

August 14, 2015

VIA ELECTRONIC MAIL

Irene Kim Asbury
Secretary of the Board
New Jersey Board of Public Utilities
44 South Clinton Avenue
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Re: Comments on Energy Master Plan

I write on behalf of the energy utility members of the New Jersey Utilities Association (NJUA), specifically, Atlantic City Electric Company, Jersey Central Power & Light Company, New Jersey Natural Gas Company, Pivotal Utility Holdings, Inc. d/b/a Elizabethtown Gas, Public Service Electric and Gas Company, Rockland Electric Company, and South Jersey Gas Company in response to the request for comments on the NJ Energy Master Plan (EMP). NJUA represents 16 investor-owned utilities that provide electric, natural gas, telecommunications, water and waste water services to residential and business customers throughout the State. We appreciate the opportunity to offer comments on the EMP. These comments reflect the consensus views of the above-referenced energy company members. As the New Jersey Board of Public Utilities (BPU) conducts its hearings and receives comments with respect to the EMP, we ask that you consider the following:

Energy Distribution System Infrastructure Resiliency

In 2011, the Administration stated that the EMP is the “Administration’s strategic vision for the use, management, and development of energy in New Jersey over the next decade” which includes emphasis on “improving grid reliability” and recommendations that focus on “initiatives and mechanisms which set forth energy policy to drive the State’s economy forward.”¹ Since the adoption of the 2011 EMP, New Jersey has experienced a number of large storms. Ranging from hurricanes, ice and heavy snow, a derecho, and extremely severe thunderstorms, each weather event has affected New Jersey’s energy infrastructure in a different manner. Additionally, each storm has brought with it an increased focus by policymakers on investor-owned utility response to customer outages and the infrastructure’s ability to withstand destructive weather conditions. As such, NJUA respectfully recommends that the updated EMP include, as a central element of the Administration’s strategic vision, support for implementation of programs and regulatory cost recovery mechanisms that enable New Jersey energy companies to effectively and efficiently increase resiliency.

¹2011 EMP, pg. 3.

It is estimated that the average annual cost of power outages nationwide caused by severe weather events is between \$18 billion and \$33 billion per year.² It follows that in a year with significant storms, the costs would be much higher.³ The economic effects of Hurricane Irene and Superstorm Sandy in particular have prompted NJUA energy companies to look more comprehensively and strategically at storm hardening and resilience of transmission and distribution systems.⁴ In addition, a number of the companies have sought BPU approval to implement programs through which they have, in the aggregate, invested billions of dollars to protect and strengthen electric and gas systems. These programs have created thousands of jobs and have enabled construction of improvements designed to mitigate economic losses that will occur in relation to future storms. NJUA believes the EMP should direct that when the BPU evaluates the cost of proposed investment in utility infrastructure, the economic cost of *not* making that investment should also be considered.⁵ The true costs of service interruptions may take a number of forms, including “lost wages, spoiled inventory, [and] delayed production ...”⁶ Investment in energy utility resilience should be seen as likely to mitigate utility programmatic costs over time, resulting in significant savings to the State’s economy and reducing the hardship and inconvenience customers experience as a result of outages.

NJUA suggests that the EMP encourage the BPU to continue to consider, where appropriate and with utility input, implementation of innovative cost recovery mechanisms for infrastructure investment that allows the utility timely recovery of investments as they are made. For example, the BPU may consider implementing rate adjustment mechanisms, which may refer to trackers, riders, or other types of mechanisms that allow for the timely recovery of investments for one or more specific expenditure items outside of base rates. Rate adjustment mechanisms can be designed to expire when the specific amount of cost recovery is satisfied and therefore may be particularly useful for storm response and resiliency programs,⁷ as well as other programs supported by the EMP, such as renewable energy programs.⁸

It should be noted that some NJUA energy members have received approval of petitions to implement accelerated capital investment recovery programs using rate adjustment mechanisms such as trackers

²*Economic Benefits of Increasing Electric Grid Resilience to Weather Outages* (August 2013), pg. 3. Prepared by the President’s Council of Economic Advisers and the U.S. Department of Energy’s Office of Electricity Delivery and Energy Reliability, with assistance from the White House Office of Science and Technology, http://energy.gov/sites/prod/files/2013/08/f2/Grid%20Resiliency%20Report_FINAL.pdf

³See *ibid.* at 3 finding that the cost estimates related to Sandy ranged from \$27 billion to \$52 billion nationally.

