In the Matter of Modernizing New Jersey's Interconnection Rules, Processes, and Metrics ("Grid Modernization"), Docket No. QO21010085

Comments of Atlantic City Electric Company

Atlantic City Electric Company ("ACE" or "the Company") appreciates the opportunity to provide its view of the existing distributed energy resource ("DER") distribution grid interconnection policies and processes as well as the opportunity to identify possible improvements. ACE is supportive of the Board of Public Utilities' ("BPU") Grid Modernization proceeding and believes that this effort could lead to DER interconnection policies that will allow ACE and other New Jersey electric distribution companies ("EDCs") to accommodate more DERs while making the necessary system investments to maintain the safe, adequate, and reliable electric service.[1] DER interconnection improvements are fundamental to supporting New Jersey state environmental policy goals, including those codified in statutes and those memorialized in the 2019 New Jersey Energy Master Plan ("Energy Master Plan").

These New Jersey state goals and policies will significantly increase the number and capacity of requested DER interconnections to ACE's electric distribution system. As the operator of that distribution system, ACE both supports the proliferation of DERs on the system, especially as an asset to grid operations, and recognizes the significant grid investments necessary to accommodate current and projected growth in the DER market. Accordingly, the Company has willingly participated in this proceeding with responses to informal discovery, meetings, and presentations.[2]

[1] *See* N.J.S.A. 48:2-23 (referring to "safe, adequate, and proper" service).
[2] See, e.g., ACE's presentation at the stakeholder meeting on January 14, 2022, which is available at Grid Modernization | NJ OCE Web Site (njcleanenergy.com).

I. ACE has Interconnected a Significant Number of DERs, Efficiently Using Innovative Tools

The number of DERs interconnected to the ACE distribution system is significant. As of year-end 2021, more than 44,000 net energy metering ("NEM") generators have been interconnected to the ACE distribution system, which represents a total capacity of approximately 525 MW.[3] During 2021 alone, approximately 4,200 DERs of all types,[4] with a total capacity of 44 MW, were interconnected to the ACE distribution system. The available capacity of existing DER NEM resources equates to *more than* 20 percent of the ACE service territory peak electric load.[5] In fact, NEM customers represent nearly 8% of ACE's distribution customers, the highest ratio among the EDCs in New Jersey.[6]

ACE was the first EDC in New Jersey to develop and post DER interconnection related maps on its website. These posted maps include feeder maps showing where the interconnection of DER resources is constrained, heat maps that show interconnection capacity by feeder, and hosting capacity maps that provide a tool indicating where new DERs can likely be connected without significant distribution system upgrades.[7] Collectively, the maps provide helpful information to developers and distribution customers regarding where new DERs can be readily interconnected. These innovative maps have helped developers and customers avoid the cost and

[3] The total year-end 2021 clean energy DER interconnected is approximately 600 MW, inclusive of PJM interconnections. See, Slide 2 of ACE's presentation at the stakeholder meeting on January 14, 2022, which is available at Grid Modernization | NJ OCE Web Site (njcleanenergy.com)

[4] This number is inclusive of solar, microturbines, combined heat and power, wind, and battery storage; this number excludes PJM interconnections projects.

[5] On August 13, 2021, ACE experienced a net peak demand of 2,614 MW at hour-ended 19:00. Based on 525 MW of interconnected NEM capacity at the end of 2021, the DER Penetration is calculated by Total Interconnected DER Capacity MW / System Peak Demand MW, or 525 MW/2,614 MW=20.1 percent. *See* ACE January 14, 2022 Grid Mode presentation, Slide 2.

[6] As of March 22, 2022 there were a total of 566,483 ACE distribution customers excluding streetlighting. More than 44,000 of these customers participated in Net Energy Metering representing 7.8% of ACE distribution customers.

[7] *See* ACE website: Technical Considerations | Atlantic City Electric - An Exelon Company.

time spent on developing projects in locations that are more likely to require significant distribution system upgrades and related expense to the project.

