent danger of being exceeded. Rather than a hard cap, the 2% revenue impact target was simply to serve as the basis for Staff’s estimation of the amount of capacity which should be allocated, Hydro Parties argue. It is regrettable that not all qualifying resources were included in this calculation.

Hydro Parties assert that renewable energy companies that participate in CDG require program stability and resource parity to be successful. If the recommendations in the Whitepaper are adopted, Hydro Parties claim the rules are shifting in the middle of the program which are affecting companies doing business in the DER space and undermining projects which are already underway. Further, the volatility of the program already serves as a disincentive for developers and financiers and if the program is modified here in a way that effectively excludes entire resource types, it sets the precedent for other resources or types of projects may be subject to similar harms in the future.

Hydro Parties state that discounting the MTC/Community Credit rates for wind and hydroelectric resources is discriminatory, arbitrary and unsupported, and the proposed HCF discount runs contrary to the Commission’s transition to value resources based on the actual, calculable values that the generator output provides to the electric system. Hydro Parties argue that the remedy proposed in the Whitepaper devalues and excludes hydro simply to preserve tranche capacity for solar and

this blatant discrimination between resource types is not supported by the VDER Order, PSL 66 -J, or basic principles of fairness. Hydro Parties add that the Staff Whitepaper provides no analysis demonstrating a danger of cost-shifts from the participation of hydro and wind resources at full value and no such analysis was provided for other resource types or territories. Hydro Parties claim that Staff's use of a 50% capacity-factor for hydro-electric generation to calculate the discount rate is arbitrary and unsupported. Hydro Parties maintain that the CDG Program and the Value Stack are critical factors in the preservation of the existing small hydropower fleet in New York State. Additionally, hydropower offers values to the community which are not measured in electricity rates or the Value Stack, such as flood mitigation, opportunities for wildlife preservation and fish protection, dam safety and recreational access to rivers. Hydro Parties argue that CDG may be the only program that keeps some of these resources operational in New York State.

Hydro Parties recommends that any remedy adopted should only be confined to the technologies referenced in the JU Petition and/or Con Edison territory. The remaining Community Credit tranche capacity should be recalculated to assume a nominal participation by wind and hydro. The allocation of tranche capacity to qualifying projects should be determined by each project's estimated or historical capacity factor, Finally, exemptions should be provided for CDG developers who have already made investments based on the current MTC/Community Credit rates.

JU fully supports Staff's recommendations in the Whitepaper as a fair and equitable approach to balancing the need to advance clean, renewable distributed resources, considering a role for clean fuel cell technology, while managing cost impacts on all customers. The JU believe Staff correctly notes in the Whitepaper that the MTC and Community Credit were explicitly designed for applicability to anticipated solar resources and not high-capacity-factor resources such as gas-fired fuel cells. The JU state that leaving this condition unchanged would mean customers would pay roughly six times more for each installed MW of fuel cell generation than solar generation and likely crowd out the very clean renewable resources.

MI reiterates that it has previously opposed the MTC and the Community Credit and instead advocated that DER projects be compensated accurately without resort to financial subsidies that ultimately are funded by captive customers and which contribute to higher electricity costs in New York. MI states that it was ill-advised to assume that eligible DER projects would be utilizing solar technology. MI argues that allowing DER

projects with an average capacity factor much greater than solar to qualify for the same unitized MTC and Community Credit values would result in net revenue impact to customers well above the 2% annual impacts approved by the Commission. MI agrees with Staff's reduction to adjust prospectively MTC and Community Credit values based off the average PV capacity factor.

MI states that, based on the changes to eligible renewables in the CLCPA, they believe that customers should not be forced to compensate DER projects responsible for emissions via the same E Value utilized for non-emitting projects. MI agrees with Staff's recommendation that such practice should be terminated. MI disagrees with Staff's proposal to grandfather all project qualified on or before August 13, 2019. MI believes that this policy places the interests of DER developers above that of customers who ultimately would be required to funds compensation schemes that may be far more lucrative than the benefits produced and urges the commission to address the current imbalance.

