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May 20, 2020

Via Electronic Mail

Secretary of the Board of Public Utilities
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RE: AEMA Comments on BPU Staff's Investigation of Resource Adequacy Alternatives

Docket No. EO20030203

I. Introduction

Advanced Energy Management Alliance ("AEMA") appreciates the opportunity to comment to the Board of Public Utilities ("BPU") on Staff's request for written comments in Docket No. E)20030203, Investigation of Resource Adequacy Alternatives ("Investigation"). AEMA is a trade association under Section 501(c)(6) of the federal tax code whose members are engaged in providing or facilitating various clean energy solutions including energy efficiency ("EE"), peak demand response ("DR"), distributed energy resources ("DER") deployment with a focus on clean fossil-fuel backup generation and storage generation, advanced metering infrastructure and technology services. AEMA also includes some of the largest energy customers in the country, which leverage these services. AEMA members support advanced energy management solutions that help customers achieve electricity cost savings, reduce emissions, and improve grid reliability and resiliency. These comments represent the collective

consensus of AEMA as an organization, although it does not necessarily represent the individual positions of AEMA member companies.

AEMA respectfully submits these comments for consideration by the BPU with a focus on how changes to its resource adequacy construct and clean energy efforts may impact EE, DR, and DER end-use customers as well as third parties that offer these customers into wholesale programs (i.e. Curtailment Service Providers).

II. Executive Summary

AEMA appreciates and supports the BPU's efforts to remove barriers to achieving its clean energy goals, including barriers that may exist in its resource adequacy ("RA") construct. AEMA and its members are actively engaged in state efforts to support New Jersey's Clean Energy Goals, including its energy efficiency and peak demand reduction targets as well as storage deployment goals. By expanding cost-effective EE, DR, and storage, New Jersey can increase its clean, in-state capacity resources, reducing the need to procure generation capacity and reducing costs to ratepayers. The deployment of these advanced energy solutions furthers New Jersey's Clean Energy Goals while reducing costs to ratepayers. We encourage the BPU to look at its resource adequacy and clean energy needs holistically. These comments focus on items that AEMA believes should be considered in the BPU's Investigation so that the impact on EE, DR, and DER participation is evaluated while contemplating any changes to the Resource Adequacy ("RA") construct used by New Jersey.

AEMA is actively engaged in New Jersey's efforts to meet its Clean Energy Goals, including by providing comments and testimony[1] in support of New Jersey Energy Master Plan ("EMP")[2] and actively representing EE and DR end-use customers and Curtailment Service Providers in New Jersey's Energy Efficiency Transition efforts.[3] AEMA member companies support New Jersey developing robust EE and DR programs to reduce energy by 2% under the Clean Energy Act (2018). Furthermore, AEMA member companies actively support New Jersey's efforts to meet its goals to shift its energy production to clean energy production to 35%

[1] Advanced Energy Management Alliance, Testimony on Draft Energy Master Plan for the State of New Jersey, July 17, 2019, https://aem-alliance.org/download/121255/.
[2] New Jersey, 2019 Energy Master Plan, http://d31hzlhk6di2h5.cloudfront.net/20200127/84/84/03/b2/2293766d081ff4a3cd8e60aa/NJBPU_EMP.pdf
[3] *Ibid.*

by 2025,[4] 50% by 2030,[5] and 100% by 2050[6] as well as to limit the level of Statewide greenhouse gas emissions and greenhouse gas emissions from electricity generated outside the State but consumed in the State to 80% below the 2006 level by the year 2050.[7]

EE and DR resources depend on a competitive, technology-neutral price signal for capacity to fuel their growth. Furthermore, capital-intensive DERs such as storage require stable and predictable revenue streams to secure low-cost financing, and capacity revenues account for a significant portion of their total revenues. These resources have benefited from the regional nature of PJM's capacity market, which allows New Jersey's DR, EE, and storage resources to out-compete more expensive capacity resources across the entire PJM region, improving the air that New Jersey's residents breathe and paving the way for greater amounts of renewable resources. We urge New Jersey to approach creation of its own RA construct to align with its Clean Energy Goals with a broad lens to ensure that any changes do not inadvertently undermine its state objectives around storage deployment and demand reductions, or otherwise harm the regional development of clean energy resources that is essential for New Jersey to meet its goals. AEMA believes that, notwithstanding the recent FERC mandated Minimum Offer Price Rules ("MOPR"), participation in PJM's capacity market under the new rules is the most effective approach for New Jersey.