⁴NJUA notes that issues related to generation of power is not typically the cause of widespread outages, but rather such outages are caused by damage to transmission and distribution systems during severe weather events. See *Hardening and Resiliency: U.S. Energy Industry Response to Recent Hurricane Seasons*. (August 2010), pg. 43. Prepared by the U.S. Department of Energy, Office of Electricity Delivery and Energy Reliability. <https://www.oe.netl.doe.gov/docs/HR-Report-final-081710.pdf>

⁵ See Center for Energy, Economic and Environmental. Policy (CEEPP) study, *Analyzing the Costs and Benefits of Electric Utility Hardening Efforts in Response to Severe Weather*, (October, 2014), pg. 41, <http://ceeep.rutgers.edu/wp-content/uploads/2014/10/FF-Session-Utility-Hardening-Economic-Efficiency-and-CBA.pdf>. Also see Mantell, Nancy, Joseph J. Seneca, Michael L. Lahr, Will Irving, *The Economic and Fiscal Impact of Hurricane Sandy in New Jersey*. Rutgers Regional Report, Number 34, January 2013. (Rutgers Study). The study noted that some of these impacts would be mitigated if the State received repair and recovery funding, including funding related to gas and electric utility expenditures, pg. 15.

⁶*Economic Benefits of Increasing Electric Grid Resilience to Weather Outages*, pg. 3.

⁷See *ibid.* at 21, 22, and Appendix A.

⁸See generally “Alternative Regulation for Emerging Utility Challenges: An Updated Survey”, (January 2013), Edison Electric Institute, http://www.eei.org/issuesandpolicy/stateregulation/Documents/innovative_regulation_survey.pdf

and other recovery mechanisms that result in timely recovery of investments.⁹ Those petitions were filed and approved in response to the State's call for the BPU and New Jersey's investor-owned energy utilities to aid in economic recovery.¹⁰

The U.S. Pipeline and Hazardous Materials Safety Administration¹¹ has supported such programs where implemented for natural gas pipeline replacement. Similar programs have been utilized to accelerate repair and replacement of natural gas infrastructure in many other states.¹² NJUA encourages the BPU to review and implement elements of other state programs that may be useful in furthering the Administration's policies and energy company objectives. Investment in the natural gas delivery system would enable improvements in natural gas efficiency, one of the 2011 EMP goals. Upgrading systems to elevated pressures supports use of modern high efficiency natural gas appliances, and encourages development of emerging technologies. The BPU has a history of support for these projects but there is considerable work to be done.

In furtherance of the Administration's goal to promote economic development, create jobs, and ensure reliability¹³, NJUA respectfully recommends that the EMP clearly convey support for continued implementation of capital investment programs with appropriate cost recovery mechanisms for both electric and natural gas utilities. NJUA does not suggest endorsement of any one type of cost recovery or rate adjustment mechanism but recommends strongly a flexible approach that enables each utility to request the manner and timing of implementation of any such mechanism. Utility company discretion will be critical to ensure that investments are appropriately aligned with investor incentives and to enable compliance with statutory requirements,¹⁴ as well as EMP directives.

Protecting Critical Energy Infrastructure

NJUA applauds the Administration for including the protection of critical energy infrastructure as a top priority in the updated EMP. NJUA member companies recognize that threats to the system, ranging from cyber-attacks, physical attacks, and of course severe weather, are real. As such, the companies are actively engaged in updating best practices to enhance physical and cyber security. Specifically, the companies, along with the BPU's Reliability and Security Staff and the New Jersey Department of Homeland Security, are part of a work group formed to develop best practices related to electric and

⁹See I/M/O the Proceeding for Infrastructure Investment and a Cost Recovery Mechanism for All Gas and Electric Utilities, BPU Docket Nos. EO09010049 and GO09010054 and examples of associated orders: South Jersey Gas – Docket No. GO09010051 (April 2009), PSE&G – Docket No. EO11020088, Elizabethtown Gas – Docket No. GO09010053 (April 2009), New Jersey Natural Gas – Docket Nos. EO09010049, GO09010052, and GR07110889 (April 2009), and Atlantic City Electric Docket Nos. EO09010049, and GO09010054.

¹⁰See, for example, BPU Docket Nos. EO09010049, GO09010052, and GR07110889, regarding New Jersey Natural's investment program, citing the State's request of New Jersey's investor-owned energy utilities to accelerate capital investments and efficiency programs as a means to support economic development and job growth. The State requested that the utilities provide company-specific program proposals, with associated cost recovery and rate mechanisms.

¹¹See *White Paper on State Pipeline Infrastructure Replacement Programs*, (December 2011). Prepared by the U.S. Pipeline and Hazardous Materials Safety Administration for submission to the National Association of Regulatory Commissioners.

¹²Some public utility commissions, like the BPU, have utilized their traditional ratemaking authority to implement such programs. Other commissions have specific statutory authority to approve the programs. A comprehensive list of these programs is available at <http://opsweb.phmsa.dot.gov/pipelineforum/pipeline-materials/state-pipeline-system/state-replacement-programs/>

¹³ 2011 EMP, pg. 1.

