

October 10, 2014

U.S. Department of Energy
1000 Independence Avenue, S.W.
Washington, D.C. 20585

Submitted via: qercomments@hq.doe.gov

**Re: COMMENTS OF THE PSEG COMPANIES ON THE U.S. DEPARTMENT OF ENERGY'S
QUADRENNIAL ENERGY REVIEW**

On January 9, 2014, President Obama issued a Presidential Memorandum directing the Administration to conduct a Quadrennial Energy Review (“QER”). As described in the President’s Climate Action Plan, this initial review focuses on energy infrastructure and looks to identify the threats, risks, and opportunities for U.S. energy and climate security, so that the federal government can translate these policy goals into a set of integrated actions. In response to this directive, the PSEG Companies¹ (“PSEG”) hereby submit comments and responses to the questions raised by the U.S. Department of Energy (“DOE”).

I. INTRODUCTION

PSEG is a publicly traded (NYSE:PEG) diversified energy company, with total assets of \$32.5 billion and annual revenues of more than \$10 billion. PSEG is one of the nation’s leading wholesale energy producers and most reliable electric and gas transmission and delivery utilities. Headquartered in Newark, N.J., PSEG has operations primarily in the Mid-Atlantic and Northeastern United States, employing approximately 12,000 people.

PSE&G is one of the largest combined electric and gas companies in the United States and is also New Jersey’s oldest and largest investor-owned utility. PSE&G currently serves nearly three quarters of New Jersey’s population in a service area consisting of a 2,600-square-mile diagonal corridor across the state from Bergen to Gloucester Counties. PSE&G serves 1.8 million gas customers and 2.2 million electric customers in more than 300 urban, suburban and rural communities, including New Jersey’s six largest cities.

PSEG Power is a major power producer in the U.S. with four main subsidiaries: PSEG Fossil, PSEG Nuclear, PSEG Energy Resources & Trade, and PSEG Power Ventures. PSEG Power operates a balanced portfolio, both in terms of fuel mix and market segment (base load units, load following units and peaking units). PSEG Nuclear operates the Salem and Hope Creek Nuclear generating stations in Lower Alloways Creek, NJ and is a part owner of the Peach Bottom Nuclear generating station in Delta, PA. PSEG Fossil operates the company’s portfolio of natural gas, coal, and oil-fired electric generating units in New Jersey, New York, Connecticut, and Pennsylvania. PSEG Energy Resources & Trade manages PSEG Power’s generation portfolio and basic gas supply service, the purchase of fuel, and buys and sells electric

¹ The PSEG companies include: Public Service Electric and Gas Company (“PSE&G”), PSEG Power LLC (“PSEG Power”), and PSEG Long Island LLC (“PSEG LI”).

and gas commodity. PSEG Power Ventures develops utility-scale solar through its subsidiary PSEG Solar Source and operates the Kalaeloa Cogeneration Plant.

PSEG LI was selected by Long Island Power Authority (“LIPA”) in December 2011 to manage Long Island Power Authority’s (“LIPA”) electric transmission and distribution system. The 12-year contract includes targets to improve customer satisfaction and provide safe, reliable service for 1.1 million LIPA customers.

II. COMMENTS

PSEG appreciates the opportunity to provide comments on the QER and is committed to working with DOE and other stakeholders on policies that will inform our energy future. PSEG is a member of the Edison Electric Institute (“EEI”) and so not to unduly reiterate EEI’s QER comments filed in June and October, PSEG asks that DOE incorporate EEI’s comments by reference here.

On September 8, 2014, PSEG Chairman and CEO Ralph Izzo participated in DOE’s public hearing, discussing electricity transmission, storage, and distribution (“TS&D”) issues in the eastern electricity interconnection of the United States. In that hearing, Mr. Izzo focused his comments on the regulatory changes needed to address infrastructure deployment, the contributions energy efficiency can make in a carbon-constrained world, and the utility’s important and unfading role in the future. We would like to take this opportunity to expand upon those comments with the following policy recommendations.

A. INFRASTRUCTURE RESILIENCY IS FUNDAMENTAL

The President’s Climate Action Plan accurately described the transformation the energy sector is undergoing with “innovation and new sources of domestic energy supply . . . creating economic opportunities at the same time they raise environmental challenges.” PSEG appreciates the President’s concern that federal energy policy should meet our economic, environmental, and security goals in this changing landscape, which then compelled him to commence the precedential QER. PSEG is a recognized leader in providing safe, reliable, economic and greener energy. For over a hundred years, our employees have been on the front lines of the transmission, storage, and distribution landscape. The high standards by which we operate give us a unique perspective to share with the Administration as PSEG has long been recognized for its leadership in reliability and sustainability. Furthermore, the extreme weather events of the past few years forever changed how we do business and how we prepare for the future.

