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VIA ELECTRONIC MAIL
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Aida Camacho-Welch
Secretary of the Board
State of New Jersey
Board of Public Utilities
44 South Clinton Avenue, Suite 314
P.O. Box 350
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RE: Comments of Atlantic City Electric Company on the 2019 Energy Master Plan

Dear Secretary Camacho-Welch:

On behalf of Atlantic City Electric Company ("ACE" or the "Company"), please accept these comments in connection with the New Jersey Board of Public Utilities' (the "Board") request for input on the 2018 Energy Master Plan ("EMP") currently underway. The Company appreciates the opportunity to participate in this initiative and values the open and constructive way in which the Board has solicited public input. Please note that ACE, as a member of the New Jersey Utilities Association ("NJUA"), has already joined in comments that were filed by NJUA's President and Chief Executive Officer on October 10, 2018. The suggestions and policy recommendations offered in this letter are in addition to the comments reflected in those documents.

As the Board reviews written comments and evaluates the input that was received at the seven EMP open public hearings in September and October 2018, ACE respectfully requests that the Board consider the following comments. The comments are organized as follows:

1. Introduction and Vision
2. Grid Modernization
3. Advance Metering Infrastructure
4. Infrastructure, Resilience, and Microgrids
5. Clean and Renewable Energy
6. Offshore Wind
7. Energy Efficiency
8. Electrification of Transportation
9. Decoupling
10. Conclusion

1. Introduction and Vision

It is a dynamic time in the energy industry, and New Jersey is at the forefront. A transformation toward a clean energy future is underway and, with the Energy Master Plan and the enactment of the Clean Energy Act (A-3723), New Jersey is a clear leader in driving the clean energy economy. ACE is committed to making the necessary investments to enable this future and deliver on its promise to provide safe, reliable, affordable, and sustainable energy to all customers.

As a member of the Exelon family of utilities, ACE provides for the transmission and distribution of electric energy to approximately 553,000 residential, commercial, and industrial customers in the eight southernmost counties in New Jersey. The ACE service area spreads over approximately 2,700 square miles and includes both rural, and shore communities, Atlantic City and its casinos, and diverse areas in between.

Exelon and ACE are committed to “powering a cleaner and brighter future for our customers and communities.” This statement truly serves as the foundation for ACE’s support for the Energy Master Plan. The comments provided are in the spirit of achieving the goals of the EMP in a way that provides affordable and sustainable energy for all customers, enables the understanding and sharing of best practices, improves reliability and resiliency, builds on ACEs role as a strong and trusted community partner, and allows the company to continue to be a leader and job creator in the southern New Jersey economy.

It is through this lens that we provide our comments, which are focused on 1) enhancing the security, reliability and resiliency of ACE’s electric system; 2) facilitating the deployment of new energy technologies on the electric grid; 3) enabling the decarbonization of the State’s economy; and 4) helping the State meet its climate change goals and objectives.

To this end, reliability, security, and resilience are of critical importance. As Superstorm Sandy previewed, and the release of this week’s report by the Intergovernmental Panel on Climate Change confirmed, the threat of climate change is growing and accelerating, and New Jersey is vulnerable to a changing climate. Toward this end, ACE’s objectives include preventing damage to the grid (security), ensuring that damage does not disable the entire grid for extended periods (reliability), and ensuring that we can get customers back online as quickly as possible (resiliency).

ACE also strongly encourages economy-wide decarbonization, including the electric, transportation, and building sectors. Exelon and ACE support technology-neutral performance standards to reduce the carbon content of electricity, while we work with the State to decarbonize transportation and buildings. To do this, we are targeting investments to modernize the grid to facilitate additional amounts of private and community-solar penetration, employ effective and efficient energy efficiency and demand response programs, and integrate what we know will be higher levels of intermittent resources from increasing amounts of large-scale renewable generation, including off-shore wind. These efforts are critical to maintaining operational excellence for the energy grid in New Jersey, while enhancing reliability, security, and resilience.

Looking to the future, ACE stands ready to support New Jersey in enabling a safe, reliable, and sustainable clean energy future and doing so in a manner that provides customers with more energy

solutions and maintains affordability at the forefront for everyone. In ACE, we serve some of the most energy-intensive customers, as well as energy-sophisticated customers, that require high levels of power quality. In addition, due to the demographics of our service area, we also have communities with high levels of poverty and challenges in paying their energy bills. Affordability is therefore front-of-mind for us at all times. We support durable and effective options for helping to reduce the energy cost burden on our most economically disadvantaged customers and advocate for the fair distribution of costs across all our customers.

For these reasons and others, ACE supports and is well-positioned to play a key role in the transition to a future of energy in which New Jersey communities can harness the power of digital communication, remote sensing, distributed and artificial intelligence, distributed energy resources, and the platform of smart infrastructure that enables more options for customers. ACE looks forward to supporting the State and working with the State and all communities in southern New Jersey to further the goals of the Murphy Administration.

2. Grid Modernization

The grid platform is the foundation for the more connected, distributed and decarbonized future that New Jersey envisions. Without a modern grid, all of the distributed technologies that will support the 100% clean energy goal become less valuable – both from a decarbonization perspective and also from an economic perspective. To maximize the value to customers and the number of energy solutions available, and also to ensure the highest levels of power quality to those seeking the most affordable process, it is critical to develop a modern grid.

A modern grid can help New Jersey meet the Global Warming Response Act 2050 greenhouse gas emissions reduction requirements and meet its goal of 100% clean energy by 2050. A well-planned distribution system platform will enable the safe, reliable, affordable, and efficient energy services by integrating diverse resources to meet all NJ consumer needs in the future. ACE and the other NJ utilities are the best-positioned to continue to be the distribution system platform providers.

