STATE OF NEW YORK

PUBLIC SERVICE COMMISSION

CASE 15-E-0751 ORDER DENYING PETITION FOR VALUE STACK COMPENSATION

PETITION FOR REHEARING OF ENERGY INVESTMENT SYSTEMS

Energy Investment Systems, Inc. (“Petitioner”)

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PRELIMINARY STATEMENT

This petition is for a rehearing (“Rehearing Petition”) of PSC Case 15-E-0751 Order Denying Petition for Value Stack Compensation, Rehearing, issued and effective January 27, 2025 (“Order”), which rejected the request of Energy Investment Systems, Inc. (“EIS”) on behalf of 301 West 45th Street in Manhattan, New York City (“Property”) for “an exemption from, or waiver of, the 10-kW cap,” for CHP in the Value of Distributed Energy Resources (VDER) tariff By the Order, Commission directed that the Petition be denied.

The Introduction to the Order further states: “For the reasons set forth in this Order, the Public Service Commission (Commission) declines to authorize the relief sought at this time.”

The Rehearing Petition asserts that for the reasons set forth herein, the Commission should order that the requested relief be granted.

As further explained herein, the primary but not the exclusive basis for this Rehearing Petition is that, in denying the relief sought, the Commission made two errors of fact in characterizing the nature of the relief sought by Petitioner. In that regard, the Order states;

> "The Petitioner seeks an exemption from, or waiver of, the existing 10-kW cap for CHP projects to receive VDER compensation, including the Environmental Value (E-value), in Con Edison's service territory."

First, the Petition did not seek such an exemption from, or waiver of, the existing 10-kW cap for all CHP projects in Con Edison's service territory but rather such relief for only the Project.

Second, the Petition did not seek an exemption or VDER compensation for its environmental value. It requested that the Project be exempted from the 10-kilowatt (kW) cap for available incentives of the Value of Distributed Energy Resources ("VDER"). Having misinterpreted the Petition to request compensation based upon the E-Value, the Order then supports its denial by citing reasons on environmental grounds based upon the 2017 and 2018 ruling (Case 15-E-0751), which bases the E-Value of the VDER technology on a technology's eligibility to receive RECs which is inapplicable since the Petition did not seek the E-Value.

The Commission directed the Department of Public Service ("DPS") by these 2017 and 2018 Orders to investigate issues of environment and environmental justice regarding the CHP cap, which was never performed. Had this investigation been conducted seven or eight years ago, EIS

submits that the 10-kW cap would have been eliminated given that there is no evidence that CHP is harmful to the environment or to communities of environmental justice.

We also note that the Project is in the public interest at a time when power reliability has been reduced and emissions increased by the closure of the two Indian Point nuclear power plants and the NYS Department of Environmental Conservation (DEC) based upon the findings of both the New York Independent System Operator ("NYISO")[1] in its 2023 Power Trends, and the U.S. Environmental Protection Agency ("US EPA") in quarterly reports based on its Emissions & Generation Resource Integrated Database (eGRID).[2] A comparison of US EPA eGRID reports for 2020 and 2022[3] and the original EIS 2024 Petition for a waiver indicate that closures have created a 39 percent (39%) emissions increase in New York City. Moreover, Petitioner believes that it is generally accepted within the energy policy community that CHP reduces emissions and promotes electric reliability.

FACTUAL AND PROCEDURAL BACKGROUND

The objective of VDER on March 9, 2017 (Case 15-E-0751),[4] was to "transition away from net energy metering (NEM) to the Value Stack." It is notable that net energy metering is still eligible eight years after the VDER Phase One Order was issued. Nevertheless, the Commission

[1] https://www.nyiso.com/documents/20142/39103148/2023-Q3-STAR-Report.pdf
[2] https://www.epa.gov/egrid/summary-data
[3] https://www.epa.gov/system/files/documents/2024-01/egrid2022_summary_tables.pdf
[4] Case 15-E-0751, Order on Net Metering Transition, Phase One of Value of Distributed Energy Resources and Related Matters (issued March 9, 2017) (VDER Implementation Order)

extended VDER project incentives from 2 to 5 megawatts (MW) of power exported to the grid, with the exception of CHP. The Case 15-E-0751 Order further declares on February 22, 2018: [5]

> "The Commission stated that development of VDER compensation mechanisms focused on attributes of clean generators and the inclusion of larger CHP generators required more detailed analysis. The Commission also directed the DPS staff conduct this detailed analysis as part of a Proposal on Expedited Eligibility Expansion.

We believe that no such detailed analysis regarding CHP for expedited eligibility was performed. The Order continues:

> These restrictions were retained after staff determined that further work was needed to define "VDER-eligible CHP" and ensure it would not worsen environmental impacts.

Again, further work was not conducted. Had it been performed, DPS staff would have necessarily considered the US EPA determination that CHP reduces emissions and that a negative impact in designated environmental justice areas is unsubstantiated. PSC Chair Rory Christian recognized the positive environmental impact of a 12-MW CHP plant in the West Harlem wastewater treatment facility that was being implemented, stating that "this effort by the Department of Environmental Protection to reduce local air pollution can significantly improve the health and well-being of New Yorkers, while limiting our dependence on fossil fuels for years to come."

