

**Before a Hearing of the New Jersey  
Assembly Appropriations Committee**

**In Support of A-3724**

To Establish a Zero Emission Certificate Program

April 5, 2018

**Testimony of Kathleen Barrón**

Chairman Burzichelli, and Members of the Assembly Appropriations Committee: My name is Kathleen Barrón, and I am Senior Vice President, Competitive Market Policy at Exelon. I am pleased to appear before this Committee today in support of Assembly Bill 3724 (A-3724).

**Background**

Exelon is one of the largest competitive power generators in the country, with over 35,500 MW of nuclear, natural gas, solar, wind, and hydroelectric generation. Exelon owns and operates 23 of the nation's 99 nuclear reactors, making us the nation's leader in nuclear generation. Our fleet has the lowest CO<sub>2</sub> emissions rate among the top 20 privately-owned power producers in the United States. Here in New Jersey, Exelon is a minority owner in Salem Nuclear Power Plant, a critical nuclear asset serving New Jersey customers. I am proud to say that the Salem and Hope Creek Nuclear Power Plants consistently operate through extreme cold and heat, and have a proven track record of reliability that is unmatched by any other source of power generation in this state.

Beyond our nuclear generation presence in New Jersey, Exelon is the parent company of Atlantic City Electric (ACE). ACE safely delivers reliable and affordable electric service to more than 550,000 customers in southern New Jersey and employs over 1000 individuals, 500 of whom are members of IBEW Local 210 and IBEW Local 210-5. Additionally, Exelon Generation is a major supplier of electricity to New Jersey consumers both as a wholesale supplier selling to electric distribution utilities through the Basic Generation Service auctions and at retail through Exelon's Constellation business. Constellation serves residential, commercial and industrial customers as well as municipal aggregation programs throughout the State, and has developed 35.4 MW of installed solar on behalf of its customers in New Jersey.

## **The Nuclear Fleet in New Jersey Provides Critical Environmental Benefits And Serves As A Major Economic Engine for the State**

The Salem and Hope Creek nuclear plants provide vitally important environmental benefits to New Jersey customers. As explained by Dean Murphy of the Brattle Group, these plants avoid over \$700 million per year in carbon and air pollution costs. These plants provide a critical part of New Jersey's energy infrastructure, producing nearly 40% of the electricity delivered to New Jersey customers. At present, New Jersey is deploying and utilizing a largely clean energy portfolio—but like many places throughout the United States, under current market conditions, New Jersey is at risk of losing its largest contributor to that clean energy supply – nuclear generating plants. These plants are vital economic engines providing high-paying, long-term employment to thousands of New Jersey citizens, most of whom live in a financially challenged part of the State. The Salem and Hope Creek nuclear plants generate millions of dollars in economic activity annually. Independent studies from the Brattle Group and IHS Markit have found that these plants contribute over \$800 million per year in economic value, account for between 5,800 and 6,100 direct and secondary jobs, and contribute over \$37 million per year in state taxes.

In the January 2018 severe cold weather event known as the “Bomb Cyclone,” Salem and Hope Creek operated at 100 percent output 24/7 throughout the event. The same cannot be said for other resources that claim they can provide reliable service to the citizens of New Jersey if Salem and Hope Creek are prematurely retired. On January 5<sup>th</sup> at the height of the storm, PJM reported that a significant portion (over 45%) of gas generation was unable to run, switched to oil, or was not operating for economic reasons. During that period, gas prices in New Jersey soared to 1,700% compared to historical prices, which led to power price spikes of over 800% compared to 2017 levels.

## **Nuclear Plant Economics and Actions by Other States**

Despite the many decades of life left in the plants and the immense value they provide to New Jersey's families, environment and economy, they are at risk of premature retirement because nuclear energy is challenged today. A couple of different drivers are affecting our plants. First, wholesale electricity prices have declined steeply due to the low cost of natural gas following the shale gas revolution. Second, electric consumption has declined significantly as a result of

the long-lasting effects of the economic recession on industrial electricity consumption and innovations in energy efficiency. Third, uneven market and energy policies presently do not value the emissions-free and resiliency attributes of nuclear energy.