There are many resources or tools that will help the state meet its clean energy goals. Such tools could include innovative rates or rebates that allow for more people to adopt EVs, or sophisticated data-driven forecasting for the increased adoption of clean and renewable energy, as a couple of examples. A modern grid with a smart energy platform that can help the State manage a very diverse mix of clean and renewable energy sources will be an increasingly vital evolution in the electric grid.

A modern grid will help New Jersey address, adapt, and respond to climate change and its impacts on the state. The grid should include Advance Metering Infrastructure (AMI), the Internet of Things (“IoT”),¹ edge-of-grid technologies, non-wire alternatives, new energy networks, and other new tools and technologies that can support innovative programs, rates, data driven decisions, forecasting, etc. These new technologies, programs, and rates can be designed to support new ways to operate the

¹ An Internet of Things (IoT) network will allow all types of physical devices, (such as smart meters, smart thermostats or smart inverters), to connect, collect, and exchange data in real time and will allow a smart energy platform to operate more efficiently and also allow utilities to better manage distribution automation devices.

grid to reduce energy use across the state, provide clean energy alternatives, all the while increasing reliability and resiliency.

It is important that the regulations be carefully reviewed to identify barriers to rapid change and collaboration. This review would include considering potential tariff changes that would incentivize development of the modern grid and must provide a reasonable path to cost recovery for utilities that support the implementation of these technologies, including AMI.² As New Jersey needs to catch up with other states in modernizing the grid, it will be important to make decisions as expeditiously as possible.

3. Advance Metering Infrastructure

AMI is a crucial step to developing a modern grid because new technologies and energy platforms will increasingly rely on data driven inputs to be effective. To facilitate the development of the modern grid, the Board should order the implementation of AMI to enable the use of innovative technologies such as rooftop solar and energy storage and other distributed energy resources (DER). In July 2018, the Board took an initial step in this direction by ordering the Electric Distribution Companies (EDC) to undertake an AMI feasibility analysis to identify the benefits of AMI in storm response. ACE encourages the Board to go even further and support EDC investment in this technology and promote AMI deployment to meet grid modernization, storm response, and energy efficiency goals.

Initial investments in both AMI and a Smart Energy Platform are prudent to implement programs, rates, and operational tools that will have future implications for customers to be able to manage their energy, save money, and contribute to the State's clean energy goals. The technology offers several benefits to both utility companies and their customers. A few select benefits are listed here:

- the availability of interval usage data online and via a mobile application provides customers the ability to learn about usage (e.g., when and how much is being used) and empowers customers to conserve energy;
- integration with outage management systems provides better situational awareness and dispatch optimizations as well as distribution management systems to provide enhanced outage management and distribution system monitoring;
- the transmittal of "Last Gasp" and "Power Up" messages from meter to the utility during outages and restoration activities, as well as the ability to "ping" meters to help determine whether a customer has electric service, which allows for more efficient restoration of power outages during both major outage events and on blue sky days;
- the foundational technology, which with more granular data, enables better integration of new resources, such as distributed generation, smart streetlight controls, electric vehicles, storage, and microgrids;

² See discussion in Section 3 on AMI, for more information on why AMI is critical to developing a modern grid.

- savings associated with reduced truck rolls, automated meter reading, reduced theft of service, remote connect and disconnect of meters, and fewer estimated bills;
- deployment of new customer services, such as automated budget assistance and bill management, energy use notifications, and smart pricing and demand response; and
- pricing programs to promote more efficient use of grid-controlled devices and energy efficiency, such as electric vehicles and microgrids.

The Exelon utility affiliates of ACE have deployed 9.7 million electric smart meters in Pennsylvania, Delaware, Maryland, Illinois, and the District of Columbia. Through continuous improvements and incorporating lessons learned from these deployments, PHI has further refined the deployment process to maximize the resulting benefits. ACE recommends the Board lift the moratorium on EDCs filing for pre-approval of AMI in order to support the deployment of smart meters and encourage wiser energy use and reduce retail prices for all residents.

4. Infrastructure, Resilience, and Microgrids

Once the smart grid is created – including AMI and the Smart Energy Platform – infrastructure investments and all of the distributed technologies that will support the 100% clean energy goal will yield their maximum environmental, reliability, and economic benefits. To be certain, strong, reliable, and resilient infrastructure is central to achieving the energy goals set forth by the Administration.

Historically, ACE has a strong record of making capital investments to serve the needs of its customers and the policy goals of the State. These improvements allow ACE customers to benefit from the high-performance service levels that they have become accustomed to and also ensure safe, secure, and reliable service. For example, in 2017 the Company's reliability performance scores were their highest in over ten years.³ ACE plans to continue to invest in infrastructure to ensure that the grid is delivering electric energy in a manner that meets customer needs. This will lead to ongoing reliability, resiliency, and safety improvements.

³ Since the Company implemented its Reliability Improvement Plan ("RIP") in 2011, ACE's average number of service interruptions decreased by 51% and the average time customers are without power declined 66% as measured by the System Average Interruption Frequency Index ("SAIFI") and the System Average Interruption Duration Index ("SAIDI") metrics, respectively. The reliability performance of the Company in 2017 was the best the Company has seen in a decade.

Infrastructure Investment Program

The Board recently approved regulations that would allow utilities to propose an Infrastructure Investment Program (IIP). The IIPs can be a useful tool to encourage investments in New Jersey's electric infrastructure that support resilience and reliability. The regulations would allow the Board to approve mechanisms that provide for more certain and timely cost recovery which is critical for utility investments in infrastructure. Timely cost recovery encourages infrastructure investments that keep pace with BPU and customer expectations. A properly constructed and approved IIP can allow the Company to spread out the timing of its base rate case filings, resulting in greater rate predictability for customers, lower administrative costs, and incremental rate increases when a rate case is filed.