AEMA understands that the BPU is concerned that without changes to the current resource adequacy construct, that it may not be able to achieve some of its specific goals under this transition, which include:

- Procuring a minimum of 7,500 MW of offshore wind by 20358;
- Procuring a minimum of 600 MW and 2,000 MW of storage by 2021 and 2030 respectively;[9] and

[4] Energy Master Plan.
[5] *Ibid.*
[6] Executive Order No. 28, May 23, 2018, https://nj.gov/infobank/eo/056murphy/pdf/EO-28.pdf.
[7] New Jersey Legislature, Updated Global Warming Response Act P.L.2019, c.197., July 23, 2019, https://www.njleg.state.nj.us/2018/Bills/S3500/3207_R2.PDF.
[8] Executive Order No. 92, November 19, 2019, https://nj.gov/infobank/eo/056murphy/pdf/EO-92.pdf.
[9] New Jersey, Clean Energy Act P.L.2018, c.17 (May 23, 2018), https://www.njleg.state.nj.us/2018/Bills/AL18/17_.PDF.

- Establishing electric energy efficiency and peak demand reduction programs and gas energy efficiency programs where each utility must reduce electricity usage by 2% and natural gas usage by 0.75%.[10]

AEMA supports the BPU finding the most cost-effective solutions that will enable New Jersey to meet these goals. We therefore request the BPU adopt certain key principles throughout this Investigation so that the holistic approaches to meeting its RA requirements and its Clean Energy Goals continues to be the result of a robust, competitive framework. Specifically, we believe any final solution should ensure:

- Minimized costs and risks to ratepayers;
- Free entry and exit of third-party suppliers, through them end-use customers, to capacity and capacity attribute procurement mechanisms;
- Non-discriminatory treatment for capacity and capacity attribute sellers between incumbent utilities and third-party suppliers;
- A competitive, technology-neutral price signal for capacity and capacity attributes,
- A stable, low-risk environment for development of EE, DR, storage, and other forms of DERs; and
- Regional cooperation and competition.

These principles will ensure that clean energy resources will continue to grow and thrive in New Jersey while the State continues to also meet its RA requirements and reliably serve load. By working with neighboring states with similar clean energy goals, New Jersey can take advantage of regional cooperation to push for changes to the PJM market that would remove barriers for clean energy technologies, including off-shore wind. The results of the first BRA run under PJM's new Minimum Offer Price Rule framework will also provide valuable insight into the potential barriers it poses to New Jersey's environmental goals, although current indications are that most clean energy resources will still be able to successfully clear.[11] We urge New Jersey to proceed carefully and fully understand the impacts of the new MOPR before going down any path that would be difficult to unwind. Finally, we also urge New Jersey to focus on its

[10] Clean Energy Act.
[11] "Minimum Offer Price Rule Unit-Specific Inputs," Gabel Associates; presented to the PJM MIC MOPR Special Session on February 28, 2020.

legislative priorities, including those around storage and demand reduction, that will lead to significant in-state savings and will reduce ratepayer costs from "paying twice" for capacity.

AEMA members request BPU staff consider at the forefront of other alternatives waiting to propose changes to its RA construct until time allows to see whether PJM's replacement rate under approval on compliance currently in practice will result in capacity market results that interfere with New Jersey's generation deployment goals outlined above. Further, AEMA requests the BPU consider as a first order option the alternative to work further with PJM and stakeholders at PJM wholesale market to explore capacity and energy market enhancements that would result in wholesale market design that will better allow states to meet RA requirements while also achieving Clean Energy Goals. AEMA and its members are committed to engaging in a stakeholder process at PJM to explore both capacity and energy market reforms that will better situate the resource mix to account for both reliability and emission reduction needs. We expand on these recommendations below.

In addition, New Jersey could consider BPU proceedings or state legislation that is squarely within its jurisdiction to promote the advancement of DERs and clean energy. These include potential improvements to its interconnection processes to remove unnecessary barriers to DERs such as storage, local siting improvements for DERs and renewables, and increased local emissions standards that would all serve to promote clean energy within its state borders. While AEMA recognizes some of these solutions require regional collaboration and may be multi-year processes, we believe they would preserve the benefits of regional competition while advancing New Jersey's decarbonization objectives and reducing tensions that fueled this investigation

III. Request BPU continue to support in-state EE, DR, and DER resources that contribute to New Jersey's resource adequacy and offset need to build new generation

New Jersey benefits from a large quantity of EE and DR resources that provide significant cost savings to consumers throughout the state. AEMA believes its interest are aligned with BPU to explore RA constructs and other mechanisms that will allow for New Jersey to meet both its RA requirements while also achieving its Clean Energy Goals, including those for EE and DR. AEMA members encourage BPU to continue to explore mechanisms that would allow New Jersey to meet both its RA requirements and Clean Energy Goals through organized

wholesale markets as well as to take advantage of regional cooperation through Regional Greenhouse Gas Initiative ("RGGI").