[5] Case 15-E-0751 (and Matter 17-01276), In the Matter of the Value of Distributed Energy Resources (filed May 22, 2018) (Staff Proposal on Value Stack Expansion), in response to Case 15-E-0751, Order on Net Metering Transition, Phase One of Value of Distributed Energy Resources and Related Matters (issued March 9, 2017) (VDER Implementation Order).

It is worthwhile noting that this project at the edge of the Harlem environmental justice community has a capacity 75 times larger than the 160-kW CHP at 301 West 45th Street, Furthermore, midtown Manhattan is far removed from an environmental justice community.

In further recognition of CHP's environmental benefits, large state-supported communities of affordable housing are powered entirely by CHP systems. These developments include Coop City, Penn South, Big Six Towers, Rochdale Village and Amalgamated Warbasse as well as North Shore Towers, all of which comprise 91,000 apartments and approximately 200,000 residents. The project at 301 West 45th Street to date has reduced previous emissions by approximately 70% from its pre-Covid baseline.

ARGUMENTS

The Order's Discussion of the EIS Petition

The Order adequately describes the Petition's reasons for seeking an exemption of the 10-kW VDER cap for 301 West 45th Street. The CHP ability to reduce CO2 emissions, promote reliability, and motivate innovative synergies between buildings with CHP and the grid are viable and positive approaches to incrementally satisfy CLCPA goals. It is relevant to point out that the Order does not indicate any disagreement with these benefits as the basis for exempting the 10-kW VDER cap for CHP.

The Order's Description of Comments Received for the Petition and Notice of Proposed Rule Making

All of the comments received supported the petition and provided additional substantive arguments to approve the exemption. Contributors included, but are not limited to, former CEO

and president of NYSERDA Peter Smith, current president of the NY Chapter of the American Institute of Architects Greg Switzer, founder/director of the CUNY Building Performance Lab Michael Bobker, founder of the NYC 2030 District Haym Gross, NYC Chapters of the Association of Energy Engineers and the CHP Alliance, and Dr. Graciela Chichilnisky who conceived the technology for direct air capture (DAC) of carbon dioxide and the carbon reduction market of the European Union.

Approval of a petition that only affects the subject property does not set a precedent. We anticipate, however, that the outcomes will be favorable for the grid, the building, the surrounding community and society in general. Based on the outcomes, the Commission would have a basis to approve other CHP petitioners that seek additional VDER incentives to export surplus power and to approve or deny them on a case-by-case basis.

Jim Armstrong, who has implemented numerous CHP projects including one on the USA Intrepid, commented that NYSERDA encouraged and incentivized N+1 additional CHP plants beyond the initial CHP capacity. This additional capacity could be exported to the grid. At a time of diminished electric reliability, the surplus capacity of these resources could be utilized were the Commission to adopt the approach to CHP power export under VDER requested by the Petition.

Legal Authority

EIS does not challenge the legal authority to direct the treatment of distributed energy resources ("DER").

Errors of Fact

The Commission primarily based its denial of the Petition upon its misinterpretation of the Petition as asserting that the Project is eligible to receive Renewable Energy Certificates ("RECs"), which is a condition for the E-value in the VDER. However, the Petition recognizes that the Project is ineligible to receive RECs and does not seek E-value compensation in seeking exemption from the 10-kW VDER cap for CHP. The Order is incorrect in the first sentence of its "Discussion and Conclusion," which states:

> "The Petitioner seeks an exemption from, or waiver of, the existing 10-kW cap for CHP projects to receive VDER compensation, including the Environmental Value (E-value), in Con Edison's service territory."

First, despite the wording of the above sentence in the Discussion and Conclusion, the Petition sought an exemption only of the 10-kW cap for the 160-kW CHP Project at 301 West 45th Street, not for all CHP projects.

Second, despite the wording of such sentence, the Petition did not seek an exemption or VDER compensation for its environmental value. The Order advances reasons for the Petition denial on the environmental grounds of the 2017 and 2018 ruling, which bases the E-Value of the VDER technology on a particular technology's eligibility to receive RECs but, as noted, the Petition does not seek the E-Value. Thus, the Order's denial is not applicable to the Petition.

The Commission also includes language in the Order that uses the word "should" but that does not amount to a preclusion of certain technology as follows:

> "As the Commission further explained, the development of the VDER compensation mechanism should focus on the attributes of clean generation that make up the majority of VDER-eligible projects."

The issue with the term "majority of VDER-eligible projects" is that not all eligible projects are so-called "clean generators." Battery storage, for example, was amended to permit stored fossil fuel generation and discharge it for VDER compensation up to the 5-MW cap. There are six criteria for VDER incentives and only one is for the environmental E-value. Ineligibility for the E-value does not render a project ineligible for any of the other Value Stacks.

Originally, battery storage discharge was only eligible for VDER compensation if the battery was charged with a REC-eligible renewable resource. In one of the Commission's VDER expansion orders, batteries were permitted to be charged with fossil fuels, most notably, grid power and can now receive full VDER compensation. The E-Value Stack compensation is not eligible.

