November 9th, 2023

Massachusetts Grid Modernization Advisory Council
100 Cambridge Street, 9th Floor
Boston, MA 02114

RE: Official Regulatory Comments on Grid Modernization Advisory Council (GMAC) and Electric-Sector Modernization Plans (ESMPs)

Piclo is pleased to submit our comments regarding the ongoing regulatory proceeding under G.L. c. 164, §§ 92B-92C, related to the GMAC and ESMPs.

Piclo has been at the forefront of innovation in the energy industry since it began in 2013. At Piclo, our mission is to decarbonize the grid and create a more sustainable energy future for all. We achieve this mission through the development of cutting-edge software solutions that enhance the intelligence, flexibility, and sustainability of energy networks.

Our flagship product, Piclo Flex, is the leading independent marketplace for energy flexibility services. Piclo Flex plays a pivotal role in enabling utilities and system operators to source energy flexibility from Distributed Energy Resources (DERs) aggregators during times of high demand or low supply. We have over 60,000 registered flexible assets and $73 million worth of flexibility contracts awarded. This translates to an impressive 16 GW of flex capacity registered and 2.4 GW of flexible capacity procured.

Piclo is proud to provide our services in six global markets, including the United States, United Kingdom, Ireland, Italy, Portugal, and Lithuania. Our collaboration with distribution and transmission system operators reflects our commitment to driving a global transition to Net Zero.

We understand the challenges that come with flexibility procurement and aim to reduce friction at every turn. We facilitate competitive auctions, ensuring that Flexible Service Providers (FSPs), like wind generation, solar PVs, electric vehicles, and batteries, have the opportunity to bid for contracts, thereby securing the best possible price. This approach not only encourages participation but also fosters standardization and scalability, leveling the playing field and streamlining the path to a Net Zero future.

With our experience working with DERs, grid modernization processes, and energy flexibility around the world, Piclo would like to submit the following comments for consideration:

Regarding non-wire alternatives and battery storage:
When developing the grid of the future, Piclo believes that harnessing the flexibility of DER is essential. With the flexible energy that DER can unlock, we can increase the capacity of our grid, limit the costs/delays associated with additional network reinforcement, and foster clean energy solutions that increase grid reliability and decrease costs. To achieve this, ESMPs should seek to more meaningfully reincorporate all DER assets, including batteries and assets owned by third parties. This also requires that bridge-to-wire alternatives (a.k.a non-wire-alternatives) are more robustly integrated into future grid planning through the ESMPs.

Piclo would offer its report on the Value of Centralized and Decentralized Storage as a resource as the GMAC looks to incorporate the value of batteries and bridge-to-wire solutions (NWA).

Regarding the value of DER:
Some ESMPs seem to indicate that DER adoption/installations have little impact on the reduction of winter or summer peak load. Piclo has found that DER has multiple beneficial value scenarios that can alleviate load during peak demand and provide significant value to the grid. We would suggest further analysis when it comes to attributing value to DER during periods of peak seasonal demand. As flexible energy and DERs have been integrated into the United Kingdom's network, there are lessons to be learned. Piclo would offer its report on The Value of Flexibility as one source of some of these learnings.

Furthermore, in order to have a credible Benefit Cost Analysis, the value of DER must be properly identified. Unlike energy efficiency, the flexible energy provided by DERs has a one-to-one correlation with energy generation, providing an opportunity for emergency power from clean, carbon-free sources. Thus the value of DER should include considering the value of the energy provided by DERs (which should relate to the real-time costs of meeting peak/emergency demands), the value of meeting clean energy goals, and the environmental merits of utilizing clean DER resources.

Regarding Regulatory Incentives:
There is mention of a Grid Service Compensation Fund in the ESMPs. The proposal to establish a fund to compensate dispatchable DER and flexible loads addresses the important issue of adequately remunerating DER assets. To ensure the development of a reliable, clean, and flexible grid there should be consideration of regulatory mechanisms that incentivize the development of a clean, DER-driven grid. This may include a compensation fund leveraged by utilities, changes in rate structures to settle up dispatched DER assets, or incentives for utilities to resolve grid challenges leveraging grid modernization technologies.

Regarding a Flexibility Marketplace:
A flexible energy marketplace driven by the system operators can provide an immediate, market-driven, DER solution to a variety of grid challenges including but not limited to relieving grid congestion, meeting peak demand, providing emergency response solutions, and filling the gaps of variable energy production. As a leading flexible energy marketplace, Piclo commends National Grid for proposing the use of a flexibility marketplace to procure a market-driven DER solution to grid challenges. As more DER connects to the grid and we continue the process of electrifying industries, a DER flexibility market can provide immediate, cost-effective, and equitable solutions that address the challenges of an evolving energy landscape.

Piclo's report, A new era for DER participation in energy markets? A look at the US FERC Order No. 2222, discusses the challenges and opportunities ahead as we move towards a more modern DER-centered grid. As National Grid proposes this flexibility marketplace, Piclo would implore the GMAC and the Massachusetts Department of Energy Resources to invest in the pilot, carefully study the benefits of such a program, and consider how the pilot can be expanded if the results prove beneficial to the the grid, system operators, and electricity customers.

Regarding Further Study of the value of DER:
Properly valuing DERs is essential to building the grid of the future that can harness flexible energy, provide adequate incentives for clean energy solutions, and offer clean energy at an affordable price point. Piclo is aware of the *Value of DER for Distribution System Grid Services* study being conducted

by Baringa and commends the Massachusetts Clean Energy Center on prioritizing this initiative. We believe that the GMAC, DOER, and others should look to this report for guidance in creating the regulatory mechanisms to harness the full potential of DER. The topic of valuing DER is a complex and multifaceted issue, one that warrants ongoing study. As such Piclo believes that there should be a process for considering the results of the Baringa study and addressing additional research gaps that can serve the GMAC in future proceedings.

We suggest that the GMAC and DOER determine how to continue this research. Such a study should consider the comprehensive value of DER, addressing challenges such as grid congestion, backup power during peak demand/emergency response, dynamic locational pricing, carbon emission reductions, increased system reliability, and additional value stacking.

Thank you for considering our comments. Piclo appreciates the opportunity to contribute to the GMAC process and the development of a forward-thinking and sustainable energy grid. Please feel free to contact us for further discussion.

Regards,
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