AEMA requests the BPU consider how any changes it may make to its RA construct would impact New Jersey end-use customers that are currently providing beneficial reliability and emission reduction services through the PJM capacity market as load management demand response ("PJM DR Capacity Resource") or as energy efficiency ("PJM EE Capacity Resource"). AEMA members help end-use customers to participate in wholesale markets to provide these energy and peak demand reduction benefits directly within New Jersey as well. Over the past four years, the PJM capacity market has cleared on average 515 MW in the PSEG and PSEG North zones from PJM DR Capacity Resource and PJM EE Capacity Resources. To meet the current delivery year DR Capacity Resources' obligations, 1,511 New Jersey customers enrolled for the current delivery year, 2019/2020.[12] These customers earn revenue that enables them to reinvest in their businesses and stay more competitive in a global economy. Furthermore, these EE Capacity Resources and DR Capacity Resources contributed to $2.1 billion in savings across PJM in the 2019/2020 DY, resulting in savings for NJ ratepayers of approximately $300 million.[13]

Participation in EE and DR programs provides consumers with valuable opportunities to manage their energy usage, consistent with New Jersey's goals to reduce electricity usage by 2% statewide. Demand response depend on the capacity market for well over 90% of their revenue, and due to high dispatch costs that most DR customers face, have only a limited ability to access other forms of energy revenues. As a result, EE Capacity Resources and DR Capacity Resources that participate in PJM's markets are highly dependent on the competitive price signal from the PJM capacity auction that allows them to out-compete more expensive forms of generation capacity. Resources that benefit from preferential *energy* prices or incentives can cause depressed *capacity* prices for clean capacity resources such as EE and DR thereby discouraging

[12] 2020 Demand Response Operations Markets Activity Report: May 2020, PJM Interconnection, May 8, 2020, Figure 1, https://www.pjm.com/-/media/markets-ops/dsr/2020-demand-response-activity-report.ashx?la=en.
[13] Analysis of the 2019/2020 RPM Base Residual Auction. PJM Independent Market Monitor. August 31, 2016. https://www.monitoringanalytics.com/reports/Reports/2016/IMM_Analysis_of_the_20192020_RPM_BRA_20160831-Revised.pdf. The $300M in savings for New Jersey ratepayers is estimated by multiplying the $2.1B in savings by New Jersey's share of the total PJM population.

growth of these valuable resources. Any change to New Jersey's RA construct would need to carefully consider how to provide resources, including clean capacity resources, with a technology-neutral price signal for capacity that properly reflects their capacity value and contribution.

AEMA believes that PJM's recent compliance filing to FERC helps ensure that the MOPR will not create unnecessary barriers for these resources, and that they will continue to benefit from a competitively-formed price signal. At the same time, there are multiple details that will need to be worked out in PJM's stakeholder processes, such as what counts as a "state subsidy." Given New Jersey's plans to develop and expand its own EE and DR retail programs, the BPU can provide leadership process to ensure the continued growth of both wholesale and retail EE, DR and DERs within the state.

IV. Request BPU consider certain key principles as it evaluates potential Resource Adequacy Alternatives

New Jersey has aggressive clean energy and clean capacity targets that are essential to meet to achieve its broader decarbonization objectives. To achieve these goals, New Jersey should consider a few key principles as it explores pathways and strives to remove unnecessary barriers. These are fundamental principles that should be included in any resource adequacy construct or alternative and that can also help inform New Jersey's advocacy within PJM stakeholder processes. Taken together, they will deliver the best outcomes for New Jersey's significant in-state EE, DR, and DER resources that are foundational to its clean energy future.

AEMA respectfully requests the BPU consider the interests of these end-use customers currently participating directly in PJM wholesale market when exploring the questions on alternatives to capacity and capacity attributes procurement under this Investigation. AEMA believes that in any procurement mechanism that these customers and additional customers should be able to continue to contribute energy and peak demand reduction benefits resulting in meeting a portion of New Jersey's RA requirements while also contributing to its energy and peak demand reduction goals. Further, AEMA believes that any procurement mechanism must also allow free entry for third-party suppliers as well as utilities allowing equal access to sellers to competitively offer EE and DR services. AEMA proposes the following principles should be adopted such that any capacity or capacity attribute procurement framework results in:

- **Minimized costs and risks to ratepayers**:

  AEMA believes that fundamentals of competitive markets should be adopted in any procurement mechanism so that it can achieve the first order goal of minimizing costs to ratepayers through ensuring third-party developers share development risk and it is not fully assessed to ratepayers through rate-based mechanisms, that ratepayers are not assessed more than once for a given product such as capacity, and that the mechanism is a competitive mechanism so that the procurements represent a least cost, security constrained outcome. AEMA supports New Jersey exploring ways to meet its clean energy and clean capacity goals in the most cost-effective way possible. This includes minimizing development costs by providing a stable, low-risk means for resources such as storage to secure capacity revenues. Capacity revenues comprise a significant percent of the total revenue share for capital-intensive resources such as storage and solar, and a stable capacity construct is essential for minimizing development and financing costs. This also reduces the need to pass unnecessary risks onto ratepayers via long-term contracting mechanisms, as would be required under any Fixed Resource Requirement construct.