Microgrids

The Company supports utility development, ownership, and deployment of public purpose microgrids. Microgrids are integral to enhancing grid resiliency in certain targeted areas and applications. Microgrids connected to the utility system can be deployed strategically to support critical infrastructure and approved public purposes. ACE and Exelon's utilities in other states are developing options for the construction of microgrids designed to provide these targeted benefits. Most programs include utility ownership and/or control for system reliability and customer benefits and are being proposed as demonstration projects with integration of intermittent distributed resources, including renewables and batteries. The incorporation of renewable energy and battery storage in microgrids aligns with the State's energy goals to reduce the use of carbon. These environmental policy goals should be considered, in addition to other factors, as the State moves forward with rules for coordinated microgrid development.

Current state laws mandate that multiple electric commercial customers that cross more than one Right of Way ("ROW") that want to be served by on-site generation must be connected from the existing local electric distribution infrastructure.⁴ This restriction is important because it avoids duplication of existing infrastructure in addition to promoting economic efficiency. Because the utility owns the franchise on these ROWs, the utility should also serve as the owner and operator of these systems.

Utility control for system reliability is critical because the balancing of load and generation is a significant challenge that requires continuous attention. In order to gain economic and reliability efficiencies, integration of this generation into the overall grid design and operation should be continuously required; it should not be limited to just times when a system event or load restriction require the operation of distributed generation. The utility has the modeling and forecasting capabilities to enable the seamless integration of microgrid resources into the grid and performing the continuous load balancing necessary to maintain reliability. These capabilities also help the utility identify possible efficiencies available to the distribution system by evaluating system expansion needs, taking into consideration both load growth and location of distributed generation. This better allows the utility to

⁴ N.J.S.A. 48:3-77.1

determine the most cost effective fit to increase reliability for critical loads, support the macro-grid, and meet future load growth economically.

ACE also encourages the EMP to consider innovative tariffs allowing an EDC to provide pre-wiring equipment to customers, allowing for the quick connection of mobile generation units or plug-in vehicles. The EDC would hold in their rate base mobile generator sets that could be deployed to pre-wired facilities. Public purpose microgrids can provide the community with uninterrupted access to critical goods and services during a major grid outage. Because of the societal opportunities these microgrids provide, ACE recommends a portion, if not all, of the costs should be socialized across the customer base.

5. Clean and Renewable Energy

The utility can be a strong partner in helping the administration reach its goal for 100% clean and carbon-free energy by 2050, including renewables, energy efficiency, and electrification of transportation. New Jersey is a national leader in these areas and will continue to reap the benefits of its clean energy vision once the State rejoins the Regional Greenhouse Gas Initiative (RGGI) and fully implements the strategies set forth in the Clean Energy Act of 2018. The investments that the Company is making in infrastructure will support the State's vision of a better, cleaner future.

Regional Greenhouse Gas Initiative

Exelon and ACE support the administration's goal to have New Jersey rejoin the Regional Greenhouse Gas Initiative (RGGI) as soon as practicable, and at a meaningful cap level that sends a strong signal internally and regionally that New Jersey is stepping up to be a leader in the climate change fight. Additionally, New Jersey must do more to encourage change in the electric sector as we pursue electrification of other sectors. New Jersey should take a leadership role in PJM efforts to preserve and expand carbon-free electricity generation, including by considering a carbon price and regulatory alternatives that shift the resource mix region-wide.

Definition of Clean Energy

ACE supports the landmark legislation signed by Governor Murphy on May 23, 2018 that establishes NJ's leadership in the clean energy economy. ACE appreciates the vision of the Administration and supports zero-carbon resources such as renewables, energy efficiency, energy storage, electrification of transportation, and access to the benefits of these resources by all classes of NJ consumers.

In order to reach deep decarbonization goals, NJ should recognize that all carbon-free resources should be encouraged in order to maximize the benefits and cost-effectiveness of electrifying the transportation, building, and industrial sectors. The definition of clean energy should include all carbon-free resources both demand and supply based.

Battery Storage and Solar Installations

ACE has a vital role to play in the ownership, deployment and management of storage and distributed energy resources. New battery storage technology offers an opportunity to better manage the delivery and reliability of electricity in the grid. If deployed at the appropriate sites and integrated

into utility's electricity delivery operations, batteries will help to defer more costly utility infrastructure improvements and will assist distribution utilities in more readily accommodating additional solar and other distributed energy resources at a lower cost.

The appropriate siting of community solar facilities at select interconnection points, together with supportive battery storage, where applicable, will enhance the economic value of community solar installations. The utility is in the best position to identify the optimal interconnection sites for these resources, and the Clean Energy Act (A-3723) specifically authorized utility ownership of community solar facilities. The utility can identify distribution and/or transmission system expansion deferral opportunities, manage the optimal operation of distributed energy resources, manage the optimal operation of batteries, and monitor the performance of these systems through AMI technology. Given the utility's unique strengths, it can serve as a potential developer and provide the needed capital investments to achieve New Jersey's clean energy goals. It may also be appropriate for utilities to improve their distribution systems to accommodate additional distributed energy resources and recover those increased investment costs through overall distribution rates rather than from a specific developer/owner of a distributed energy resource.