¹⁴ See N.J.S.A. 48:2-13 and 48:2-23.

natural gas security. The group is currently working on a revision to the State's Electric & Natural Gas Security Best Practices which will include a section on cyber security. NJUA energy members look forward to development of best practices in this area and will continue to work collaboratively in addressing this important matter. In addition, the electric distribution companies are appreciative of the opportunity to work with the BPU on efforts related to the more than 100 measures issued by the BPU following Hurricane Irene and Superstorm Sandy.¹⁵ Additionally, each NJUA member energy company continues to work proactively to improve system reliability, security, and communications.

Expansion of Natural Gas Pipeline and Electric Transmission Systems

NJUA respectfully recommends that the updated EMP convey support for the expansion of both electric and natural gas transmission. Improvements to both systems will improve economic efficiency and lower costs to consumers. The expansion and reinforcement of the electric transmission system will enhance reliability, reduce congestion, and lower prices. Electric transmission development is primarily driven by regional planning processes managed by PJM Interconnection and its stakeholders, but the State can support transmission by expediting siting and permitting processes, and supporting appropriate equity returns and incentives to attract capital investment. The expansion and reinforcement of the gas pipeline transmission system, through both interstate and intrastate projects, will lower rates¹⁶ and ensure service reliability. Further, the expansion of gas pipelines would lessen New Jersey's reliance on oil and address the Administration's concerns regarding price volatility in the oil markets.¹⁷

Given that the projected outlook for the production of domestic natural gas, in particular from the Marcellus Shale, has and continues to be highly favorable,¹⁸ the Administration was correct to assert in the 2011 EMP that New Jersey's pipeline and natural gas infrastructure is likely to be strengthened by newly proposed pipelines.¹⁹ While it is the case that approvals regarding interstate pipelines are under the purview of the Federal Energy Regulatory Commission, NJUA urges the Administration to support approval of NJUA member companies' intrastate pipeline proposals which will improve reliability and reduce costs in the long-term.

Alternative Fuel Vehicles

NJUA supports policies that advance utilization of alternative fueled vehicles such as compressed natural gas (CNG) and electric vehicles (EVs). Recent data shows that transportation emissions account for approximately 27% of total U.S. carbon emissions and that proportion is likely to grow.²⁰ CNG and EVs have the potential to significantly reduce emissions from the transportation sector and to reduce dependence on foreign oil, as recognized in the 2011 EMP.²¹ NJUA energy members have been proactively engaged in developing alternative fuel technology and building infrastructure that supports the use of CNG and EVs for their fleets and employees. Some companies have made refueling service

¹⁵ See BPU Docket Nos. EO11090543 and EO12111050, respectively.

¹⁶ See PennEast Pipeline Project Economic Impact Analysis Drexel University School of Economics and Econosult Solutions, (February 2015).

¹⁷ 2011 EMP, pgs, 58-59.

¹⁸ U.S. Energy Information Administration, *Natural Gas Weekly Update*, Week ending July 1, 2015, http://www.eia.gov/naturalgas/weekly/archive/2015/07_02/index.cfm

¹⁹ 2011 EMP, pg. 58.

²⁰ U.S. Environmental Protection Agency, *U.S. Greenhouse Gas Inventory Report: 1990-2013*

²¹ 2011 EMP, pg. 9.

available to the public and are seeking to expand that effort. NJUA encourages the Administration to include the State's energy utilities in efforts to further integrate these new technologies into the marketplace.

Net Metering Considerations

As noted by the New Jersey Office of Clean Energy, net metering in New Jersey “enables customers to obtain **full retail credits** on their utility bill for each kWh of electricity their system produces up to 100% of their electricity usage over the course of a year...All electric utility companies regulated by the NJBPU ... must offer net metering to retail customers that generate electricity through renewable systems”²² (emphasis added). According to the National Conference of State Legislatures, forty-four states and Washington, D.C. have authorized net metering, and utilities in three additional states have implemented net metering.²³

The proliferation of net metered distributed generation, particularly solar (PV) generation²⁴, has led to a growing concern nationally about a “cost shift” from net-metered to non-net-metered customers. Notably, non-net-metered customers are more likely to be those who can least afford to pay higher utility bills, such as seniors and low-income households.

