

Testimony of
Katherine Hamilton, Executive Director
Advanced Energy Management Alliance

On the Proposed Closure of Indian Point Power Plants I and II

Submitted to
Senate Standing Committee on Energy and Telecommunications
Assembly Standing Committee on Energy

February 28, 2017

Introduction.

Advanced Energy Management Alliance (“AEMA”) is a trade association under Section 501(c)(6) of the Federal tax code whose members include national distributed energy resource, demand response (“DR”), and advanced energy management service and technology providers, as well as some of the nation’s largest consumer resources, who support advanced energy management solutions due to the electricity cost savings those solutions provide to their businesses. This testimony represents the opinions of AEMA as an organization rather than those of any individual association members.

AEMA appreciates the opportunity to provide testimony to the Committee and recognizes that leadership from the Governor, Senate, Assembly, Public Service Commission, and other state agencies has significantly driven the growth of distributed energy resources, in particular solar energy and demand response. AEMA believes that—with the appropriate public policies—DER, including solar, energy storage, demand response, advanced energy management, and other distributed resources and services, can play a significant role in replacing capacity leading up to the closure of Indian Point I and II nuclear power plants.

Distributed Energy Resources in New York.

One successful DER program, NY-Sun, is an example of a cost-effective program that has resulted in the deployment of over 744 megawatts (“MW”) of photovoltaic energy (“PV”) since 2011, with another 886 MW currently under development. Significant growth in the downstate regions served by the output of Indian Point Energy Center, has resulted in load reductions that improve reliability and provide savings to both solar and all customers. These projects include 260 MW in Long Island; 88 MW in New York City; 162 MW in the Mid-Hudson Valley; and 113 MW in the Capital Region.¹

Yet even with this fast-paced growth enhanced by NY-Sun, the industry is still in its infancy in New York and has the potential to grow far more. At a total of almost 800 MW of PV deployments, New York has over 8,000 solar jobs across the state; these jobs are well paying,

¹ Governor Cuomo, Press Release, September 28, 2016, <https://www.nyserda.ny.gov/About/Newsroom/2016-Announcements/2016-09-28-Governor-Cuomo-Announces-Solar-Installations-Complete-on-Long-Island>

local jobs have resulted in over \$1.5 billion in investment to New York's many communities. Governor Cuomo's NY-Sun achievable goals would result in over another 2,200 MW of PV deployed throughout the state by 2023. Increased deployment will simply increase job and economic growth.

Another DER, battery storage technology deployment, is currently at the same low levels of penetration as solar was prior to the NY-Sun Initiative. Similarly, costs for the technology have decreased significantly in recent years. There are, however, limited DER compensation mechanisms, rebates, or other scaled programs that enable storage to play as significant a role as solar and other DER technologies. Storage is a vital technology that would cost-effectively help replace output of Indian Point Energy Center, similarly create local, well-paying jobs across New York, increase system efficiency of the grid, and help limit emissions increases. As the Governor's Clean Energy Standard seeks to increase renewable energy to 50% by 2030, storage will be vital to optimizing intermittent supply and demand.

Distributed Energy Resources as Capacity Resource.

AEMA believes that DERs are uniquely qualified to provide cost-effective solutions that can replace the 2000 MW of electricity that will be lost upon Indian Point's closure. The benefits of DER even extend beyond the replacement of Indian Point by playing a critical role in transforming New York's electric grid and achieving REV's goals. The New York Independent System Operator ("ISO") is undertaking the development of a road map for DER and asserts in their report that DER should be integrated into energy, ancillary services, and capacity markets. The report states "DER can help grid operators by improving system resiliency, energy security, and fuel diversity. DER can lower consumer prices, improve market efficiency, and allow consumers to take greater control of their electricity use and costs through a variety of new technologies."²

² *Distributed Energy Resources Roadmap for New York's Wholesale Electricity Markets*, A Report by the New York Independent System Operator, January 2017, Page 4.
http://www.nyiso.com/public/webdocs/markets_operations/market_data/demand_response/Distributed_Energy_Resources/Distributed_Energy_Resources_Roadmap.pdf

The ISO acknowledges that “competitive markets and system operations will benefit from access to emerging technologies that can adjust demand on an economic basis in response to price signals from the market.”³ AEMA agrees with this assessment and is working through the ISO stakeholder process to provide a path forward for DER in the wholesale market. In addition, the Federal Energy Regulatory Commission (“FERC”) has started a rulemaking⁴ process to address DER aggregation in wholesale markets. The outcome of this process could facilitate stronger integration of DER into wholesale markets and allow DER to cost-effectively backfill for retiring generation.