- **Free entry and exit of third-party suppliers, through them end-use customers, to capacity and capacity attribute procurement mechanisms:**

  AEMA believes that any procurement framework for capacity or capacity attributes should allow free entry and exit of third-party suppliers, in addition to utilities. As described above, third-party suppliers within AEMA currently facilitate most end-use customers' participation in PJM's wholesale markets. We believe that it is equitable that these customers continue to be able to receive capacity benefits as result of their contributions to wholesale energy and peak demand reductions. The participation in these programs is incentivized through capacity payments. In addition, AEMA member companies find that these customers generally also participate because they have their own environmental goals as sustainability goals becomes more important to Commercial and Industrial companies.

- **Non-discriminatory treatment for capacity and capacity attribute sellers between incumbent utilities and third-party suppliers:**
  AEMA believes that any framework should allow non-discriminatory treatment between the sellers of the two products – capacity and capacity attributes – that the state desires to procure. Through participating in PJM wholesale market procuring capacity to meet RA requirements, this mechanism allows non-discriminatory access to both utilities and third-party suppliers. We believe this characteristic is fundamental to the mechanism producing a competitive, non-discriminatory price signal – a keystone of efficient markets. Non-discriminatory access for both third-parties and customers is essential to maximize access to DR and EE opportunities and finance DER solutions such as batteries. Some FRR territories throughout PJM have capped the level of DR penetration that can exist within a retail tariff, limiting access to cost-effective resources and impeding growth. The need to operate under both a retail and wholesale tariff in FRR constructs further serves as a barrier to broad participation that impedes free entry and exit by increasing administrative costs and complexity.

- **A competitive, technology-neutral price signal for capacity and capacity attributes:**
  AEMA believes that EE, DR and DERs have grown within New Jersey and across PJM thanks to access to a transparent and technology neutral capacity price signal. AEMA believes that with a competitive, technology-neutral signal for both products, which would ideally be unbundled, that the signals would exist to incentivize innovation providing solutions beyond those existing today. Through providing access to competitive, technology-neutral price signal for both products, third-parties and utilities would be incentivized to invest in research and development to find solutions that could result in new technologies that better meet the goals of meeting reliability requirements while achieving emission reduction targets.

- **A stable, low-risk environment for development of EE and DR:**
  AEMA believes third-parties need the ability to reasonably predict revenue streams including how the third-party supplier will be able to monetize the EE, DR, or DER capacity. EE, DR, and DER largely provide a capacity service to provide wholesale

demand reductions either year-round (EE) or during pre-emergency conditions to avoid reaching capacity shortages (DR or DER). For example, it will be challenging to finance new DER projects from a third-party if revenue streams are uncertain since we expect a large percentage of DER revenues, including storage, are likely to come from capacity or capacity attribute payments.

- **Regional cooperation and competition:**
  AEMA believes that to the extent possible, New Jersey should work with neighboring states to improve capacity or capacity attribute procurement constructs that would allow them to meet RA requirements aligned with individual state's environmental priorities. Many states within the PJM footprint share common clean energy goals to New Jersey. For example, in Maryland the state is pursuing options to reach 100% clean energy by 2040 that includes a procurement target for up to 1,200 of offshore wind.[14] Virginia recently passed its Clean Energy Economy Act that requires 100% clean energy for its utilities by 2045-2050 and establishes that up to 5,000 MW of offshore wind is in the public interest. Illinois is similarly exploring legislation that would create a 100% clean energy target. Given the regional nature of many clean energy developers and DR and DER providers, collaboration among states will help capture regional benefits of competition while ensuring their priorities are reflected and accounted for in market designs. There are numerous areas where states could use their leverage to remove market barriers to clean energy deployment and we urge New Jersey to work with neighboring states and PJM's stakeholders to do so.

AEMA respectfully requests the BPU adopt these principles to ensure that clean energy resources will continue to grow and thrive in New Jersey. They will ensure that the State continues to meet its RA requirements and reliably serve load in a manner that minimizes costs, allows for innovation, and does not allocate development risks solely to ratepayers. Any procurement mechanism should allow third-party suppliers to assume share of these risks while providing valuable competitive, clean energy services within New Jersey. AEMA acknowledges that while today's PJM wholesale capacity market construct incorporates many or all these

[14] Chapter 757 Acts of 2019. Amended under Senate Bill 516, May 2019, http://mgaleg.maryland.gov/2019RS/chapters_noln/Ch_757_sb0516E.pdf.

principles, there are opportunities to improve the design of wholesale markets to allow for consideration of capacity attributes, reflecting environmental externalities, within the wholesale markets that would better facilitate the state's clean energy goals. The remainder of our comments will turn to exploration of elements that could be considered as potential solutions under the Investigation.

V. Request BPU consider impacts to Clean Energy Act's EE and Peak DR goals under a Fixed Resource Requirement construct

AEMA supports market mechanisms that incentivize continued growth of clean energy services from EE, DR, and DER within New Jersey. AEMA members encourage BPU to continue to explore enhancements to existing markets or establishing capacity attribute procurement mechanism that would allow New Jersey to meet both its resource adequacy and clean energy goals through the organized wholesale markets as well as to take advantage of regional cooperation through Regional Greenhouse Gas Initiative.