October 29, 2012 – the day Superstorm Sandy made landfall in New Jersey – was a game changer for PSEG. Sandy was the largest and most catastrophic storm in PSE&G’s 100⁺ year history, affecting approximately 1.9 million of PSE&G’s customers and causing widespread destruction in communities across the state. A synopsis of the challenge we faced and our response can be viewed at <https://www.youtube.com/watch?v=JVlyU0e32yo>. Just ten days after Superstorm Sandy hit, a powerful Nor’easter hit the region, interrupting restoration efforts and causing further damage. Superstorm Sandy and the Nor’easter, which were preceded the year before by Hurricane Irene and an unusual late-October snow storm, made us realize that the

state's entire energy infrastructure needed to be rethought in light of weather conditions that many predict will continue to occur.

Thus, four months prior to the release of the President's Climate Action Plan, PSE&G unveiled its Energy Strong proposal – a forward-looking resiliency program with investments in our electric and gas assets that will better protect homes and businesses when the next storm hits. In May 2014, PSE&G received approval from the New Jersey Board of Public Utilities to invest \$1.22 billion to proactively protect and strengthen its electric and gas systems against extreme weather events.² The measures include: \$620 million to protect, raise or relocate 29 switching and substations that were damaged by water in recent storms; \$350 million to replace and modernize 250 miles of low-pressure cast iron gas mains in or near flood areas; \$100 million to create redundancy in the system, reducing outages when damage occurs; \$100 million to deploy smart grid technologies to better monitor system operations to increase our ability to more swiftly deploy repair teams; and \$50 million to protect five natural gas metering stations and a liquefied natural gas station affected by Superstorm Sandy or located in flood zones.

PSE&G is making these Energy Strong investments with little impact on customer bills. In fact, the impact on the typical residential combined electric/gas bill is expected to be approximately 2% in 2018. This impact will be more than offset by transitional charges stemming from restructuring that are expiring in the same timeframe. At the highest point in 2018, the typical residential customer will pay approximately \$4 more per month. That increase, however, will be offset by a bill reduction of approximately \$9-10 per month.³

New Jersey's gas and electric infrastructure is on its way to becoming stronger and more resilient thanks to approval of PSE&G's Energy Strong Program. We believe these types of programs will become more necessary to address both changes in weather and aging infrastructure. How can the government ensure our infrastructure is safe, reliable, and nimble enough for economic growth? We would suggest the following:

- Utilize the industry expertise that has been working on these issues for the past century.
- Develop federal and state policies that do not hinder the improvement of system resiliency, modernization of infrastructure, and the deployment of energy efficiency and greener generation.
- Allow the industry time to evolve – technology enhancements available today have benefits and drawbacks – stakeholders should work with utilities, not around them to create a better energy system.

Energy Strong has provided us with some valuable lessons applicable to the changing landscape of the energy system. First, it has solidified the fact that the utilities have the necessary operations understanding, workforce, and capital to deploy to not only fix, but transform transmission and distribution systems in times of crisis and calm. Second, it underscores the need to make changes to the regulatory world in which we operate. The energy industry and how it is regulated needs to constantly evolve to keep up with changing technologies, customer needs, and environmental challenges. Customers, shareholders, and the

² See, https://www.pseg.com/family/pseandg/energy_strong/index.jsp.

³ *Id.*

environment can no longer afford to have lengthy delays in regulatory approvals or decision-making that is limited to immediate circumstances without forethought into how the decision impacts the future. Further, looking for ways to reduce the customers' bill should be a fundamental goal of the 21st century utility.

B. UTILITY OF THE FUTURE

The QER meeting held in New Jersey asked the question “Do utility business models and utility regulation need to change?” The answer: of course. All industries and their regulatory structures need to evolve to keep up with changing technologies and changing societal needs and consumer preferences. As utilities, we are certainly seeing changes in all of those areas.

There are those who predict that the utility model – with 3,200 utilities selling \$400 billion worth of electricity a year, mostly derived from burning fossil fuels in centralized stations and distributed over 2.7 million miles of power lines – is doomed to obsolescence. They say that it's a model that hasn't changed since Thomas Edison invented the light bulb, thus, it is in a death spiral. There is certainly some truth to the fact that the model hasn't changed all that much in the past 100 years, but we do not believe the end of the traditional utility is near, in fact, we believe quite the opposite, that the utility will be even more essential in the 21st century.