An example of DER being recognized as able to avoid the need for replacement or additional generation can be found in two studies from Michigan. The Advanced Energy Economy Institute asserts that “a combination of demand reduction strategies could entirely offset the projected 2,000 megawatt (MW) growth in summer peak demand in the Lower Peninsula from 2017 to 2026, avoid or defer the need to construct additional power plants, and save the state as much as \$1 billion over the next decade.”⁵ A second report, by Michigan Agency for Energy and Michigan Public Service Commission, essentially came to the same conclusion, and went further to state that “additional demand response programs would be the most cost-effective way to fill any gap.”⁶ Indeed, demand response has successfully reduced electricity costs and strengthened reliability in New York for several years, with the added benefit of demand response payments going to New York businesses and households for their participation in demand response programs. An example of the cost savings is the Con Edison demand response programs, which is projected to deliver \$714 million in net benefits over the next ten years.⁷

In California, not only has their energy storage mandate incentivized the procurement of energy storage above and beyond the target level, but also when Aliso Canyon natural gas

³ DER Roadmap, Page 30.

⁴ FERC Notice of Proposed Rulemaking, November 17, 2016. <https://www.ferc.gov/whats-new/comm-meet/2016/111716/E-1.pdf>

⁵ Advanced Energy Economy Institute, February 16, 2017, <http://info.aee.net/hubfs/PDF/Peak-Demand-Reduction-Potential-for-Michigan021717.pdf?t=1487398737782>, page i.

⁶ Michigan Agency for Energy, Michigan Public Service Commission, January 31, 2017, http://www.michigan.gov/documents/energy/Michigan_EGEAS_Report_01_31_2017_550217_7.pdf, page 1.

⁷ Consolidated Edison Company Of New York, Inc. Report On Program Performance And Cost Effectiveness Of Demand Response Programs. December 1, 2016. Case No. 15-E-0570

facility leaked and needed replacing, energy storage was able to ramp up quickly to serve that capacity need.⁸

Energy efficiency, demonstrated by Southern California Edison,⁹ and demand response, witnessed during the Polar Vortex¹⁰, have also enabled grid stability and avoidance of additional build-out of traditional generation. All of these DERs have enabled a more resilient grid that can rely on more distributed and fewer central generation resources.

Barriers to Deployment of Distributed Energy Resources.

While there are numerous successful DER programs, such as NY-Sun, and while the NYPSC has made great strides toward increasing DER penetration through REV, significant barriers remain to deployment of these technologies. Delays in the interconnection processes, failure to consider DERs in planning processes, and data inaccessibility are examples of these barriers.

Other barriers AEMA has identified include:

- *Rate Structures.* Current rate structures fail to provide adequate value signals needed to encourage the operation of DERs in a manner that benefits the grid and the customer. Short-term tariffs lead to market uncertainty and create barriers to project financing. Outdated tariffs unjustly exclude new technologies from participating in programs that were designed prior to the technology's inception. Certain demand response programs do not sufficiently compensate these assets and existing time-of-use rates do not effectively impact consumer behavior. In addition, utilities lack incentives to facilitate the development of DER projects; even the DPS acknowledged the limitations of conventional cost-of-service ratemaking in its White Paper on Ratemaking and Utility Business Models, stating that “there remain significant disincentives for utilities to take

⁸ *Greentech Media*, January 31, 2017, <https://www.greentechmedia.com/articles/read/aliso-canyon-emergency-batteries-officially-up-and-running-from-tesla-green>

⁹ ACEEE citation, Southern California Edison presentation, http://aceee.org/sites/default/files/pdf/conferences/eer/2015/Mohammed_Aliuddin_Session2B_EER15_9.21.15.pdf

¹⁰ *PV-Magazine*, May 14, 2014, https://www.pv-magazine.com/press-releases/demand-response-reduces-grid-stress-in-pjm-during-polar-vortex_100015089/

affirmative actions to increase the development and use of third-party capital and services that support DER penetration and system value.”¹¹