NFCRC supports the Staff proposal to only apply the proposed changes to future projects since significant investment by project developers, contractors, equipment providers, financiers and subscribers were made in good faith on existing policies. NFCRC does not support Staff's recommendations to apply proposed changes to any project that pays a 25% interconnection deposit after August 13, 2019. NFCRC recommends that, consistent with precedents, projects executed contracts are given a 90-day transition period after acceptance of the order. NFCRC does not believe that the Commission should not enact changes to the E Value in an unrelated proceeding but instead of implementing when changes are made through the CES.

NFCRC states that fuel cell systems operating on any fuel reduce GHG emission and they ask the Commission to correct the record accordingly. NFCRC recommends the Commission Staff consistently use marginal emissions in calculating the reductions of GHG emission from fuel cell systems rather than average emissions as proposed in the Whitepaper. Additionally, NFCRC states that using marginal emissions as a baseline is technically sound and a better measure of real world impacts and consistent with other New York policies. NFCRC argues that using DER, such as fuel cells, further improves emissions by adding clean generation, instead of serving load growth with older existing generation capacity and alleviates grid constraints.

NFCRC notes that the Whitepaper recommends a methodology to discount the environmental value of fuel cell systems, which completely ignores the significant air quality benefits provided by fuel cell systems. NFCRC argues that providing VDER compensation differently to different technologies is to inappropriately discount the value of continuous and or load-

following generation resources that are necessary to balance the intermittency of renewable resources. NFCRC points out that fuel cells have worked with the Brooklyn Queens Demand Management Demand Response Program and LIPA to provide reliable power during peak periods of high demand in densely populated areas. Unlike investments in solar and wind power systems, NFCRC sees the installations of fuel cell systems can be used by the utility to support local capacity and spinning reserve requirements that are used for grid reliability, and serve as an alternative to costly utility system transmission and distribution upgrades.

NYECC states that the Joint utilities petition seeks clarification for something that should have been self-evident to the Commission at the time that it issued the Order. NYECC respectfully submits that the Commission should not allow the Joint Utilities to pick winner and loser technologies by discouraging and diminishing the use of any technology, including fuel cells. NYECC argues that CDG developers with existing projects that have been previously qualified should continue to be protected. Further, NYECC supports the ability of these prospective fuel cells CDG projects entering the interconnection queue in Con Edison’s territory to be allowed to generate RECs when operational.

Saranac Lake states that this policy poses a threat to revitalizing the ailing hydro industry, and asserts that the Adirondacks are abundant with renewable hydroelectricity and in many cases towns and villages are dependent on water level management. Saranac Lake urges the Commission not to make changes which undermine the viability of hydro CDG.

Senator Little urges the Department not to adopt the changes proposed in the Whitepaper. Senator Little is pleased to see there is interest in CDG among these independent hydro companies and their communities. Further, Senator Little hopes that the successor programs to Net-Metering, particularly CDG under VDER, continue to offer long-term solutions to maintain these hydro resources. Senator Little notes that there is at least one new local company based on the understanding that existing hydro resources would qualify to receive the Market Transition Credit and Community Credit at full value and believes that the success of these enterprises has the potential to benefit the economy of the North Country.

WattTime states that as momentum builds for institutions to more actively manage emissions, a worrisome trend is growing as a number of organizations misapply average emission factors. WattTime argues the correct way to measure the impact is to use

marginal emissions factors. WattTime says that marginal emissions factors should nearly always be used in environmental impact analysis. According to WattTime, the importance of marginal emissions is emphasized in several Commission proceeding including the Energy Storage and Deployment Policy Order which states that shaping the E Value “will better reflect marginal CO2 emissions, and will provide stronger incentives for investments in renewable that provide the most CO2 reductions benefits”. Further, WattTime argues that there is widespread consensus between regulators, academics that marginal emission factors should be used when determining the E Value of a resource. WattTime recommends that this method of carbon accounting be extended the E Value determination in the Whitepaper. Using an example in their comments, WattTime shows that installing a natural gas fuel cell would indeed reduce CO2 emission by 4,572 tons, nearly 25% per 5 MW project.