Legislation is necessary to address an unlevel playing field between pollution-emitting fossil fuel power plants, on the one hand, and zero-emission sources on the other. In the case of renewables and hydroelectricity, over 30 states have policies that provide value for the emissions-free characteristics of these resources. These policies are in place throughout the PJM states and provide additional compensation to reflect the environmental attributes of zero-emission power generation. New Jersey, for example, is well known for its focus on solar energy. Without these state policies and additional federal tax incentives, solar energy would not have flourished here. A critical question presented by this legislation is whether nuclear energy -- given its unique zero-emission attributes -- should likewise be part of state energy policies that support other zero-emissions generation.

Over the last five years, five of our other nuclear plants that provided similar environmental and economic benefits to their respective states have been in the same position as the Salem and Hope Creek nuclear plants. In each case, state legislators and regulators heard complaints from many of the same companies about how we should let the plants shut down in the name of market purity. And in each case decision makers prioritized their citizens' health and air quality and commitment to clean energy over the opposition of owners of pollution-emitting power plants. Ultimately the decision makers found that the benefits of preserving emissions-free nuclear energy far outweigh the costs. Indeed, in both New York and Illinois, policymakers found that environmental and electricity costs would be many times greater without the nuclear plants. Notably, the gas, oil and coal-fired power plant owners who challenged the policies in New York and Illinois did not disagree. In federal court filings, these fossil-fuel entities complained that they were harmed because preserving nuclear plants reduces the price of wholesale electricity and, in turn, their profits.

In New York, the Public Service Commission approved a Clean Energy Standard, a 12-year plan that values the environmental contributions of nuclear energy and helps ensure the continued operation of the three nuclear plants in New York. In Illinois, legislators passed and Governor

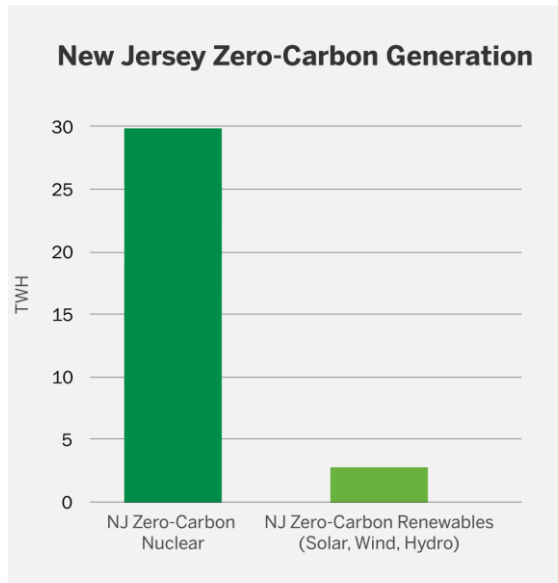
Rauner signed into law the Future Energy Jobs Act which compensates nuclear power plants at risk of early retirement for emission-free attributes, via a ten-year Zero Emissions Standard. According to the Illinois Environmental Council,<sup>1</sup> “Passage of the Future Energy Jobs Bill is a victory for people in every community across Illinois who deserve more jobs, lower electric bills and healthier air to breathe. It is a victory for businesses in Illinois in the clean energy sector and across the economy—and a signal to companies across the nation that Illinois is fertile ground for growth in this field.”

Further, the reason that New York and Illinois chose to preserve *existing* nonpolluting plants rather than only supporting *new* nonpolluting plants is a simple matter of economics – nuclear energy provides more clean energy for fewer dollars than any other type of clean energy generation. Letting existing nuclear plants shut down would erase all the progress New Jersey has made in reducing carbon emissions on its system. That’s because New Jersey’s nuclear plants provide 10-times the amount of carbon free generation as all the other valuable clean energy sources – solar, wind and hydro – combined.