AEMA members have experience bringing end-use customers that want to contribute to energy efficiency or demand response services within Fixed Resource Requirement ("FRR") areas. AEMA is also actively engaged in New Jersey efforts to meet its Clean Energy Goals from providing comments and testimony[15] in support of New Jersey Energy Master Plan ("EMP")[16] to actively representing EE and DR end-use customers and Curtailment Service Providers in New Jersey's Energy Efficiency Transition efforts.[17] Of specific interest to AEMA member companies is the electricity EE and DR program target to reduce energy by 2% under the Clean Energy Act (2018). To date, AEMA members have shown support for New Jersey efforts to meet its goals to shift State's energy production to clean energy production to 35% by 2025,[18] 50% by 2030,[19] and 100% by 2050[20] as well as to limit the level of Statewide greenhouse gas emissions and greenhouse gas emissions from electricity generated outside the State but

[15] Advanced Energy Management Alliance, Testimony on Draft Energy Master Plan for the State of New Jersey, July 17, 2019, https://aem-alliance.org/download/121255/.
[16] New Jersey, 2019 Energy Master Plan, http://d31hzlhk6di2h5.cloudfront.net/20200127/84/84/03/b2/2293766d081ff4a3cd8e60aa/NJBPU_EMP.pdf
[17] Straw Proposal for New Jersey's Energy Efficiency and Peak Demand Reduction Programs, New Jersey Board of Public Utilities, https://www.nj.gov/bpu/pdf/3-20-20%20Final%20EE%20Straw%20Proposal.pdf.
[18] *Ibid.*
[19] *Ibid.*
[20] Executive Order No. 28, May 23, 2018, https://nj.gov/infobank/eo/056murphy/pdf/EO-28.pdf.

consumed in the State to 80% below the 2006 level by the year 2050.[21] AEMA believes it is essential to the future of EE and DR effectiveness that penetration levels of cost-effective energy reduction, peak demand reduction, and reliability solutions are not limited. AEMA would like to raise two considerations important to the effectiveness of FRR for BPU consideration.

First, AEMA has concerns about the success of EE and DR programs in FRR areas. Based on experience, AEMA members have observed that within FRR territory it can be more administratively difficult for customers to participate in these programs, due to the need to operate under a separate retail tariff and utility program in addition to meeting PJM capacity performance requirements. In FRR areas, third-party suppliers and end-use customers experience a level of uncertainty as to when growth may be capped by administratively set caps to the level of penetration, which can impede efforts to incentivize growth. In addition, AEMA members have heard from their existing customers that some of the large energy consumers who greatly benefit from participating in PJM load management program might resolve to look to relocate where it is feasible to relocate so they are not blocked from continuing to benefit from capacity revenues since they are willing to provide valuable peak demand reductions not only at its site or in its local service territory but also in a manner that helps wholesale RTO-wide system conditions, if the need arises.

Second, whether opting for FRR would prove an effective tool depends on the effectiveness of the capacity and capacity attribute procurement mechanisms adopted that would procure the capacity to be self-supplied under FRR. AEMA members believe that areas that opt for FRR have a higher risk if the procurement mechanism chosen in alternative is not an efficient, competitive process that opting for this direction can result in reducing energy service options made available if limiting third-party supplier participation, which also reduces competition potentially increasing ratepayer costs.

VI. Request BPU consider certain elements of Basic Generation Service auction for enhancements if it were to pursue using it as an alternative capacity mechanism

[21] New Jersey Legislature, Updated Global Warming Response Act P.L.2019, c.197., July 23, 2019, https://www.njleg.state.nj.us/2018/Bills/S3500/3207_R2.PDF.

While AEMA believes that a construct such as Basic Generation Service ("BGS") may be able to be leveraged to design a separate procurement process, AEMA believes that there are certain elements of the auction that would require adjustments to do so. AEMA acknowledges that some of the platform and technology infrastructure of BGS may be able to be leveraged to design a new process that would allow for unbundled procurement from utilities and third-party providers that also considers deliverability concerns. It may be possible to bundle the capacity and capacity attribute in a single procurement, but AEMA is concerned that if bundled this would disadvantage demand response since the reliability value to meet RA requirements provided is the focus instead of clean energy goals to meet electric sales. AEMA supports achieving both goals and believes through having unbundled procurements where resources could receive awards and obligations separately for each service (resource adequacy versus clean energy attributes) that it allows capacity resources such as demand response to contribute to provide reliability during peak conditions. AEMA believes that the clean energy capacity attribute could be valued within a BGS-like mechanism where the clean energy attribute could be compensated based on social cost of carbon – a technology-neutral approach that monetizes the capacity attributes value to offset cost of new entry or going forward costs.