ACE has also worked diligently to develop processes that would accommodate the large volume of DER interconnection requests. For example, ACE has aligned internal resources around DER interconnection processes. A dedicated Green Power Connection ("GPC") Team processes interconnection requests and serves as a single point of contact for distribution customer and developer inquiries. Beginning in 2016, the Company has conducted collaborative forums and informational webinars for developers and policymakers to discuss DER interconnection requirements and issues. During 2020, the Company further improved its interconnection process to allow for the electronic submission of most new interconnection requests through its Connect the Grid ("CTG") online application. The CTG tool was upgraded in early 2022 to accommodate almost all DER interconnection requests through the online portal.[8] These innovations and efficiencies have prepared ACE for processing a significant number of interconnection applications. As the Board has indicated concern about an increase in interconnection projects on the horizon, ACE will continue to seek additional policy and program changes to meet the market demand for DER interconnection.[9]

II. Due to the Number of Interconnection Requests increasing in Volume and Complexity, EDCs may need additional Support for Processing Applications over the Long Term

Several signs point to increasing growth in DER deployment in ACE, supported by significant policy enablement and State goals. New Jersey policy makers have established landmark renewable energy related goals that call for significant increases in interconnected

[8] Remote net metering applications have a separate process that was developed by the BPU, which does not require an application via ACE's CTG portal. ACE proposed a Remote Net Metering tariff on October 1, 2021, which is pending the Board's approval.

[9] For example, on December 22, 2021, ACE responded to a BPU Staff data request regarding Interconnection Practices and Compliance.

customer and third-party owned renewable generation assets and supportive energy storage. The 2019 Energy Master Plan establishes the pathway to 100% clean energy by 2050. Legislative clean energy goals include the 52.5 percent Renewable Portfolio Standard ("RPS") goal by 2032, that includes 1.1 percent from solar[10] and the New Jersey Clean Energy Act of 2018 goal of 2,000 MW of energy storage by 2030.[11] The Solar Act of 2021 directed the Board to effectively double the growth of the existing solar program (as of 2021) with incentives targeting up to 3,750 megawatts ("MW") of solar generation by 2026. To help reach these targets, New Jersey has policies to enhance rooftop solar economics and a community solar pilot program. Other state policies include a new BPU-approved Successor Solar Incentive Program ("SuSI Program") to further incentivize the deployment and interconnection of additional solar DERs.[12]

While ACE anticipates that it has sufficient resources to meet the near-term growth of DER applications, in the longer term, ACE must continue to monitor and adapt its capacities to rapidly changing market conditions. As the number, size, and inclusion of storage proposals increase and the number of retail tariff options expand, the complexity of DER interconnection requests will increase in the future. In that future state, ACE may need to further expand its internal resources, innovative/technology solutions, engineering, and other team capabilities to accommodate and process interconnection requests, building on the process and program enhancements it has made in recent years. The GPC team is supported by an engineering team[13] that is responsible for reviewing and determining whether additional distribution system improvements are required prior to DER interconnection and preparing estimates of the cost of those improvements. If the sponsor

[10] See N.J.A.C. §14:8-2.3
[11] A3723, §1(7)(d).
[12] Docket No. QO20020184, BPU Order August 28, 2021.
[13] Internal ACE engineering groups that are involved in DER interconnections include Project Management, Substation Engineering, Distribution Engineering, System Protection, Telecom, New Business, Capacity Planning, and Transmission.

of a new DER interconnection agrees to fund the required distribution system improvements, ACE's engineering team oversees and arranges for the installation of the required equipment. Other internal ACE teams that are involved in the DER interconnection process include Work Management, Estimating, Special Billing, and Meter Services, to name a few. Over the longer run, ACE deployment and operation of a Distributed Energy Resource Management System ("DERMS") will help the Company to better manage DERs interconnected to the distribution system. BPU regulatory and cost recovery support for these improvements will help ACE scale its capabilities to be in line with market growth and state goal attainment.