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<sup>1</sup> “The Future Energy Jobs Bill was the most important climate bill in Illinois history, and the only major Climate bill happening anywhere in the country right now.” - <https://ilenviro.org/future-energy-jobs-bill/>

## LOSING THE NUCLEAR PLANTS WILL WIPE OUT ALL THE ENVIRONMENTAL PROGRESS MADE ON NEW JERSEY'S INVESTMENT IN RENEWABLES, TEN TIMES OVER



### The reality:

- Other clean energy sources such as wind and solar are just **not technologically capable** of producing enough clean energy to **meet today's demand**.
- As the Garden State seeks to reduce carbon emissions and invest in more renewable energy, it is imperative that our nuclear plants are preserved as **a bridge to our clean energy future**.

**"Retiring a substantial portion of New Jersey's nuclear generation could make it difficult for the state to continue to maintain a large percentage of its electricity from emission-free sources."**  
 – Rutgers and Georgetown Climate Center report, Sept. 2017

Data Sources and Notes: EIA Electric Power Monthly, Feb. 2017, and S&P Global. Solar includes small-scale.



Realizing that the benefits of this legislation outweigh the costs, some opponents acknowledge the value of nuclear but claim that legislation is not needed in New Jersey because the plants are not at risk or because other FERC market design changes will eliminate the risk. These arguments are misplaced. These units are uneconomic and without fair compensation, the owners must immediately make critical capital decisions that will determine their future. There simply are no market design changes capable of being approved before those decisions must be made. Moreover, the legislation contemplates a full financial review by the BPU that will determine financial risk and allows the BPU to adjust the cost of the program down the road if market revenues increase due to other reforms.

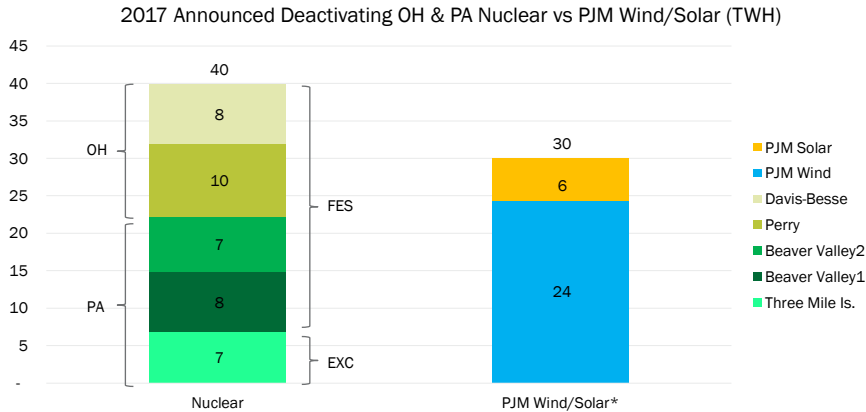
### **FirstEnergy's Announced Shutdown of Its Entire Nuclear Fleet is Further Evidence That Existing PJM Markets Fail to Recognize the Environmental and Resilience Attributes of Nuclear; New Jersey Must Act Now**

On March 28<sup>th</sup>, FirstEnergy Solutions (FES) notified PJM that it intends to shut down two nuclear plants in Ohio (each single reactor plants like Hope Creek) and one nuclear plant in Pennsylvania (a dual reactor plant like Salem) by 2021. This, coupled with Exelon's previously announced plan

to shut down Three Mile Island in Pennsylvania, brings the total of announced deactivating nuclear plants in PJM to more than 5,000 MWs. The closure of these four plants would immediately erase the environmental benefits of more than 25 years of wind and solar development in PJM.

**Shutdown of Announced Nuclear in OH & PA is a Major Environmental Setback**

- The four announced deactivating nuclear plants in Ohio and Pennsylvania generated more energy in 2017 than all of the wind and solar generation in PJM.



Sources: EIA-923, PJM GATS  
 \*Note: Includes all wind and solar physically located in PJM plus generators that have been certified to serve an RPS in a PJM state, for example, RECs from adjoining states can be used for compliance in the Illinois RPS.