In the instance the BPU were to take the approach to modify its BGS construct to achieve its RA requirements aligned with its clean energy goals, AEMA is committed to engaging with BPU staff to ensure a new auction process can meet State goals including those for incentivizing EE and DR targets. AEMA requests the BPU consider the following elements and allow for future stakeholder engagement to consider enhancements to account for these items:

- **Allow third-party suppliers to participate:**
  The Final BGS-CIEP auction rule document states that, "sellers provide full-requirements service for the percentage of the EDC's BGSCIEP Load for a given supply period corresponding to the number of tranches won by the BGSCIEP supplier for that supply period. Full-requirements service means that the BGS-CIEP supplier is responsible for fulfilling all the requirements of a PJM Load Serving Entity ("LSE"), including capacity, energy, ancillary services and transmission, and any other service as PJM may require. A

winning supplier may win one or more tranches for one or more EDCs."[22] AEMA requests the BPU adjust the requirements to allow for the services to be offered by third-parties in addition to entities that can meet LSE requirements. AEMA members facilitate end-use customer participation in PJM capacity market today and the third-party suppliers would successfully be able to continue to manage these service provisions through an alternative mechanism as well. Without this change it would prevent AEMA members and the end-use customers they support participating in any such auction – reducing competition and excluding New Jersey customers currently providing these services today.

- **Allow unbundled service procurement:**

  Today, the product offered into the auction is for a full requirements service where Sellers offer to provide all components of supply to serve BGS customers (energy, transmission, capacity, ancillary services, RECs and SRECs, as well as any other services that may be required by PJM) at a $/MW-day (BGS-CIEP)[23] or cents/KWh (BGS-RSCP).[24] AEMA requests the BPU adjust the requirements to allow for procurement of unbundled services instead of a full services requirement. AEMA believes that to produce efficient market signals that the signal should be available for each specific service so that market mechanisms can procure capacity, capacity attributes, and electric supply separately resulting in a competitive price signal. Further, without this change AEMA is concerned that it would prevent AEMA members and the end-use customers they support participating in any such auction – likely excluding EE, DR, and DER from providing available capacity.

- **Ensure capacity procurements are deliverable:**

[22] VIII. Appendix A: Final BGS-CIEP Auction Rules, 2019, http://www.bgs-auction.com/documents/Final_2020_BGS-CIEP_Auction_Rules_06_DEC_2019.pdf.
[23] BGS-CIEP auction is closer to an analogous procurement process than the BGS-RSCP since its clearing price is a $/MW-day capacity price with an associated capacity obligation where suppliers will receive RT spot price for electric supply.
[24] BGS-RSCP auction determines a competitive supply cost (cents/kwh) for electric supply to residential customers, which largely assumes the capacity is already on the system. Suppliers are paid the clearing price for every KWh sold.

Today, the BGS does not model transfer limitations as ensuring deliverability of capacity is not its main purpose. AEMA members believe that an all-in-price auction that does not consider deliverability of the capacity or capacity attributes during times when transfer lines between local areas may be limited would not be effective. A procurement mechanism that does not account for deliverability of the electricity generation would not meet reliability needs if during constrained conditions, that generation is stranded where supply cannot be delivered to the load pocket. For example, there could be transfer capability constrained between PSEG and PSEG North where generation procured in one area would be undeliverable capacity supply when transfer capability is limited and in that instance the load in the zone with deficient generation procured would not be served – an adverse outcome of a mechanism that does not consider transfer limitations. In that instance, the capacity could not be dispatched to provide electricity to the supply customers it is committed to serve. Modelling potential transfer limitations or at a minimum ensuring local capacity requirements account for this risk is essential to ensuring capacity procurement results in fleet that can support reliable grid. Without this change, AEMA believes the capacity procured may not be deliverable and would not achieve the State's resource adequacy goals.

AEMA respectfully requests the BPU consider the need for adjustment to these elements of the BGS construct. Today, EE, DR, and DER assets can offer their willingness to contribute to energy usage reduction goals while being available to respond and provide reliability services through PJM capacity markets. While these services are largely not electric supply services, they are instead services deployed during times of system need. AEMA reiterates that a full requirements service approach would likely exclude these types of resources from providing the valuable resource adequacy services they do today and potentially reduce EE and DR growth without access to capacity revenues. In addition, while the natural incentives to participate in demand response that comes from self-investing in reliability or to further corporate sustainability goals, AEMA is concerned that without access to capacity procurement processes that regulatory decision would effectively end end-use customer's access to capacity incentives to incentivize their decision to deploy distributed generating sources included distributed renewable and storage resources. This could inadvertently decrease EE and DR participation as well as deployment of distributed-connected clean energy resources, which AEMA believes

would be contrary to the intent in New Jersey's Clean Energy Goals. AEMA requests BPU adopt mechanisms that continue to allow robust EE and DR participation and DER development.