III. Proactive Grid Modernization Must be Aligned with New Cost Allocation Approaches

Due to the significant growth in DERs, numerous ACE distribution feeders have capacity restrictions limiting the interconnection of new DERs. As of March 31, 2022, 58 distribution feeders or more than 17% of ACE feeders[14] are entirely closed or fully restricted to new DER interconnections unless and until additional distribution grid improvements are made.[15] The primary reasons driving these constraints are related to the amount of injecting DERs and the nuances of the ACE service territory compared to other EDCs; specifically: (1) ACE's high percentage of NEM customers, and (2) ACE's less dense service territory, which contains system circuits that run long distances and are lightly loaded. Other EDCs have fewer NEM customers and generally serve dense urban areas with shorter feeders and more concentrated load, and these factors contribute to fewer constrained feeders.

[14] Fifty-eight closed feeders out of a total of 328 radial feeders at ACE represents 17.6% of radial feeders.

[15] The 2019 New Jersey Energy Master Plan recognizes that restricted circuits are an impediment to increased DER deployment. The Energy Master Plan stated that: "Three of the state's four electric public utilities have circuits that are restricted from accepting new requests for DER interconnection, so new requests to interconnect DER are denied" and that "certain circuits are restricted from accepting any new interconnection requests or accommodating interconnection requests above a certain limit." (2019 Energy Master Plan at 109)

Under the existing interconnection rules in New Jersey, new DERs can only be interconnected to constrained feeders if the DER "triggering" the need for a distribution system upgrade prior to interconnection agrees to pay the full cost of the upgrade.[16] The inequitable assignment of all upgrade costs to the "triggering" DER creates a financial barrier to distribution system improvements that enable the interconnection of multiple DER customers. The cost of required upgrades can be significant and sometimes, unfortunately, lead a customer to forego a project. As a result, a cost recovery solution is needed to support accelerated growth of DERs on the system, reducing the cost burden on customers for system upgrades, while also balancing the interests of distribution customers and DERs.

An alternative approach to grid upgrades, including making improvements in advance of triggering interconnections, is necessary to interconnect DERs efficiently and rapidly achieve state goals. More specifically, ACE suggests exploring so-called "interconnection fee" models, where the EDC (1) forecasts DER penetration on the system, (2) uses that forecast to preemptively upgrade the system in key locations and strategically, (3) assesses a transparent interconnection fee on interconnecting DERs to offset the costs of those preemptive upgrades, and (4) recovers a portion of those costs from the broader distribution customer base in order to recognize benefits of accelerated DERs.

The above description of proactive or advanced grid modernization will increasingly be needed to create an active distribution system that maximizes the value of DERs for all electric distribution customers and the grid. DERs, if interconnected and managed properly, offer

[16] *See* N.J.A.C. 14:8-5.6(e)2, (h) and -5.7(c). This traditional cost allocation approach is frequently referred to as the "causer pays" or the "first mover pays" model. This model is used in Delaware, the District of Columbia, and Maryland, where ACE has affiliated utility companies. This traditional approach is beginning to create financial barriers to new DERs in two of these jurisdictions. The District of Columbia and Maryland have regulatory proceedings underway to consider modifications to the existing interconnection cost assignments.

numerous benefits to ACE's customers that include reduced carbon emissions and other reduced air emissions resulting from the generation of electricity, improved reliability and resiliency of electricity supply, and an opportunity for participating customers to lower their electricity costs. A new approach based on forecasted system upgrades to support DERs would complement New Jersey policy by anticipating and addressing system upgrades in advance of customer-generator interconnection requests.

ACE supports reducing barriers to deploying the necessary DER technologies required to meet New Jersey's leading clean energy goals. Accordingly, the Company broadly supports cost allocation models that recognize the value of these DERs by sharing DER grid interconnection enablement costs between DERs and all customers.[17] Modifying the existing cost allocation method for DER distribution system improvements to encourage and allow proactive modernization of ACE's distribution system will better align with New Jersey policy goals and encourage utility investments that will help reduce DER interconnection barriers. ACE is not able to proactively upgrade its distribution system to accommodate additional DERs and recover its costs from doing so under existing New Jersey regulations unless the triggering DER agrees to pay the cost of the required upgrade.