This is a major environmental setback for the citizens of both states, as well as for downwind states like New Jersey. Independent studies have concluded that the zero emission electricity from those four plants will be replaced primarily by increased output from existing coal and gas plants. This will result in almost 20 million metric tons of additional carbon emissions annually, the equivalent of putting over 4 million extra cars on the road. In addition, there will be a significant increase in harmful air pollutants, such as SO<sub>2</sub>, NO<sub>x</sub>, PM<sub>10</sub> and PM<sub>2.5</sub>, emitted by conventional generation. This environmental setback would be almost doubled if Salem and Hope Creek are shut down early. The passage of S-2313 and A-3724 can prevent this harm to the environment and economy of New Jersey.

FES has requested that the Department of Energy (DOE) issue an emergency order pursuant to a rarely used section of the Federal Power Act, Section 202(c), directing all nuclear and coal plants in PJM that have at least 25 days of fuel on site and that are in compliance with all environmental permits, including Salem and Hope Creek, to enter into “cost of service” (cost-based rates that provide for full cost recovery consistent with ratemaking standards and

principles or as otherwise necessary to ensure continued operations) contracts with PJM to preserve their resilience attributes. This proposal is similar to the proposal that DOE asked FERC to consider in September 2017 and that FERC rejected in January 2018. It is entirely uncertain whether the DOE will take any action in response to the FES request and, if it does take action, whether that action is likely to be in the form of a cost of service contract for nuclear plants serving New Jersey. In addition, even if DOE grants FES's request, it is unclear whether the requested action would survive legal challenge. Therefore, FES's request to DOE should not cause New Jersey to delay action on S-2313 and A-3724. In fact, the legislation, as written, allows the Board to reduce or eliminate ZEC payments to account for any increased revenues from programs or contracts such as the contracts FES suggests thereby protecting New Jersey consumers.

### **New Jersey's Commitment to Reductions in Greenhouse Gases**

The New Jersey Global Warming Response Act of 2007 (GWRA), N.J.S.A 26:2C-37, establishes two carbon reduction goals for New Jersey -- to reduce the level of greenhouse gas emissions to the 1990 level or below by 2020 and to 80% below the 2006 level by 2050.<sup>2</sup> According to Brattle, closing the Salem and Hope Creek nuclear plants would increase the level of greenhouse gas emissions in New Jersey by 14 million metric tons annually, resulting in a substantial setback to New Jersey's efforts to reach its 2050 carbon reduction goal. The bottom line is that preserving nuclear in New Jersey is an essential element of meeting the state's carbon reduction goals.

Further, on January 29<sup>th</sup> Governor Murphy signed an Executive Order directing his acting Department of Environmental Protection Commissioner and Board of Public Utilities President "to immediately begin negotiations with current [Regional Greenhouse Gas Initiative] RGGI member states to determine how to best re-enter New Jersey into the carbon budget trading program." Preserving the nuclear plants will lower the cost to New Jersey consumers of New Jersey's participation in RGGI.

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<sup>2</sup> As stated in the GWRA, the 2020 limit is a quantity equal to the 1990 emissions total (baseline), which has been estimated to be 125.6 million metric tons of carbon dioxide equivalent (MMTCO<sub>2e</sub>) and the 2050 limit is a quantity 80 percent less than the 2006 emissions. The 2006 emission has been estimated to be 127.0 MMTCO<sub>2e</sub>, so the 2050 limit is 25.4 MMTCO<sub>2e</sub>.

**Loss of Salem and Hope Creek Result in Environmental Consequences for New Jersey**

New Jersey’s clean energy future depends on nuclear energy facilities. The Salem and Hope Creek nuclear plants provide more than 90 percent of the state’s zero-carbon electricity and they run 24 hours a day, 7 days a week, 365 days a year avoiding more carbon emissions annually than are emitted by 3 million cars— more than all of the cars in New Jersey today. They also avoid harmful air pollutants, such as SO<sub>2</sub>, NO<sub>x</sub>, PM<sub>10</sub> and PM<sub>2.5</sub>, emitted by fossil-fueled generation. According to the Brattle study Salem and Hope Creek nuclear plants avoid over \$700 million per year in carbon and air pollution costs for the citizens of New Jersey.