VII. Request BPU consider future opportunities for additional PJM market enhancements through stakeholder processes

AEMA respectfully requests that BPU staff proceed cautiously with any significant changes to its resource adequacy construct until it has time to evaluate the impacts of the new MOPR policy on the next BRA. Based on the latest analyses, most renewable resources are likely to clear the market through the unit-specific exemption process, which allows resources to demonstrate that their actual costs are below the administratively-set, class-average MOPR floors. This means that the actual impacts of the MOPR are likely to be quite limited, particularly in the short run. Furthermore, there are existing opportunities to remove barriers to clean energy deployment in New Jersey that would not create unnecessary costs or risks for ratepayers or potentially undermine the state's environmental goals. We urge the BPU to consider holistic solutions that would advance clean energy, DR, and DERs. We expand on these below.

AEMA requests the BPU consider at the forefront of other alternatives waiting to propose changes to its resource adequacy construct until time allows to see whether PJM's replacement rate under approval on compliance currently in practice will result in capacity market results that interfere with New Jersey's generation deployment goals outlined above. AEMA respectfully requests the BPU consider as a first order option the alternative to work further with PJM and stakeholders at PJM wholesale market to explore capacity and energy market enhancements that would result in wholesale market design that will better allow states to meet RA requirements while also achieving Clean Energy Goals. AEMA and its members are committed to engaging in a stakeholder process at PJM to explore both capacity and energy market reforms that will better situate the resource mix to account for both reliability and emission reduction needs.

AEMA believes that without experience under the new capacity replacement rate being considered under compliance that stakeholders cannot be certain if it will impede State's goals. While the default offer floor prices for offshore wind and storage if MOPR applied are at $3,146/MW-day and $1,040/MW-day for new resources, AEMA believes that these may be arbitrarily high and that the specific development costs for new resources within New Jersey could be quite lower and that New Jersey resources may be able to continue clearing PJM's

market through more accurately reflecting these incremental costs through a unit-specific exception to its default floors. The unit-specific exception allows individual units the ability to demonstrate that their true costs are below the administratively-set, resource-specific offer floors determined by PJM. AEMA requests the BPU include a consideration to wait until market participants and PJM can gain experience with the unit-specific exception requests for these assets and to allow us to evaluate the results of the BRA for 22/23 DY under these new rules. Hopefully many clean energy resources including those within New Jersey will still successfully clear the capacity market under the new replacement rate. AEMA believes the market needs to understand the replacement rate's impact on determining the resource fleet that successfully clears the auction before determining it is an unworkable option.

In parallel, AEMA believes that there is still the opportunity to pursue PJM market design changes that could better recognize the operating characteristics and value of clean energy resources, including their environmental attributes. AEMA proposes for BPU consideration some PJM market design changes that could be considered that could result in incorporating the environmental externalities associated with emitting resources into its market dispatches.

- Changes to account for emitting resource's environmental externalities in PJM dispatches and increasing MOPR floors for emitting resources; and
- Changes to PJM capacity market rules for self-supply options and exclusions to "state subsidy" definition under replacement rates.

The remainder of the section will explore these alternative options that could be pursued within PJM stakeholder processes.

a. Changes to account for emitting resource's environmental externalities in PJM dispatches and increasing MOPR floors for emitting resources

An important part of establishing the PJM MOPR offer price floors is that PJM approximates a resource-specific net Cost of New Entry ("net CONE") or Net Avoidable Cost Rate ("net ACR") that includes a revenue offset for energy and ancillary services based on estimated dispatches given its current cost-based values. PJM estimates the estimated energy revenues for greenhouse gas emitting resources such as coal, combustion turbines, combined cycles, based on a simulated dispatch of a reference unit comparing estimated costs based on fuel costs, variable

operations and maintenance, fixed maintenance adder costs against estimated energy prices. The economic dispatch of these units will change if the greenhouse gas costs associated with dispatching those units are factored into the fuel costs estimated. When the units are more appropriately valued including this cost then their dispatch order will shift to a higher place on the supply stack, likely resulting in less energy revenues being included in their revenue offset. When the net CONE calculation is performed, the energy & AS offset will be lower based on the lower dispatch rate resulting in higher and more appropriate estimates of net CONE. The MOPR floors would be at more appropriate levels once the greenhouse gas costs are considered in its energy revenues so that emitting resources would have lower revenue offset and a higher floor than currently supported within including greenhouse gas costs.