Both Guidehouse and Board Staff have proposed the possible clustering of new DER projects and sharing distribution system upgrades across the cluster. This clustering approach is not optimal due to the significant administrative complexity, as well as the long list of consensus-based parameters stakeholders would need to establish prior to full implementation of this methodology. Instead, ACE suggests that an interconnection cost sharing approach that shares

[17] ACE submits that the BPU may rely on certain legislative and policy precedent to socialize the costs of these system improvements. Regulatory changes within the Board's jurisdiction would be necessary. *See, e.g.,* N.J.A.C. 14:8-5.6(e)2, (h) and -5.7(c) (requiring the interconnection applicant to pay for the cost of improvements necessary to accommodate the interconnection).

required distribution system upgrade costs across those who benefit -- DERs and distribution customers -- would more fairly allocate upgrade costs and eliminate the existing cost barrier to interconnection. This could support a proactive approach to distribution grid modernization that anticipates grid constraints and addresses them before they occur, paving the way for seamless DER interconnection.

To this end, ACE recommends looking to approaches emerging in states such as New York[18] and Massachusetts[19] as helpful models. Both states are advancing methods of sharing upgrade costs across multiple DERs. The sharing of required distribution system upgrade costs between new DERs and utility distribution customers would be a very significant step to reducing DER interconnection barriers and would allow ACE to make proactive improvements to its distribution system to support additional DERs.

IV. State Requirements Should Apply to Non-FERC Jurisdictional Projects participating in the Wholesale Market

Several DERs connecting to ACE have sought to participate in the PJM Interconnection L.L.C. wholesale electric market. DERs seeking to participate in the wholesale market follow an interconnection process that differs from other New Jersey DERs. In an effort to streamline the interconnection process for DERs planning to participate in the wholesale electric market, the Company recommends that the Board establish interconnection requirements for these projects

[18] The New York Public Service Commission issued an order on July 16, 2021, approving a utility cost sharing proposal where DERs would pay their pro rata share of hosting capacity upgrade costs for substation upgrades and transformer installations/upgrades over a five-year period. Any unrecovered upgrade costs would be recovered from utility distribution customers at the time of utility's next base rate proceeding. *See* New York State Public Service Commission July 16, 2021 "Order Approving Cost-Sharing Mechanism and Making Other Findings," Case Nos. 20-E-0543 and 19-E-0566. Note that a five-year sunset provision was included in the Order, unless extended by the Commission.

[19] In Massachusetts, the Department of Public Utilities ("DPU") has established a docket to consider alternative cost-sharing approaches, DPU 20-75. *See* https://eeaonline.eea.state.ma.us/DPU/Fileroom/dockets/bynumber/20-75. On November 24, 2021, the DPU issued Order 20-75-B in this proceeding titled "Order on Provisional System Planning Program" implementing a DPU "straw" proposal that permits distribution utilities to file capital investment projects that, if approved, would permit the recovery of distribution system DER related upgrade costs initially from distribution ratepayers and overtime from newly interconnecting DERs.

that are similar to those in ACE's EDC affiliate jurisdictions of Delaware, the District of Columbia, and Maryland.

Specifically, ACE is speaking about State jurisdictional (non-FERC jurisdictional) wholesale market projects. A PJM wholesale project is non-FERC jurisdictional when it is that project is the first wholesale project connecting to an electric distribution circuit; where no wholesale transactions have been made before. To sell into the wholesale market, the project must enter into a Wholesale Market Participant Agreement ("WMPA") and the project must proceed through the PJM Queue to be evaluated for Transmission System impacts, despite the fact that the interconnection takes place on the distribution system. The WMPA requires that the project proceeding through the PJM Queue, but connecting at the distribution level, have a valid two-party Interconnection Agreement between the EDC and the interconnection customer.