Emissions Prevented Annually by New Jersey’s Salem and Hope Creek Nuclear Power Plant*			
POLLUTANT	AVOIDED EMISSIONS (TONS)	SOCIAL COST (\$/TON)	AVOIDED EMISSIONS VALUE 2017 (\$MILLIONS)
CO <sub>2</sub>	13,779,652	\$42	\$585
SO <sub>2</sub>	4,331	\$7,546	\$33
NO <sub>x</sub>	6,367	\$2,082	\$13
PM <sub>10</sub>	9,537	\$598	\$6
PM <sub>2.5</sub>	7,778	\$12,360	\$96
<b>Total</b>			<b>\$733</b>

\* Source: The Brattle Group. Salem and Hope Creek Nuclear Power Plants’ Contribution to the New Jersey Economy. Social cost of carbon is from the Interagency Working Group on the Social Cost of Carbon, United States Government. Social costs of other pollutants are from “Hidden Cost of Energy: Unpriced Consequences of Energy Production and Use,” National Research Council, 2010. Car equivalents are from EPA greenhouse gas equivalencies calculator.

**The PJM Independent Market Monitor Continues to Present Flawed Analysis Leading to Incorrect Conclusions About the Financial Condition of Salem and Hope Creek**

The Salem and Hope Creek nuclear plants are competing on the one hand against polluting plants that bear no cost of the harmful pollution they emit and on the other, against other clean generators that are receiving in some cases 20 times more revenue per MWh as a result of federal tax credits and state environmental attribute payments. The plants simply cannot compete on this uneven playing field unless they are also compensated for their emission-free attributes.

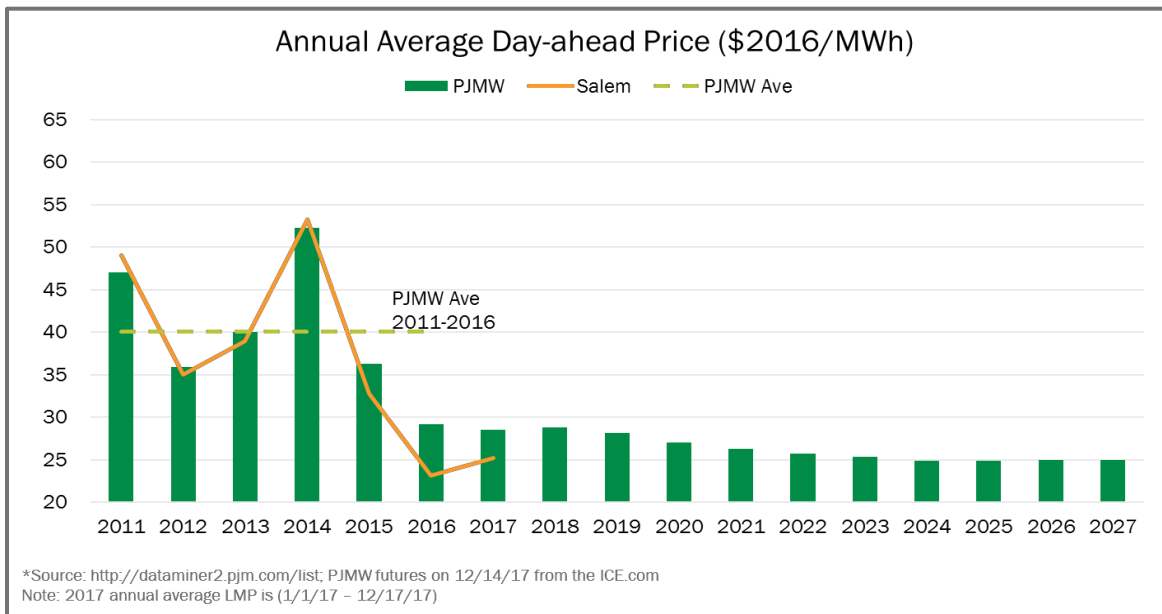
In December, the PJM independent market monitor (IMM) testified before the Senate Environment and Energy Committee (E&E), and the Assembly Telecommunications and Utilities Committee (ATU) that each of the Salem and Hope Creek plants “fell short of covering [their] annual avoidable costs” in 2016. Nonetheless, the IMM argued that the units were not at risk of early retirement, because, in his view “over the last six years” the units were able to recover their operating costs.<sup>3</sup>

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<sup>3</sup> Bowring Testimony, p. 4.