The energy transmission and distribution system has become much more efficient in the past few decades as competition has improved the performance and lowered the cost of generation units. Meanwhile, natural gas discoveries beyond anyone's imagination a decade ago have brought billions of dollars of savings to customers, and emissions of SO₂ and NO_x have been slashed and we are on a path to continue to reduce CO₂ emissions. That said, PSEG strongly believes that energy infrastructure needs to become more dynamic to adjust for further emissions reductions, weather changes, and increased energy use.

No one should dismiss what many consider the greatest engineering accomplishment of the 20th century: Electrifying the nation and providing universal and affordable access to power for all citizens.⁴ As a society, we decided long ago that electricity, and the economic and social benefits that come with it, should be available to every citizen. The utility is the best means by which to accomplish that goal. PSEG believes an evolved utility model can meld the best of what we have today with new technologies and new thinking to create the “Utility of the Future.”

1. Serving Our Customers

The Utility of the Future needs to reconsider how we supply energy to our customers in the face of changing technologies and new energy choices, such as renewable energy, electric vehicles, microgrids, and a range of consumer devices that can manage energy use.

The role of the utility has always been, and will continue to capitalize on economies-of-scale and focus on universal access. Policy makers must be careful about regressive subsidies, and instead look to leverage the advantages of utilities, which can deliver benefits to all customers, not just a select few. Take for example, solar in New Jersey. The median household

⁴ See, <http://www.greatachievements.org>.

income in New Jersey is approximately \$70,000⁵. The median income of a residential customer with rooftop solar in PSE&G's service territory is over \$120,000.

Let us be clear – PSEG is in favor of renewable energy where it makes sense. We have a competitive solar company⁶ and have invested over \$700 million in utility-owned⁷ solar. However, we must be transparent about the size of clean energy incentives and who is benefiting from them, and we must seek the most cost-effective way to deploy carbon-free solutions so that we can manage customer bill impacts as we transition to a clean energy economy.

2. Utility Model Parameters

PSEG believes that the utility can play a more proactive role in optimizing the electric system. It can be the integrator of Distributed Energy Resources (“DERs”), ensuring that customers can fully participate in the energy market while improving the efficiency of the grid. Benefits include reduced costs to consumers, increased reliability, and decreased impact on the environment (fewer emissions by utilizing clean energy solutions). To support this effort, “smart” devices may be utilized, including smart inverters, smart thermostats, and smart grid technologies.

The Utility of the Future can also implement cost-effective resiliency planning. There's a strong focus on resiliency measures by most states and customers. Given the utility's understanding of the distribution system, it is best positioned to implement cost effective resiliency measures that complement the conditions of the local distribution system. This could include utilization of distributed generation and energy storage technologies, and possibly upgrades to the local distribution system. Local governments are currently evaluating these challenges, while faced with resource constraints to plan and finance these measures. The Utility of the Future can provide these solutions.

The Utility of the Future cares about universal access for these new energy products and services. Too many times, clean energy programs are funded by all customers, but utilized by only middle or upper income households. Whether the program is renewable energy or energy efficiency, the utility can help to ensure universal access to these energy savings opportunities.

A business model that enables the utility to invest in energy efficiency and other measures that improve the energy environment for consumers can yield the following benefits to consumers: (1) increased reliability; (2) cleaner air (reduced GHG and other air emissions); (3) more energy tools and choices for consumers; (4) job creation / industry development around clean energy; (5) universal access to energy solutions; and finally, particularly in the case of

⁵ US Census, American Community Survey.

⁶ PSEG Solar Source develops, constructs, owns and operates large-scale solar facilities outside of PSE&G's electric service territory. It currently has eight solar facilities totaling 93.1 MW, with two projects under construction that total 16.6 MW.

⁷ PSE&G's nationally recognized Solar 4 All™ program is developing 125 megawatts of grid connected solar through large-scale centralized projects (including solar farms on brownfields/landfills and rooftop solar systems) and through the world's first and largest pole attached solar project.

energy efficiency, (6) reduced bills. Establishing incentives that support utility investment in such solutions should be a top priority for regulators.