- *Market Participation.* Certain markets, such as NYISO’s ancillary market are not structured to effectively allow for DER participation. Prohibitive policies can prevent DERs from realizing potential value streams and hinder widespread adoption. It is important that the NYISO’s DER initiative eliminates, and doesn’t create, barriers. Key to this is allowing resources to aggregate across broad geographic areas and have small minimum size requirements for participation.
- *Access to Data.* Information regarding system needs and capabilities is critical to optimizing DERs and measuring how those resources can fill the need for replacement generation. This information would facilitate the development of projects in areas where the need would be the greatest and displace expensive traditional power system upgrades, such as those contemplated for Indian Point I and II. It is also important that customers and their designated third parties have access to customer data.
- *Installation Barriers.* Unlike traditional generation, transmission, and distribution assets, which can take years to permit, construct, and interconnect, DERs such as storage can be quickly deployed once installation processes are in place. Less mature markets like New York are navigating new installation processes. The lack of experience and established processes can delay DER adoption as standards are developed. This is further complicated by the variety of entities having jurisdiction and a lack of expertise to implement streamlined processes, including interconnection, for highly technical installations.

Potential Solutions to Deployment of Distributed Energy Resources.

AEMA believes that DERs can provide cost-effective and innovative approaches to replacing the power produced by Indian Point. Rather than proceeding with antiquated methods of power production and delivery, New York should seize the opportunity to accelerate DER

¹¹ State of New York Department of Public Service, CASE 14-M-0101 - Proceeding on Motion of the Commission in Regard to Reforming the Energy Vision. Staff White Paper on Ratemaking and Utility Business Models July 28, 2015.

deployment and address the remaining barriers to unlocking the benefits DERs provide to the grid.

AEMA recommends that policymakers take several actions in the near-term to ensure a replacement plan is implemented by the 2021 deadline:

- *Allow DERs to Compete for Replacement Power:* The State should allow DERs to compete in all-source procurements with large, central infrastructure based projects such as transmission and utility scale generation.
- *Set Storage Target:* The State should establish an energy storage deployment target to intentionally accelerate the adoption of storage through allowing utilities to experiment with use cases and business models.
- *Improve Market Design:* Provide for greater participation of behind-the-meter resources in wholesale markets so that DER benefits can be fully monetized and that those benefits can be stacked to take advantage of the full value of the resources.
- *Reform Regulatory Process:* Incentivize utilities to embrace a 21st century grid, providing a new ratemaking framework to incentivize utilities to take actions that will support the deployment of DERs. In its Order Adopting a Ratemaking and Utility Revenue Model Policy Frame, the Commission provides for the creation of earnings adjustment mechanisms (EAM) that will reward utilities for performance instead of capital. This approach should be used to incentivize utilities to streamline interconnection procedures, collect and release system data, and incorporate DERs into capital planning processes.
- *Enhance Demand Response:* Design programs that attract new DER technologies and allow additional consumer choice in application of many varieties of demand response. Certain demand response tariffs are inadequate in pricing and stability in order to animate the market. The programs should provide certainty to customers and project investors in order to attract investment in innovative technologies and applications.
- *Conduct DER Analysis:* The State should conduct a thorough potential analysis of DERs to ascertain all value streams for DERs holistically, such that distributed generation, energy efficiency, energy storage, demand response, and advanced energy management are all included as part of the resource system. The analysis should be conducted by a third party with stakeholder input and transparent process.

- *Provide Bridge Incentives:* Adopt incentive programs that drive demand and provide revenue certainty to customers and investors as tariff design evolves. As REV is implemented and reforms are enacted, the costs of storage and other DERs will be reduced and a robust industry will emerge. However, it will take time for the policies to be implemented and new tariff designs to take effect. In the interim, incentivizing certain technologies and applications may be necessary to offer revenue certainty to customers and investors.

Conclusion.

AEMA appreciates the opportunity to submit testimony for consideration by the New York Senate Standing Committee on Energy and Telecommunications and the New York Assembly Standing Committee on Energy. Please consider AEMA as a resource in identifying more specific values and benefits as well as solutions for deploying DERs across New York State, in particular to benefit consumers in areas where Indian Point closure may require replacement capacity. We are certain that the reliability, efficiency, consumer engagement, shorter timeline, and emission profile of DERs can provide cost-effective replacements while growing jobs and stimulating the economy in New York. Please do not hesitate to contact me at 202-524-8832 or Katherine@aem-alliance.org should you have any questions regarding this testimony.

Respectfully Submitted,



Katherine Hamilton

Executive Director, Advanced Energy Management Alliance

www.aem-alliance.org

1200 18th Street, NW, Suite 700

Washington, DC 20036