Exelon does not disagree that Salem was able to recover its operating costs historically. But that fact has no bearing whatsoever on whether the units will be able to recover their costs in the future. The question here is not whether Salem and Hope Creek were profitable in 2011, but, rather, whether they will be profitable in future years. Exelon shared the chart below with the Senate E&E Committee and Assembly ATU Committee in December, demonstrating that currently trading energy prices for 2019 and beyond are significantly lower than they were in 2011 or at any time during the six-year period that the market monitor analyzed.



Apparently conceding that a historical analysis has no bearing on the plants' future, the IMM now presents another theory. On January 25<sup>th</sup>, the IMM delivered a statement to the Senate setting forth some new calculations to try to defend his view that the units are financially viable. This time the analysis was forward looking, covering the period 2018 through 2020, but it has patent flaws that again render it useless to the Committee. On February 8<sup>th</sup>, the IMM delivered yet another revised analysis correcting some of the errors in his January 25<sup>th</sup> analysis, but this analysis continues to be fatally flawed.

The IMM's latest analysis claims that Salem and Hope Creek forward revenues exceed costs by about \$3/MWH, but the analysis understates costs for the plants and overstates revenues by the plants by between \$12/MWH and \$24/MWH. A corrected analysis would demonstrate that

Salem and Hope Creek forward revenues are between \$9/MWH and \$21/MWH below projected costs. The IMM's latest analysis contains major errors. First, it assumes costs will remain fixed at 2016 levels without *any* escalation for inflation to put the historic costs on par with the forward revenue projections. Absent such escalation – which is contemplated in FERC-approved market rules – the IMM compares projected revenues to historical costs; an obvious timing mismatch. Second, it does not include the cost of operational risks that are included in the FERC-approved PJM tariff. Third, it does not include the cost of market risks such as the costs arising from contractual obligations if a plant is unable to deliver (both operational and market risks are included as certified 'costs' in the proposed legislation). Fourth, it assumes that Hope Creek, which is a single unit reactor, has the same costs as a dual reactor unit which is not consistent with industry benchmarking. If the IMM had used correct cost and revenue data, his analysis on the profitability of Salem and Hope Creek for the years 2018, 2019, and 2020 would have shown a significant shortfall, not a surplus, because forecasted costs are clearly greater than projected revenues.<sup>4</sup>

### **Exelon Generation and PSEG Nuclear Have Cancelled Funding of Future Capital Projects at Salem**

Recognizing that market revenues have failed to cover costs to operate Salem for the past two years and the lack of progress on policy reform that would reverse this trend, Exelon Generation and PSEG Nuclear have cancelled funding for approximately \$150 million in planned, long term capital projects at the plant. The cancelled capital investments are related to the plant's long-term operation and are not necessary to meet regulatory requirements or to maintain safe operations. Cancelling these investments will have a ripple effect throughout the economy of Salem County and New Jersey starting with the loss of more than 1,000 temporary union jobs that would have generated \$40 to \$50 million in wages and \$5 million in local taxes. In an 8K filing with the Securities and Exchange Commission, PSEG Nuclear stated the company

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<sup>4</sup> On March 8, 2018 the IMM published its 2017 State of the Market (SOM) Report for PJM which contains a similar analysis for all nuclear plants in the region. In this SOM analysis, the IMM makes all the same errors as in the February 8<sup>th</sup> revised analysis and inexplicably increases Salem and Hope Creek forward revenues by an additional \$4/MWH above the revised analysis. On April 3, 2018, the IMM published an SOM analysis errata which eliminated the additional \$4/MWH from the forward revenues for Salem and Hope Creek in 2019 and 2020. The SOM analysis contains similar errors which understate costs and overstate revenues for other nuclear plants in PJM including the FES plants that have announced retirement.

anticipates similar actions may be appropriate at its wholly-owned Hope Creek generating station. In addition, PSEG Nuclear stated the funding of these projects may be restored when and if legislation is enacted in New Jersey that sufficiently values the environmental attributes of nuclear generation.