C. Evolution of the Regulatory Regime

The Utility of the Future cannot become a reality without an evolution in utility regulation. In many states, the existing utility model pays the utility based on the amount of energy sold, disincentivizing the implementation of energy efficiency measures and other energy solutions that reduce utility sales. This model served a valuable purpose in the past by providing an incentive to expand access to electricity. Today's challenges require utilities to identify ways to reduce energy expenditures, which includes reducing consumption and decreasing environmental impact, while improving the resiliency of the grid.

In response to the changes in the energy sector, many states are adopting new utility business models, including decoupling for utilities. In New York, the Department of Public Service initiated the "Reforming the Energy Vision" (REV) proceeding. For the REV proceeding, PSEG Long Island submitted comments as the entity that manages the overall operations of the transmission and distribution system, including development and implementation of all energy efficiency, demand response, load management, and renewable energy programs in the service territory of the Long Island Power Authority. PSEG LI voiced its support for the policy objectives behind the REV, including developing a sustainable business model for utilities under which they continue to ensure universal access to energy services and help facilitate or deliver new energy solutions for customers.

The job of regulators is a difficult one, balancing the short and long-term interests of customers and utilities while trying to meet critical policy goals. As new entrants are brought into the energy industry, the regulator must also ensure that customer and infrastructure data remains protected. Also, as new goods and services are offered through the utility or new entrants, regulators should look towards the use of performance incentives and transparent, fair cost-benefit analyses. In the end, we must develop mechanisms in the regulatory regime that allow for greater predictability of capital deployment while lessening the time consuming litigation and procedural lag.

D. Energy Efficiency – Sensible, before “Smart”

Energy efficiency should be the centerpiece of our clean energy policies, but too often it is an afterthought. The U.S. ranks 13 out of 16 in energy efficiency.⁸ We see the role of the federal government as the entity granting funds, making policy pronouncements, and creating standards towards reducing energy demand. Utilities must play a critical role in helping deliver energy efficiency solutions, particularly to customer classes with less disposable income. Can we develop policies whereby customer bills go down, the environment improves, and shareholders are rewarded? Yes, through energy efficiency.

Approximately 50% of what customers pay the utility goes to fuel. PSEG – like many utilities – is not in the fuels business. The revenue decrease that a utility like PSEG sees from reduction in energy use, as long as it is less than the decrease in cost of goods sold, is a win for

⁸ <http://aceee.org/portal/national-policy/international-scorecard>.

the consumer, environment, and the company. Energy efficiency, if properly regulated, can be a triple-win for all parties involved.

While various fuel supply or storage solutions may be transformative, there are simpler, more economical things we can do beforehand. A recent report from the American Council for an Energy-Efficient Economy (“ACEEE”) reinforces the idea that the least expensive unit of energy is the one that you avoid consuming.⁹ The report compared the average levelized cost of electricity (“LCOE”) for various types of power plant technologies against the cost of energy efficiency and found that energy efficiency is 2 to 3 times less costly than those traditional power sources – with an average price of about 2.8 cents per kilowatt-hour.

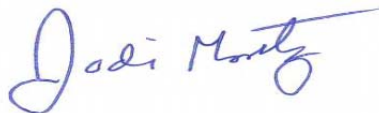
From PSEG’s perspective, we see energy efficiency as a large, untapped resource that Federal and State governments should incent utilities to implement on a mass-scale so that all utility consumers can benefit from this resource. Utilities are well-positioned to overcome many of the barriers to the wide-spread deployment of energy efficiency: customer knowledge and engagement; capital availability; and the landlord-tenant issues that arise in commercial and multi-family residential buildings.

PSEG believes that large investments in everything from caulking drafty windows to the installation of highly-efficient HVAC systems could be implemented through the utility. The utility has the brand-name and recognized relationship with the customer. The utility is not a fly-by-night operation that is going to pick up and leave the customer stranded; we’ve been here over 100 years and we plan to be here just as long. Utilities can use on-bill financing for these efficiency upgrades and can better use customer consumption data to better tailor options for the customer. Most importantly, utilities have the capital and the patience to work with all customer classes to achieve the greatest reduction in energy usage.

III. CONCLUSION

In closing, PSEG believes that utilities have the necessary operations understanding, workforce, and capital to deploy to not only repair, but also transform transmission and distribution system to take advantage of the opportunities and meet the challenges that the future will bring. The energy industry and its regulators must evolve to keep up with changing technologies, societal needs, and other circumstances. PSEG appreciates the opportunity to comment on this important proceeding and we welcome further dialogue with DOE on this subject.

Sincerely,



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⁹ <http://www.aceee.org/press/2014/03/new-report-finds-energy-efficiency-a>.