According to the U.S. Energy Information Administration (US EIA), the electric grid operates at an estimated 30-35% efficiency.[6]

The round-trip efficiency of commercially available batteries is 85-90%, so that an additional 10-15% is lost in the transition between electricity charged and discharged. The overall efficiency of battery-discharged grid power would be 30% at best and often less as battery efficiency diminishes over time.[7]

[6] https://www.eia.gov/tools/faqs/faq.php?id=77&t=3
[7] https://www.eia.gov/todayinenergy/detail.php?id=46756

The Commission has permitted private developers and Con Edison to develop VDER-eligible projects consisting of stand-alone battery storage systems on land as well as in buildings that use grid power. These large systems purchase grid power late at night and early morning when prices on the NYISO Day-Ahead Market are low and discharge power in accordance with the VDER Demand Reduction Value whenever the Con Edison call-window exists for the network in which the battery storage system is located. Compensation is capped at 5MW for power with a very low charged-to-discharged efficiency, while CHP power with efficiencies of up to 90% are capped at 10kW. The magnitude of the difference between such battery systems and CHP power is a remarkable 500 times. Since these batteries store and release grid power which is not "clean energy" for VDER purposes, the Commission clearly permits projects to access the Value Stack appropriate to the technology. If a project is not eligible for the E-Value, it is not disqualified from other Value Stack compensation.

The Need for DER and the Prospect of Clean CHP Generation

A recent example of lower emissions by CHP compared to grid generation occurred January 20-25, 2025, when Con Edison called a temperature interruptible event when prices on the Zone J DAM peaked at $390 per MW as the ambient temperature plunged to 9°F. Generators on the interruptible rate are required to eliminate their use of natural gas when the utility calls a gas interruption. They generally switch to oil.

At the same time, EIS increased the capacity of the subject property to 150kW, thereby exporting considerably more power than the previous setting of 110kW set as we began in mid-September to test the system operation. The building operates approximately 90kW so that an

average of 20kW had to be exported. The system performed well beyond our expectations. Even during recent frigid spells, waste heat was sufficient to satisfy the entire space heating and domestic hot water loads to the 176-unit property. The environmental benefit over the grid's dependence on fuel oil during this period is overwhelming.

The Petition reflects that clean electric and thermal generation can come from different sectors. New York State has prioritized supply-side efforts, including three offshore wind farms and two transmission projects. All three wind farms have been cancelled and the "clean path" transmission line to bring upstate power to New York City has also been cancelled. The Quebec hydropower project could become a bargaining chip in a trade war with Canada and would almost certainly jeopardize Quebec hydropower export to New York City. The ability to monetize the export of CHP generation contributes to the quest for an accelerated effort to reduce CHP emissions. At the same time, a related avenue of promising clean electricity is the continued development of clean hydrogen-based fuel to replace fossil-fuel natural gas. The use of hydrogen is most prevalent if green hydrogen could be brought to CHP sites safely and cost effectively. 2-G, the German manufacturer of the CHP at the subject property, reports that it has installed 30 hydrogen-powered CHP systems worldwide. Of these, 20 are 100% hydrogen fueled while hydrogen provides 25% for the remaining 10 CHP facilities.

CHP has greater operating efficiency than the grid and independent combustion to provide thermal energy. The most efficient and cost effective application of hydrogen as a viable fuel source is within CHP plants. Maintaining and supporting the interactivity between the grid and a CHP will further increase the benefits of hydrogen applications.

The technology to capture carbon from combustion emissions has become incrementally available in New York City and throughout the state. The ability to capture carbon emissions from a CHP facility will conform with CLCPA clean energy goals. The firm Carbon Quest has installed several carbon capture facilities in the City, receives accolades from the US DOE and is now working to capture emissions from CHP sites.

The combination of new technologies in combination with CHP and a robust grid interactive infrastructure is enhanced by an ability to monetize such investments to encourage innovative emissions-reducing solutions.

The Commission Order "recognizes that work is still ongoing to define the appropriate measures needed to achieve CLCPA clean energy goals." The Commission further acknowledges that CLCPA's goals will likely evolve over time as technologies and circumstances change."

To facilitate this evolution of CLCPA goals, EIS proposes to cease any application of VDER incentives if the grid demonstrates that it is either more efficient or produces fewer CO2 emissions than the Project. This would permit the Commission to grant the exemption of the 10kW CHP cap in the VDER for the Project, while simultaneously encouraging innovation of CHP and grid interdependence. This would, in turn, motivate the Project to adopt upgrades that further enhance efficiency and reduce emissions. It is anticipated that a Commission order approving the requested exemption would create a paradigm of the interaction between existing and proposed CHP systems and the grid. Simultaneously, it would encourage innovation of CHP and grid interdependence and motivate CHP to adopt upgrades that further enhance efficiency and reduce emissions

Conclusion

For the reasons stated above, Petitioner respectfully requests that the Commission issue an order on rehearing granting the relief sought by the Petition and this Rehearing Petition.

Respectfully submitted,

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