6. Offshore Wind

With its lengthy shoreline, relatively shallow ocean depths and strong wind resources, New Jersey is positioned to benefit from offshore wind resources. ACE supports and appreciates the State's ambitious goal of 3,500 megawatts of offshore wind in operation by 2030. Development of this resource will have a significant role in achieving Governor Murphy's goal to transition to 100% clean, renewable energy by 2050. The New Jersey Board of Public Utilities has opened the first offshore wind solicitation for 1,100 megawatts and two additional solicitations are anticipated in 2020 and 2022. ACE supports the State's efforts to transition to non-emitting renewable resources and believes that taking a wholistic long-term approach to development is the best path to achieve 3,500 megawatts in a safe, reliable, timely, and affordable manner.

As demonstrated by the European experience, electric utilities can play a critical role in the development of transmission systems for offshore wind in the most efficient manner possible. Open access transmission for offshore wind improves competition and helps lower overall costs to customers. Planning the transmission infrastructure in advance of future solicitations will be critical.

ACE believes New Jersey's electric utilities should be assigned the responsibility to plan for, construct, own, and operate the transmission requirements for offshore wind in a manner that best meets New Jersey's needs. ACE is excited about the economic benefits that offshore wind can have for New Jersey's future as part of the State's overall clean energy portfolio. We are eager to work with the State to achieve a robust, reliable offshore transmission system in the most environmentally friendly and affordable manner possible.

7. Energy Efficiency (EE)

ACE is very supportive of advancing the State's clean energy goals through energy efficiency savings and is supportive of the BPU led stakeholder process to discuss programmatic, reporting, technical, and regulatory issues. It is important for the EMP to provide a pathway to allow for the successful achievement of the two percent goal and align with the objectives of the recently signed legislation. By signing into law A-3723, the Clean Energy Act, each electric public utility is now required to achieve annual reductions of two percent of retail sales within five years of the implementation of its energy efficiency program. The two percent goal demonstrates the State's desire to be a national leader in clean energy and would launch NJ among a handful of states in the U.S. requiring this level of savings.⁵ ACE is ready to support this goal by implementing a robust portfolio of energy efficiency programs and has already begun discussions with the BPU about how to develop a market potential analysis. Energy efficiency is a prime opportunity for New Jersey's energy innovation to lead the nation. In their initial iterations, energy efficiency programs were developed as "electricity use reduction standards". In order to meaningfully reduce carbon emissions, New Jersey must decarbonize the electricity supply at the same time it rapidly expands electrification of other sectors. To do so, energy efficiency standards must be modernized to promote, rather than hinder, these efforts.

Role of Local Distribution Companies in Program Administration

It's important to clarify the future role of the New Jersey Clean Energy Program ("NJCEP") because the legislation holds the Utilities accountable for meeting the aggressive state energy efficiency goals. ACE stands ready to work with the NJCEP to meet the legislative objectives to the benefit of New Jersey residents. In order to meet these aggressive goals, the State must consider alternate program delivery methods in order to give the utilities the tools and controls that are needed to reach the savings target. The Board should enact policy allowing each utility to control the design, implementation, and overall management of the efficiency programs that will contribute significant savings in its own service territory. This includes all commercial, industrial, and residential programs that contribute toward the Company's savings goal. Currently, many of these potential programs – programs that achieve significant savings, and programs that are popular to the industry – are programs currently run by the NJECP. If the NJCEP continues with the current program delivery model which limits the types of programs that the utilities can run, ACE will not be in a position to reach the mandated target.

Equally important, the CEP directs the NJ BPU to develop quantitative performance indicators for each utility where each utility will be penalized or incentivized based on its performance relative to these indicators. The onus is clearly on the utilities to achieve a mandated level of savings and as a result, the program delivery model should be adjusted to align with the accountability that the Legislature has placed on the utilities.

The NJCEP should still play an important role in the process, but transition to an oversight role. There are important programmatic, reporting and policy issues to discuss, and the NJCEP can shape the framework for these discussions in an advisory position.

⁵ ACEEE, "State Energy Efficiency Resource Standards," January 2017 (<https://aceee.org/sites/default/files/state-eers-0117.pdf>).

AMI Deployment Helps to Meet EE Goals

The current lack of AMI in the State limits the type and scope of potential energy efficiency programs. By comparison, AMI-supported energy efficiency programs are an important component of energy efficiency programs in other states. For instance, AMI-supported energy efficiency programs make up 40% of total energy efficiency savings for PHI's operating companies in the Maryland service territory and 11% of ComEd's annual savings goal in Illinois. Furthermore, interval data collected via AMI allows for demand response programs, novel rate design, and far more detailed information presentation to empower customers.

Given the high level of savings required in the legislation and the present absence of AMI in New Jersey, the EMP should include a plan to roll-out the implementation of AMI-supported energy efficiency programs. The State will need every tool in its arsenal to achieve a two percent level of savings and AMI must be part of that strategy.

Building Codes

The Energy Master Plan should develop a policy for the attribution of building codes changes to savings goals. Building codes and standards could represent significant savings for the Company and it was referenced explicitly in the legislation as a means for achieving savings. The NJCEP Strategic Plan only proposed to begin "an exploratory process" to determine whether such savings could be measured; however, a rigorous plan is needed for determining the calculation and measurement of savings from building codes and standards and how those savings will be tracked and reported for inclusion in the savings targets for each utility's service territory. These guidelines should be promulgated in a timely fashion so that their potential and cost can be incorporated in ACE's energy efficiency plan.