This is a significant action, one that is not undertaken lightly. Without passage of the legislation to maintain this zero-emission resource, Exelon will not continue to invest capital in a plant that cannot cover its costs.

**The NJ Rate Counsel Commissioned Report is Incomplete and Reaches Flawed and Misleading Conclusions**

Rate Counsel commissioned Acadian Consulting Group to prepare a report on the nuclear ZEC portion of the legislation. The February 6<sup>th</sup> report finds that the ZEC program, designed to preserve New Jersey’s zero-emission nuclear fleet, would cost New Jersey consumers \$300 million per year and lead to other negative economic impacts. On February 13<sup>th</sup>, the Brattle Group released an evaluation of the Acadian report. The main flaw Brattle identified is that the report only accounts for the cost of the ZEC program and ignores the substantial benefits that have been identified in two independent studies, one by Brattle and one by IHS Markit, to outweigh the costs by a six to one ratio (those studies are described further below).

A simple walk through of the facts shows that Acadian’s study fails to net out the environmental and economic benefits of the ZEC program to New Jersey consumers. If Acadian had included the documented environmental and economic benefits, it would have concluded that the ZEC program provides net benefits, rather than imposing net costs on New Jersey consumers. Acadian fails to net out the benefits from lower electricity costs estimated to be over \$400 million per year as a result of Salem and Hope Creek being preserved.

Acadian estimate of annual costs	Brattle/IHS Markit estimate of electricity costs savings	Net electricity cost savings
-\$300 million/yr	+\$400 million/yr	= \$100 million/yr

Also, Acadian fails to consider environmental benefits from avoided carbon and other criteria pollutant emissions conservatively estimated to be worth over \$500 million per year.

Net electricity cost savings	Estimate of environmental benefits	Net electricity cost savings and environmental benefits to
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		NJ
+\$100 million/yr	+\$500 million/yr	> \$600 million/yr

In its review of the Acadian study, Brattle found that “a balanced view of both costs and benefits of [the ZEC program] shows the program has substantial net benefits.”

**No Other Entity is Poised to Resolve the Flaws in Energy Policy that Leave Nuclear Plants Serving New Jersey in Jeopardy**

Rate Counsel and others have urged the Legislature to let this situation play out in Washington, contending that that FERC and PJM will come to the rescue for the Salem and Hope Creek nuclear plants. Rate Counsel’s recent letter to the Senate Energy & Environment Committee asserts that FERC ordered PJM to find solutions and that PJM is working on ways to price the attributes of nuclear power. Unfortunately, neither is accurate. It is true that the Department of Energy asked FERC to consider a structure where plants like nuclear with fuel on site would be compensated differently. However, on January 8, 2018, FERC rejected that proposal. Instead, FERC sent PJM a data request and did not order it to propose anything at all. And, while FES made a similar request of DOE (described above), it is not clear that FES’s request will lead to any action at all.

As for PJM, it is true that PJM is doing some very important work to ensure that prices in the energy market reflect the costs of all the units on which the system is relying to serve customers. But let’s be clear – it is not working on a rule that will price the emissions-free power that nuclear provides. PJM’s recent letter confirms that it cannot unilaterally implement an emissions reduction strategy in its markets and does not commit to any process or deadline for filing market rule changes at FERC. New Jersey must control its own destiny.