Unlike Delaware, the District of Columbia, and Maryland, New Jersey precludes the EDCs from using the standard State agreement for these non-FERC jurisdictional applications. In fact, the New Jersey standard form Level 2/3 Agreement specifically states that:

> [t]his Agreement is not applicable to purchases of power under any EDC Qualifying Facility power purchase tariff, or for wholesale transactions as defined by the Federal Energy Regulatory Commission ("FERC"), and which are included as part of a PJM Wholesale Market Participation Agreement ("WMPA"). *A WMPA uses a separate form of Interconnection Agreement with the EDC.* (emphasis added)

As a result, the non-FERC jurisdictional Level 2/3 project in New Jersey is processed separately from the other State jurisdictional projects that use the standard interconnection agreement. This separate process can result in a longer review/approval timeline for distribution projects.

Since non-FERC jurisdictional PJM Queue Projects in New Jersey are handled outside of the current processes for State jurisdictional interconnections, they do not follow the same interconnection process flow discussed above. Non-FERC Jurisdictional PJM Queue Projects may experience delays in obtaining a two-party interconnection agreement, because they are subject to significantly different application and study processes. For State jurisdictional interconnections, communications to the customer regularly occur within a Company developed application process managed by the GPC team. Requests can be routed to various groups within the application itself, with all supporting documentation easily accessible through the CTG tool. Essentially, by requiring a separate interconnection agreement, the efficiencies developed for processing the standardized State agreements are lost.

By contrast, in Maryland, non-FERC Jurisdictional PJM Queue Projects are subject to State jurisdictional requirements, specifically for non-FERC jurisdictional interconnections that receive a WMPA. Maryland's requirement for non-FERC jurisdictional PJM Queue Projects to enter the same conventional channels as distribution level interconnection agreements ensures a similar, more streamlined approval process. As a result, project approvals for PJM Queue Projects in Maryland are significantly faster than in New Jersey, where a lack of state requirements causes the PJM Queue Project to use a non-standard distribution level review through the PJM Queue process. To achieve results similar to Maryland, the Board could consider modifying the existing standardized interconnection agreement to include non-FERC jurisdictional wholesale transactions.

Finally, on-going changes to the existing PJM process may require the Board to address this issue. While the PJM Queue process currently provides limited support for distribution interconnection studies, PJM's current Queue reform initiative may require an interconnection

agreement prior to entering the PJM Queue. Without a revision to the process in New Jersey, PJM Queue Projects may experience significant delays in interconnection compared with those submitted in other jurisdictions. Thus, State requirements in New Jersey should also apply to non-FERC jurisdictional interconnection applications that participate in the wholesale market.

V. Conclusion

ACE believes this Grid Modernization proceeding can lead to positive change that furthers the State's clean energy policy goals. ACE has interconnected a significant number of DERs in the State and has used innovation to aid developers and customers through mapping. In addition, ACE has developed efficiencies through its CTG tool for processing standard, state-jurisdictional projects. However, with the number of interconnection requests increasing in volume and complexity, EDCs may need additional support for processing applications in the future. In the longer term and depending on the trajectory of the DER market, ACE will anticipate and may expand its interconnection process and capabilities to accommodate the growing number of DER interconnection requests. Continuing BPU support for ACE interconnection improvements will help to ensure that the necessary grid investments can be made.

Changes to the existing interconnection cost allocation method should be established in the near-term to remove barriers to new interconnecting DER and adopt a proactive grid modernization approach to pave the way for future DER growth. This policy change will reduce financial barriers for new DERs and create more certainty in the interconnection process, while ensuring that ACE has the funding needed to maintain the safe and reliable operation of New Jersey's electric distribution system as additional DERs are added. Finally, revising the New Jersey interconnection rules to require non-FERC Jurisdictional PJM Queue Projects to be subject to state interconnection regulations will expedite the interconnection of these projects.

ACE appreciates the opportunity to comment and looks forward to continuing its work with the stakeholders to help shape recommendations for grid modernization in New Jersey.