Support for Low Income Customers

The Company is committed to helping its low-income customers through its energy efficiency portfolio. As part of its current energy efficiency program offering, ACE offers a Quick Home Energy Check-Up (QHEC) Program for low income areas and a Behavior Based Program for low income customers and high energy users. The QHEC Program is a customer education program that includes the installation of energy savings measures at no cost in customers' homes through a home audit by a certified technician. Currently, the NJCEP runs a Home Performance with ENERGY STAR audit program which is only applicable for home owners with moderate to high income levels. The QHEC program fills a void by providing a free audit and measures to both owners and renters living in low income areas. The primary objective of the Behavior Based Program is to motivate residential customers who are low income or high energy users to engage in energy saving behavior through the regular distribution of personalized home energy reports. Low-income customers receive tailored messaging such as low/no-cost energy savings designed to be relevant and benefit ACE's low-income population.

ACE also manages the NJCEP-funded Comfort Partners Program which aims to improve energy affordability for income-eligible households. Customers who participate receive direct installation of cost-effective energy efficiency measures, including weatherization measures, personalized comprehensive energy education and counseling. The program is targeted at participants in the

Universal Service Fund (USF) who have high energy usage and is also available to households with income at or below 225% of the federal poverty guidelines.

Going forward, the Company is committed to ensuring that participation opportunities exist for low-income customers. It is important to the Company to help low-income customers reduce their energy bills and assist the landlords of limited income properties to maintain the property as affordable to low-income households. For example, in its Delaware service territory, the Company proposed to work with low income and community-based organizations to distribute light bulbs at food banks, which it currently does in Maryland, and to offer up to eight hundred ENERGY STAR refrigerators annually to low income customers at no cost. In its Maryland service territory, the Company proposed a multi-family program targeting limited income areas as well as housing properties that are rent-restricted due to participation in a state or federal affordable housing program. Additionally, the Exelon Utilities operating in Pennsylvania and Illinois also promote and implement energy efficiency programs for low-income customers. PECO's low-income program is a direct-install, whole home service which includes in-home audits, education and direct installation of measures for more than 50,000 customers. ComEd's energy efficiency plan includes approximately \$35M per year of dedicated program spending to serve income eligible customers.

ACE has begun discussions with representatives for the Natural Resources Defense Council and the Environmental Defense Fund in order to find common ground and develop a set of principles on various issues. ACE is in agreement that programs should impact low income customers in a meaningful way, and we will continue to collaborate to provide services and opportunities to assist our lower income customers. The Company does not recommend specific low-income goals which would go beyond the requirements of the legislation.

8. Electrification of Transportation

ACE supports the Administration's EV goals and was the first utility to request approval of an EV charging infrastructure program through the Board of Public Utilities. New Jersey's commitment to zero emission vehicles (ZEV)⁶ sets a solid foundation for moving to cleaner transportation. New Jersey's foresight couldn't have been more right. The urgency to decarbonize our environment is greater than we thought, "limiting global warming to 1.5°C would require rapid, far reaching and unprecedented changes in all aspects of society, the UN's Intergovernmental Panel on Climate Change (IPCC) found in a new assessment published October 2018.⁷ Emission reductions in 1.5°C- and 2°C-consistent pathways come predominantly from the transport and industry sectors." (p. 2-29). The New Jersey Utilities proposed electrification transportation programs support the states' sustainability goals and as a premise of our franchise ensures equitable provision, incentives, and distribution of light duty electric vehicle infrastructure to every customer in our service territory. ACE's program also allows the utility to better understand the impact on reliability, associated costs and overall customer needs and interests so that the state and ACE have the right information to provide used and useful e-mobility services to the

⁶ ACE is a member of the National Coalition for Advanced Transportation (NCAT), which is working to preserve ZEV authority.

⁷ <http://www.ipcc.ch/report/sr15/>

entire community as well as target efforts to reduce overall grid/reliability costs. So, with clear benefits to people and natural ecosystems, limiting global warming must go hand in hand with ensuring an environmentally just and equitable society.

Investment in charging infrastructure will ultimately aid in the acceleration of EV adoption and ensure electric transportation fueling is available and affordable to everyone. The electricity utility already reaches all people in its service territory. Electrification of transportation is a primary way all communities in New Jersey, including environmental justice (EJ) communities, can benefit from existing and future efforts to clean the electricity grid. As cleaner electricity powers more of our energy needs, we all benefit from the climate and air quality improvements.

Equally important is the notion that charging infrastructure should provide a positive, consistent and seamless experience for all stakeholders. Electric utilities are uniquely positioned to ensure charging infrastructure addresses these critical public policy priorities including supporting diverse and low-income communities' participation. An EV car-share or ride-share program, electric bikes, and electric buses all have the ability to provide affordable and sustainable transportation options for low- and moderate-income customers. Such programs can provide communities with additional transportation resources, reduce air pollution, and give customers who tend to be underserved by the electric vehicle market access to electrified mobility services. The electrification of the transportation sector can also help ensure that all customers have the opportunity to share in the benefits of easier and more accessible EV charging, cleaner air and water, less vehicle noise, more electric transportation options, and downward pressure on utility rates due to increased electric throughput from more EV charging. See [Appendix](#) for responses to the BPU's transportation discussion questions.

While the ZEV mandate and initial utility programs focus on light duty vehicles, the state should broaden its focus to include other forms of transportation, notably buses and other fleets. Electrified transportation systems would include quiet, emission-free cars, delivery trucks, public transit, corporate fleets, and ports, and even that last mile to a destination where e-bikes and other methods close the gap. To this end ACE supports an inclusive, sustainable charging market that accelerates transportation electrification – including but not limited to vehicles, transit facilities, airports, and shipping ports. It also supports initiatives to reduce greenhouse gas emissions, improve sustainability performance of existing buildings, and improve air quality along major transportation routes.