The need to consider greenhouse gas costs when dispatching generation units daily has long been recognized in California when California ISO changed its rules to include the incremental cost of carbon emissions in its cost-based offers in 2012.[25] The CAISO applies a GHG cost component to all units' commitment and energy costs that have a compliance obligation under CARB's cap-and-trade program where the costs is based on the unit-specific emission rate multiplied by a Greenhouse Gas Allowance Price.[26] Intercontinental Exchange (ICE) and Argus publish price data for the allowance price daily. ICE publishes an array of allowance price data that could be leveraged in PJM's market to better value negative externality of these assets including a Regional Greenhouse Gas Initiative Vintage 2020 Future product for RGGI allowances.[27]

AEMA acknowledges that, while concerns have been raised with the ability for PJM to make these market design changes, the implementation is modest compared to other market design changes and proven in other markets. The main concern raised has been whether this can work in a regional market with states with potentially common but varied environmental goals. AEMA believes some lessons learned can be gained from the Western regional market, the Western

[25] Commitment Cost Refinements, Draft Final Proposal, California ISO, Page 8, http://www.caiso.com/Documents/DraftFinalProposal-CommitmentCostRefinements.pdf.
[26] See California ISO Business Practice Manual Market Instruments, Section K, Greenhouse Gas Allowance Price Calculation, https://bpmcm.caiso.com/BPM%20Document%20Library/Market%20Instruments/BPM_for_Market%20Instruments_V58_clean.doc.
[27] https://www.theice.com/products/55410816/Regional-Greenhouse-Gas-Initiative-Vintage-2019-Future.

Energy Imbalance Market. A regional implementation of accounting for greenhouse gas costs in wholesale energy and ancillary service markets was adopted in the Western Energy Imbalance Market ("EIM") in 2018. The Regional Integration and EIM greenhouse gas compliance rule changes were approved in 2018 to address these concerns as well as to clarify the rules for electricity importers into Balancing Authority Areas that apply greenhouse gas compliance obligations on electricity importers.[28]

AEMA believes that market changes that ensure the compliance obligations and consideration of negative externalities of emitting resources are considered in wholesale market dispatches would be a positive alternative to help enhance PJM daily markets to support meeting New Jersey's Updated Global Warming Response Act. AEMA believes that given the updated GWRA that applies a limit to the level of Statewide greenhouse gas emissions as well as greenhouse gas emissions from electricity generated outside the State but consumed in the State to 80 percent below the 2006 level by the year 2050 that wholesale changes to account for social cost of harmful emissions should be a priority within PJM stakeholder efforts. PJM and its members will need to work together to ensure a PJM design incorporating these externalities supports the unique goals across PJM states.

Additionally, AEMA recommends evaluating one additional item with PJM and its members. Specifically, AEMA recommends evaluated whether there can be improvements made to PJM's capacity accreditation for storage resources, which currently serves as a major barrier to development, along with changes to allow multi-year price lock-ins for new capacity resources. Other RTOs such as ISO-NE allow multi-year price lock-ins for up to seven years for new resources, significantly lower development costs. This policy change would benefit DERs and other renewables that comprise a large percentage of PJM's interconnection queue.

b. Changes to PJM capacity market rules for self-supply options and exclusions to "state subsidy" definition under replacement rates

AEMA supports an approach where New Jersey and other PJM stakeholders could pursue a stakeholder process to continue evaluating ability for changes to the self-supply rules for a

[28] Regional Integration and EIM greenhouse gas compliance, California ISO, April 25, 2018, http://www.caiso.com/Documents/ThirdRevisedDraftFinalProposal-EnergyImbalanceMarketGreenhouseGasEnhancements.pdf.

specific resource, such as off-shore wind, to be approved as self-supplied capacity outside the market that could result in partial offset to the area's Variable Resource Requirement. This would allow self-schedule flexibility to the capacity auction like self-scheduling supported in the energy markets.

Potentially in addition to or in the alternative to resource-specific self-supply flexibility, New Jersey and other PJM stakeholders could pursue a stakeholder process to refine the list of financial benefits that are not considered state subsidies that PJM included in its MOPR compliance filing. A potential addition could be to include other technology-neutral, competitive procurement processes, such as a State or regional competitive procurement process for capacity attributes that would value capacity with the attribute of reducing greenhouse gas emissions when either reducing energy usage or providing energy. This technology-neutral, competitive procurement mechanism would further State's clean energy goals through a mechanism that would serve as a complement to the PJM capacity market. By focusing on metrics other than fuel types, this type of competitive procurement process could be an effective additional revenue stream to appropriately value assets that contribute towards New Jersey's clean energy goals. Due to its technology-neutral, competitive design, AEMA believes it would be an appropriate exclusion to "state subsidies" under the expanded MOPR rules.

VIII. Conclusion

AEMA appreciates the opportunity to submit comments for consideration by the BPU under its Investigation on Resource Adequacy Alternatives. AEMA members appreciate and commend the work that the BPU is doing to establish a regulatory framework that properly incentives energy efficiency, peak demand reductions, and deployment of advanced energy solutions. AEMA requests the BPU adopt key principles under this proceeding that will continue to support robust end-use customer participation in EE, DR, and DER resources that reduce New Jersey's need to build costly new generation and that provide significant benefits to New Jersey's consumers today. AEMA strongly believes there are multiple opportunities to support New Jersey's clean energy goals, including through exploring PJM market changes, regional collaboration, or developing a state or regional competitive clean energy attribute procurement

process to complement PJM's markets. AEMA looks forward to additional engagement in this proceeding and appreciates the BPU consideration of these comments.

Respectfully Submitted,

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