This cost shift is described eloquently in a 2015 MIT study entitled “The Future of Solar Energy”:

“...most U.S. utilities bundle distribution network costs, electricity costs, and other costs and then charge a uniform per-kWh rate that just covers all these costs. **When this rate structure is combined with net metering...the result is a subsidy to residential and other distributed solar generators that is paid by other customers on the network.**”²⁵

“Since network costs do not decrease with greater PV penetration – on the contrary, they may even increase, as we have seen – the tariff that has to be applied to each kWh consumed to recover network costs has to increase. The prosumers with PV systems, who are responsible for both the reduction in overall kWh sales and for the increase in network costs, avoid a big portion of the cost...On the other end, customers without distributed generation systems fully absorb the impact of higher tariffs – an outcome likely to be perceived as unfair.”²⁶

The 2011 Energy Master Plan contained an early reference concerning this now-nationally recognized problem in its statement that “these behind-the-meter solar programs are costly for non-participants, i.e.,

²² <http://www.njcleanenergy.com/renewable-energy/programs/net-metering-and-interconnection>

²³ National Conference of State Legislatures, *Net Metering Policy Overview and State Regulatory Updates (rev. 12-18-2014)* (2014) <http://www.ncsl.org/research/energy/net-metering-policy-overview-and-state-legislative-updates.aspx>

²⁴ “In the past half-dozen years, U.S. PV Capacity has expanded from less than 1,000 MW to more than 18,000 MW. Recent growth has been aided in part by a 50%-70% drop in reported PV prices...” Excerpt from Massachusetts Institute of Technology, *The Future of Solar Energy, an Interdisciplinary MIT Study* (2015), http://mitei.mit.edu/system/files/MIT%20Future%20of%20Solar%20Energy%20Study_compressed.pdf

²⁵ Massachusetts Institute of Technology, *The Future of Solar Energy, an Interdisciplinary MIT Study* (2015), http://mitei.mit.edu/system/files/MIT%20Future%20of%20Solar%20Energy%20Study_compressed.pdf

²⁶ Ibid.

ratepayers who do not host a solar installation, yet pay for the subsidies in their monthly electric bills.”²⁷ Particularly with the MIT and other studies now firmly backing the 2011 EMP’s statement, NJUA respectfully requests that the EMP be amended to recognize the real shift in costs of the electrical grid from net-metered to non-net-metered customers. NJUA further requests that the EMP direct the BPU to explore ways to address or compensate for the cost shift, in order to ensure a continued, smooth, and equitable deployment of behind-the-meter distributed generation throughout the State.

Microgrids

There has been a growing interest in New Jersey in the use of microgrids, including as a primary focus of the Energy Resilience Bank established in 2014. A microgrid “is a group of interconnected loads and distributed energy resources within clearly defined electrical boundaries that acts as a single controllable entity with respect to the grid. A microgrid can connect and disconnect from the grid to enable it to operate in both grid-connected or island-mode.”²⁸

NJUA’s members understand the importance of protection of critical facilities from outages caused by severe weather events, such as Superstorm Sandy and recognize the State’s interest in exploring microgrids in these limited applications. As previously discussed, the EMP should remain focused on promotion of the resiliency of the centralized transmission and distribution infrastructure serving the entire State. However, to the extent that there is interest and benefit to exploring microgrids in certain applications, the EMP should emphasize the importance of utilities being “at the table” during the development of all microgrids and microgrid policies to ensure that all customers retain access to reliable service at the least possible cost, that microgrids are built, interconnected, and operated with public safety firmly in mind, including the appropriate use of sectionalizing equipment, and that regulatory policy and tariff issues are appropriately addressed. Additionally, in cases where a microgrid would serve customers using existing distribution infrastructure, the EMP should provide, as current law requires, that utilities continue to own and operate this infrastructure to ensure public safety, appropriate consumer protections, and effective restoration.

Energy Efficiency

The 2011 EMP states that “the most cost-effective way to reduce energy costs is to use less” and “reducing energy costs through conservation and EE lessens the cost of doing business and enhances economic development.”²⁹

The State of New Jersey offers a portfolio of state-run EE programs, funded through utility collections, which are available to the citizens of New Jersey. A number of NJUA’s member companies offer supplemental EE programs that are very active and successful, and also support promotion of the statewide Clean Energy Program.

However, it is important that the EMP recognize the inherent financial disincentives for utilities to promote conservation and EE, given the interaction between lost sales and traditional rate structures and recovery methods. The EMP should recognize the need for appropriate rate design and/or financial

²⁷ 2011 EMP, pg. 5.

²⁸ Lawrence Berkeley National Laboratory, *Microgrid Definitions* <https://building-microgrid.lbl.gov/microgrid-definitions>

²⁹ 2011 EMP, pgs. 111-112

incentives for utility participation and support of EE in order to enhance utility participation and alignment with the EE goals of the EMP.

Conclusion

In conclusion, we appreciate the opportunity to work with the BPU in enhancing the goals of the 2011 EMP consistent with industry and technological developments and in consideration of the changing economic landscape since the 2011 EMP was adopted. NJUA is available to serve as a resource for information or to facilitate discussions between BPU and Administration Staff and member companies. A number of our member companies will also be providing more specific comments for your review. Thank you for your consideration.

Respectfully,

A handwritten signature in black ink, appearing to read "A. Hendry", with a large, stylized flourish at the end.

Andrew Hendry
President and Chief Executive Officer
New Jersey Utilities Association