As a general matter, electric utilities play a critical role in building, owning, investing, and maintaining the infrastructure necessary to support the electrification of the transportation sector because utilities are best positioned to manage the impact of EVs to the grid and associated cost. The role of electric utilities is key in helping to deploy this infrastructure in a way that sustains or improves system efficiency and maintains reliability of the energy grid, while also yielding shared value for all stakeholders. We would ask that the EMP include directives to quickly approve of electrification and e-mobility incentives the utilities have offered and move to pave a path for medium and heavy-duty vehicle electrification as well as industrial electrification programs. Competitive, government, and utility programs can and must work in concert to build out the transportation electrification sector and hasten progression towards a sustainable environment. Our hope would be that legislation would not limit the state's ability to lever the utilities capacity to incent, install, and operate infrastructure that helps build out the market, and ensure equitable provisioning of infrastructure. All hands-on deck will allow New

Jersey to meet the sustainability needs of its residents and businesses and still foster market competition.

To that end we suggest the EMP:

1. Reiterate state goals for electric vehicles on the road in New Jersey
2. Establish public charging infrastructure goals
3. Establish private charging infrastructure goals
4. Develop a DCFC network in New Jersey that makes sense regionally
5. Allow utilities to address the societal good through cost recovery mechanisms that manage the affordability gap, offer managed charging solutions, leverage competitive solution providers and advance new technologies as appropriate, ensure choice, and educate consumers.

9. Decoupling

As acknowledged by the recently enacted Clean Energy Act of 2018, the continued development and expansion of electric energy efficiency measures and demand response services for residential and small commercial customers is a key energy policy initiative for the State of New Jersey. Energy efficiency and demand response programs reduce sales and, consequently, revenues, and fixed cost recovery declines. This creates a disincentive for the utility to support demand side resources. The existing EDC rate structure provides strong incentives for utilities to sell as much electricity as possible. A mechanism that disconnects the level of delivered sales with revenues removes the incentive for the utility to maximize its sales. A decoupling mechanism better aligns the interests of the Company with customers and the policy initiatives of the Board by breaking the link between increased sales and revenues.

In its most recently filed base rate case, the Company introduced a revenue decoupling mechanism intended to better align the interests of shareholders with customers, as well as support the clean energy and energy efficiency policy initiatives of the State.⁸ This is good for the customer because the Company's customers will pay only the amount determined by the Board required to provide safe and reliable service. By removing the connection between ACE's revenues from the volume of electricity delivered to customers, decoupling aligns the Company's shareholder interests with the interests of the customer. The mechanism also aligns with the legislation's recognition that utilities should be able to recover lost revenues stemming from the implementation of energy efficiency measures without unnecessarily complex calculations.⁹

⁸ Testimony of Joseph F. Janocha, BPU Docket ER18080925.

⁹ See subsection e., P.L. 2018, c. 17. (emphasis added).

10. Conclusion

ACE is committed to identifying and investing in new technology that will improve the efficiency and resiliency of delivering electricity in southern New Jersey and that will support the integration of increasing quantities of renewable sourced energy and distributed energy resources. Proven technologies, such as Advanced Metering, can be deployed to support additional energy efficiency activities, innovative rate structures, improved outage restoration efforts, improved distribution system planning, enhanced efficiency of customer service operations and data that provides customers with the tools needed to better manage their monthly energy costs. Battery storage can be deployed in selective locations to assist with the management of intermittent renewable generation and variable electric loads, while deferring the installation of more costly and traditional utility solutions. The installation of controllable smart inverters offers another opportunity to better manage the intermittency of PVs. These technologies and others will support cleaner, more efficient, and more resilient electricity supply and delivery in New Jersey. ACE and other New Jersey utilities need supportive state policies, timely cost recovery, and appropriate earnings opportunities to make the necessary infrastructure investments.

ACE appreciates the opportunity to work with the Board and other interested parties to help shape an EMP that thoughtfully considers ever-evolving technological developments in utility operations and reflects the economic realities faced by the utility community and its customers. We thank you for your consideration and are available to share our input and experience.

Respectfully submitted,

Kevin M. McGowan/jpr

Kevin M. McGowan

Enclosure

Appendix A

Atlantic City Electric Company

Appendix A

New Jersey 2019 Energy Master Plan (EMP)

Clean and Reliable Transportation Stakeholder Meeting Discussion Points

General

1. What are the intermediate timeframes and pathways to new or enhanced clean transportation systems? What clean and reliable transportation goals should be set for 2030 and 2050?

The electrification of the transportation sector is one of the most promising pathways to a low-carbon future, and better air quality for everyone today. Electrified transportation systems would include quiet, emission-free cars, delivery trucks, public transit, corporate fleets, and ports, and even that last mile to a destination where e-bikes and other methods close the gap.

New Jersey's commitment to zero emission vehicles (ZEV)¹ sets a solid foundation for moving to cleaner transportation, but many more opportunities remain. While the ZEV mandate focuses on light duty vehicles, the state should broaden its focus to include other forms of transportation, notably buses and other fleets.

Planning for transportation systems should start with consideration of the transportation statistics of current and future vehicle owners, car sharers, ride sharers, multi-unit dwellers, single family home owners in crafting a clean and reliable transportation sector in New Jersey. There are a wide range of use cases for charging infrastructure and understanding the target markets will help in guiding state policy on how to incentivize the priority markets. For instance, areas with less multi-unit dwellings (MDU) may focus on residential chargers versus public chargers (curbside, MDU, etc). In any case, as the ChargeEVC roadmap report notes, "New Jersey has a relatively travel-intensive daily routine across a compact route", making its suburban landscape easily scalable for electric transportation infrastructure.