**Zero Emission Certificate (ZEC) Program**

The legislation before you creates a program to value the zero-emission environmental attributes of NJ’s nuclear plants vital to the preservation of these critical assets. The legislation includes a robust regulatory procedure that will ensure transparency, oversight and consumer protections. Let me walk you through the proposed process. The program will recognize and fairly compensate BPU-selected zero emission nuclear plants for their environmental attributes. The program establishes zero emission certificates or ZECs, which are similar to renewable

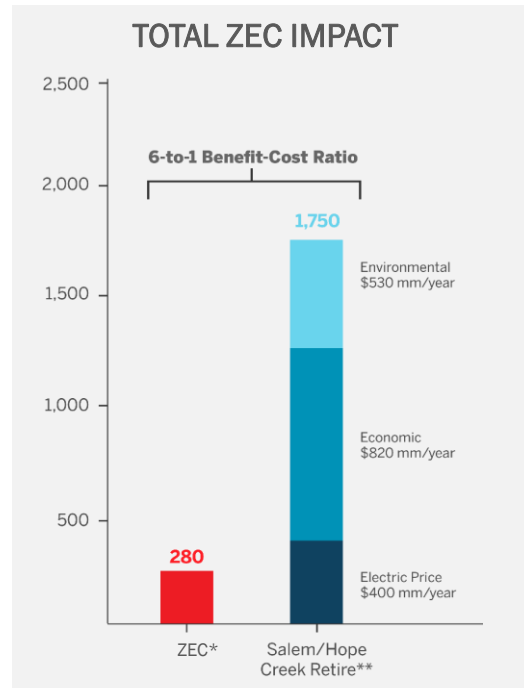
energy certificates or RECs produced under the New Jersey Renewable Portfolio Standard (RPS) law. Like a REC, a ZEC represents the environmental attributes of one megawatt hour of energy generated by the plants. Therefore, the plants only receive ZECs when they are actually producing energy. Further, the legislation has extensive eligibility requirements to protect New Jersey consumers and the environment. First, a candidate plant must demonstrate a significant contribution to New Jersey air quality. Second, the owners must open their financial books to the BPU to document financial necessity and a corporate officer must make certifications to prove financial necessity. Additional consumer protection is provided in the form of an overall cap on the program costs and a mechanism to reduce payments by any additional revenue resulting from other government programs that value the environmental attributes provided by the plants, thereby avoiding any “double dipping.” Finally, the legislation gives the BPU broad discretion to lower the price of the ZEC if necessary to ensure affordability of the program going forward.

The BPU process in the legislation will provide transparency, due process and stakeholder input. We estimate New Jersey residential customers would see an increase in monthly costs associated with the ZEC program of about \$2.50, or about a \$30 annual increase from the ZEC legislation as proposed. This number is far outweighed by the estimated environmental benefits of the legislation (conservatively estimated at \$530 million per year), the benefits to state GDP (estimated at \$820 million per year), and the avoided increases in electricity costs (estimated at \$400 million per year). The benefit to cost ratio of this legislation for New Jersey consumers is six to one, as depicted below. Clearly it is cheaper to maintain the nuclear plants serving New Jersey than to let them retire prematurely.

## NJ ZERO EMISSIONS CERTIFICATE (ZEC) COST-BENEFIT

**The electric bill impacts of the ZEC are dwarfed by the benefits of continued operation of Salem and Hope Creek by over 6 to 1:**

- 5,800 to 6,100 direct and secondary jobs
- \$530 million/year of environmental impacts from increased harmful air and carbon pollution avoided
- \$820 million/year of economic activity
- \$400 million/year of electric rate increases



\*Based on projected output of Salem and Hope Creek (28 TWH): From The Brattle Group, *Salem and Hope Creek Nuclear Power Plants Contribution to New Jersey Economy*, Nov 2017

\*\*From IHS Markit, *The Value to New Jersey Consumers of Salem and Hope Creek Nuclear Power Generation in Providing Reliable, Resilient, Affordable and Environmentally-Responsible Electricity*, Nov 2017



### Other Clean Energy Provisions

In addition to recognizing the critical role that nuclear generation plays in meeting the state's carbon pollution reduction goals the legislature is considering additional changes to the State's energy policy to accelerate the clean energy economy in New Jersey. Exelon supports these proposed changes and testimony submitted by ACE for the record provides additional detail on our support

### Conclusion

Preserving the Salem and Hope Creek nuclear plants brings New Jersey customers six times the benefits as compared to the costs. I ask you to support this legislation to maintain these zero emission nuclear resources and ensure New Jersey's continued environmental progress. We need to take action before it is too late.