Considerations that should be resolved in moving to electrified transportation systems require that New Jersey establish effective policies on charging infrastructure, open access, interoperability, reliable operations of the charging network, impact to the grid, managed charging strategies, and customer education as well as ownership and cost models. Many electrified transportation options are technically and financially ready today, needing only cohesive state policy for full deployment.

2. What is the most significant obstacle that the state will face in implementing a clean transportation plan by 2050? What are some solutions to these challenges?

The most significant obstacle in implementing a clean transportation plan is political will; the technology exists and is economic for most of the transportation sector to electrify and to do so economically.

¹ ACE is a member of the National Coalition for Advanced Transportation ([NCAT](#)), which is working to preserve ZEV authority.

For personal light-duty vehicles, key obstacles include, the lack of ubiquitous charging infrastructure and not enough consumer education about the cost savings and driver experience with an electric vehicle. Charging solutions can be achieved by fostering an environment where private companies including Electrify America and utilities co-exist and work together to cover not only likely landscapes for Plug-In-Vehicle (PIV) adoption but in communities that would benefit from the cost savings of electric vehicles ownership and need reliable charging but may be less desirable for competitive companies to enter. Utilities are committed to serving every single customer fairly with the same reliable and dependable service under open access frameworks. Charging infrastructure must work when needed for all.

For commercial fleets and ports, high up-front costs remain the key barrier. However, because the commercial market can also be more narrowly defined in terms of stakeholders, regulations and policy incentives could be more effective in inciting this market to convert to electric vehicles and other mobility equipment.

Consumer awareness is equally important for both sectors and would involve a robust plan by the state to deploy marketing and education to the masses on the benefits of PIV ownership. A solution would require a plan for sharing the costs of education by market players and/or by government entities and utility stakeholders to outreach to customers through media events, ads, ride and drivers, virtual electric drives, informational broadcasts, and other methods. Initial coordination of such marketing through a broad coalition, like ChargeEVC or PlugInAmerica would provide a coordinated start for the state to pursue consumer and commercial business owner outreach.

3. What is the role of clean transportation in freight movement? What should the State do to promote low-carbon freight/goods movement?

Cleaner freight movement is key to improving air quality as well as addressing climate change. Freight movement is a significant source of localized air pollution, including ozone and PM_{2.5}, currently concentrated in environmental justice and other over-burdened communities. Cleaning up freight movement would have a significant, near-term improvement on many urban areas' air quality as well as meaningfully contributing to the carbon reductions needed to address climate change.

Truck owners make fleet purchase decisions (e.g. upfront costs) based on the business's a) functional requirements, b) duty cycle, and c) location of operations (remote/local). Important drivers that influence adoption of electrified vehicles in this market include existing technologies, regulations, infrastructure readiness, and total cost of ownership. Focusing on driving down total cost of ownership for fleets that are likely to switch to electric would provide the momentum.

Along those lines, urban delivery classes 3 through 6 will likely be the early adopters and will travel in urban landscapes where operations are characterized by fairly stable route definitions between 50 and 100 miles per day, loads tend to cube out, and vehicles run one shift per day and return to the same base location – all good factors for fleets that are great candidates for switching to electric because of their predictability. New Jersey may consider providing incentives and policies to provide charging equipment to factories and warehouses where freight vehicles exist today. Also, inciting availability of charging stations at truck stops but also phasing in demand charge costs over time, the state could do a lot to provide parity with diesel systems, particularly if the true cost of diesel and other fossil fuels were charged.

On a final note, according to the North American Council for Freight Efficiency (NACFE), the point at which commercial EVs reach parity with diesel-powered vehicles in terms of attributes like cost, weight, and maintenance needs, in the absence of a carbon price that incorporates fossil fuels’ true costs to New Jersey are as follows:



4. How can clean transportation solutions impact goods movement and economic growth?

Clean transportation solutions, namely through electrification, is an opportunity to both reduce the total costs of goods movement as well as to promote economic growth. The impacts of diesel and other fossil transportation fuels are significant and concentrated in environmental justice and other overburdened communities. Cleaning up these depots and other concentrated sources of air pollution would greatly improve air quality in the most burdened communities, reducing rates of asthma, heart attacks, and other significant and costly health effects of air pollution. Thus, electrification of goods movement will support economic growth both by reducing the economic effect of poor air quality as well as through the investment needed to turn over the fleets in a meaningful timeframe. In all communities, doing so would improve air quality and noise pollution.

State Policy

5. What are the regulatory or statutory barriers to the expansion of low- and zero-emission vehicles?

The key regulatory or statutory barrier is the artificially low cost of fossil fuels discounting the cost of health impacts and shifting the burden to residents particularly in disadvantaged communities. In addition, the perceived lack of charging certainty, which could be addressed by a concerted regulatory effort, is a major consumer barrier to the expansion of low- and zero-emission vehicles across all use classes.

6. What are the clean fuel transportation approaches the State should consider to achieve its zero-emission vehicle (ZEV) goals of 330,000 ZEVs on the road by 2025?

Coordinated approaches to rolling out a broad charging ecosystem well before 2025 is critical to give consumers confidence prior to purchase. This should include incentives for installing smart chargers at residences, workplace, and in the public arena. Charging options to manage demand could include dynamic rate options, time of use, bill credits, flat fees or utility access to control smart charger's power. The state should decide if it will promote use of sub-metering, data analytics, second meters, or car technology to capture charging information and appropriately charge or credit for EV demand.

Additional approaches include increased mandates, increased and/or certain subsidies, and putting a more significant price on dirtier fuels. Atlantic City Electric also supports the recommended policy actions found in the ChargeEVC roadmap report:

1. Set state goals for electric vehicles on the road in New Jersey
2. Establish public charging infrastructure goals
3. Establish private charging infrastructure goals
4. Develop a DCFC network in New Jersey that makes sense regionally as well
5. Allow utilities to address the societal good through cost recovery mechanisms that manage the affordability gap, offer managed charging solutions, leverage competitive solution providers and advance new technologies as appropriate, ensure choice, and educate consumers.

7. What actions can the state take with its own fleet to demonstrate clean transportation leadership? How would these actions affect service reliability?

Most simply, public fleets should be electrified. This would have important network effects, as the volume would induce a significant deployment of charging infrastructure, as well as significant psychological effects as electrified vehicles become commonplace. Again, service reliability is unlikely to be impacted. Most service fleets will travel in landscapes where operations are characterized by fairly stable route definitions between 50 and 100 miles per day, loads tend to cube out, and vehicles run one shift per day and return to the same base location where overnight charging can occur – all good factors for fleets switching to electric.

8. What strategic incentives should be considered for encouraging the adoption of zero emission vehicles, plug in hybrids, and other low emission and clean fuel transportation?

In addition to a cohesive charging ecosystem, rebates or other assistance with upfront costs, such as subsidized financing, should be considered. In addition, as car dealers are a primary obstacle due to reduced income from future maintenance, New Jersey should explore how to target dealer incentives to remove that simple yet significant barrier to individual purchase decisions.

9. What best practices can the state adopt from other states and local governments that have advanced clean transportation goals?

If New Jersey adopts the above recommendation, it will be a national leader in clean transportation and serve as the model to others. Coordination between electric utilities, third party charging companies, site hosts is essential to ensure that planning and siting of smart chargers leverages existing installation projects, manages impact to the grid and associated costs, as well as optimizes location of chargers. Building a process that coordinates amongst stakeholders is a best practice. In addition, leading states like California have followed in relatively quick succession robust light duty, medium duty, heavy duty, and port electrification programs to achieve their sustainability goals.

10. What actions can the state take to help promote clean and reliable transportation at the state's ports?

New Jersey should consider a combination of financial incentives and mandates to quickly electrify transportation at the state's ports, as this is a source of technology- and economically-ready transportation options, with a significant potential air quality benefit to port communities.

11. What role should utilities play in clean transportation?

Involvement of utilities is critical and beneficial in many ways to the buildout of EV infrastructure, in that they are best positioned to manage impact to the grid and associated costs, shift loads to off peak times, install and operate reliable public charging infrastructure with open access, and engage in optimal and equitable siting of chargers for maximum public benefit and development of additional electrified business through electric taxi's, ride-share, and car share.

Technological Advancements

12. What existing and emerging technologies need to be incorporated into future transportation planning?

Future transportation planning must be aggressive enough to reach clean energy goals while remaining flexible enough to allow new technologies to serve needs as they grow. In this way, innovation funds that allow for technology pilots and demonstrations would help to future proof and innovate charging infrastructure/cost management as the market matures.

13. How can the State best encourage research and development of new technologies?

Innovation funds that allow for technology pilots and demonstrations would help to future proof and innovate charging infrastructure/cost management as the market matures.

14. How could new technology impact infrastructure investment?

New technologies, from higher capacity chargers to mobility apps for tracking and charging during on/off peak times could assist in future proofing the investments in the electric ecosystem. Regulations should allow utilities to manage and transact in real time or near real time with equipment that may need to be approved as revenue grade.

Infrastructure Investment

15. What infrastructure investments, policies, and procedures are needed to support the future of clean transportation in the state? What infrastructure needs will the state have in the promotion of clean and alternative fuel vehicles?

Atlantic City Electric supports the recommended policy and investment actions found in the ChargeEVC roadmap report that encourages long term growth in the e-mobility sector through codes and standards for interoperability and open access to charging infrastructure.

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4. Develop a DCFC network in New Jersey that makes sense regionally as well
5. Allow utilities to address the societal good through cost recovery mechanisms that manage the affordability gap, offer managed charging solutions, leverage competitive solution providers and advance new technologies as appropriate, ensure choice, and educate consumers.

16. What clean transportation funding mechanisms should the state explore? What type of financial planning and programming should be considered?

A number of investments through public and private mechanisms will be needed to get the electric transportation market to move ahead. Utilities can pursue direct capital investment (recovered by all) or rebates (offsetting customer costs) treated as a regulatory asset; rebates treated as expense, fees charged directly to charging consumer, or inclusion within energy efficiency or demand side management programs.

Environmental Justice

17. What strategies could be implemented to allow for disproportionately impacted communities to have access to clean transportation options?

Most importantly, clean transportation cannot focus exclusively or even primarily on light-duty vehicles. To bring the myriad benefits of clean transportation to all communities, New Jersey must focus on public transit and commercial fleets. Clean public transit allows widespread access to clean transportation and both promote improvements in air quality in disproportionately impacted communities.

18. What efforts are most successful towards making clean energy measures and zero emission vehicles affordable and accessible to all?

Most importantly, clean transportation cannot focus exclusively or even primarily on light-duty vehicles. To bring the myriad benefits of clean transportation to all communities, New Jersey must focus on public transit and commercial fleets. Clean public transit allows widespread access to clean transportation and both promote improvements in air quality in disproportionately impacted communities.

19. How can the state play a role in ensuring that disproportionately impacted communities receive opportunities and benefits connected to the clean energy economy and expansion of low and zero emission vehicles?

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ⁱⁱ ChargeEVC – A Roadmap for Vehicle Electrification in New Jersey: Market Development Strategy and High Impact Initiatives. Sept 13, 2017