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VIA ELECTRONIC MAIL

Ms. Aida Camacho-Welch
Secretary of the Board
New Jersey Board of Public Utilities
44 South Clinton Avenue
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Re: Joint Comments of Joint Comments of PSEG Nuclear LLC and Exelon Generation Company, LLP

In The Matter Of The Implementation Of L. 2018, C. 16 Regarding The Establishment Of A Zero Emission Certificate Program For Eligible Nuclear Power Plants, BPU Docket No. EO18080899

PSEG Nuclear LLC (“PSEG”) and Exelon Generation Company, LLP (“Exelon Generation”) are providing these joint comments in response the New Jersey Board of Public Utilities’ (“Board”) August 21, 2019 notice issued in this matter. The August 21st notice sought comments from the public with respect to six issue areas arising in connection with New Jersey’s program to preserve at-risk nuclear generation that serves the State through the creation of Zero Emission Certificates (“ZECs”):

- The criteria and process for determining whether and how the Board should exercise its discretion to reduce the current ZEC charge of \$0.004 per kWh hour of customer usage.

- The procedural schedule for the submittal and review of applications for seeking ZECs in the additional ZEC eligibility periods beginning on June 1, 2022.
- The process for assuring that selected nuclear power plants do not receive double-payment for their fuel diversity, resilience, air quality, or other environmental attributes.
- The criteria and process for determining the optimal use of dry cask storage of spent nuclear fuel at the site of selected nuclear plants, considering environmental impacts, worker safety, and cost impacts,
- Defining “full or near full capacity” for the purposes of yearly certifications that selected nuclear plants are obligated to provide regarding their operational capability.
- Information the Board should collect to form the basis for the study of the ZEC program required under N.J.S.A. 48:3-87.6 and which must be completed by May 23, 2028.

PSEG and Exelon Generation both provided comments at the public meeting held in New Brunswick, New Jersey on September 4, 2019 and appreciate the opportunity to provide additional input at this time. These comments expand upon and cover additional areas beyond those in their oral presentations.

I. Introduction

PSEG and Exelon Generation are the owners of the three nuclear plants currently located in the State. PSEG holds 100% of the ownership interest in the Hope Creek plant and a majority ownership interest (57.41 %) in the Salem 1 and Salem 2 plants. Exelon Generation owns a minority interest (42.59 %) in the Salem plants. PSEG is the operator of all three plants and has the authority to make retirement decisions for the plants. Hope Creek, Salem 1 and Salem 2 collectively represent total capacity of about 3,500 MWs.

The Board should consider the matters identified in the August 21, 2019 notice, in the context of the overall goals and backdrop of the ZEC Law. The ZEC Law recognizes that “[n]uclear power generation is a critical component of the State’s clean energy portfolio” while also recognizing that “[s]everal of the existing, licensed, and operating nuclear power plants . . . that currently provide electricity to customers in New Jersey are at risk of abrupt retirement.”¹ The ZEC Law was thus designed to preserve at-risk nuclear power plants that are important to the State in achieving air quality goals and maintaining a technically diverse fleet of generators to meet the State’s needs.

The ZEC Law is replete with findings that underscore the importance of preserving nuclear plants whose closure would significantly impact New Jersey, particularly with respect to the achievement of air quality goals and the impact of air pollutants on New Jersey residents. The ZEC Law found that “as a coastal state, New Jersey is particularly exposed to many of the

¹ N.J.S.A. 48:3-87.3(a)(7).

effects of global climate change, such as rising sea levels and more extreme storms.”² The ZEC Law also found that “[p]oor air quality has a disproportionate impact on the most vulnerable citizens of New Jersey including children, the elderly, and people living in poverty.”³ Recent scientific studies bear out these findings. For example, a recent report showed that average temperatures have arisen in New Jersey by 3.6 degrees Fahrenheit which is more than twice the national average.⁴ Another report showed that, if not abated, by 2035, climate change and the associated rise in sea levels could threaten almost 25,000 homes in New Jersey worth more than \$9.6B.⁵

The ZEC program also represents the most cost-effective means of meeting air quality goals available to the State. Other zero-emission generation sources are much more expensive than nuclear energy as a means for achieving the same air quality benefits. For example, RECs provided by New Jersey for solar generation exceed \$200/MWh⁶ and payments for off-shore wind (ORECs) are about \$46/MWh⁷ compared with \$10/MWh for ZECs.

PSEG and Exelon Generation fully appreciate that the Board has a duty to faithfully implement all the ZEC Law requirements. PSEG and Exelon Generation are ready, willing and able to make all the demonstrations and meet all other requirements imposed by the ZEC Law. But the Board must be mindful, as it implements the ZEC Law, of the overall purpose and goals of the law, as well as the unique role played by nuclear power serving the State as the most cost-effective means to achieve the State’s air quality goals.

With this background, PSEG and Exelon Generation wish to underscore the following points which will be further developed below:

- The ZEC charge should be based on the social cost of carbon and other air pollutants which supports retention of the current ZEC charge of \$0.004/kWh. There is no lower cost option available to New Jersey for securing zero-carbon generation and the cost to consumers for the emission avoidance benefits of nuclear power is substantially below the scientifically developed values for the social cost of carbon. There are more than ample grounds for the Board, in the exercise of the discretion conferred by the ZEC Law and in light of the ZEC Law’s goals, to retain the ZEC charge level.

² N.J.S.A 48:3-87.3(a)(11).

³ N.J.S.A 48:3-87.3(a)(10).

⁴ See <https://www.washingtonpost.com/graphics/2019/national/climate-environment/climate-change-america/> (The Washington Post used the National Oceanic and Atmospheric Administration's Climate Divisional Database (nClimDiv), which provides monthly temperature data at the national, state and county level between 1895 and 2018 for the Lower 48 states.)

⁵ See <https://www.ucusa.org/global-warming/global-warming-impacts/sea-level-rise-chronic-floods-and-us-coastal-real-estate-implications>.

⁶ See September 4, 2019 ZEC hearing, Comments of Joseph Accardo, Transcript, p. 38, lines 15-17; 2018 State of the Market Report, Vol. 2, p. 370 (“[A]verage NJ SREC price[] [was] \$214 per SREC in 2018.”)(http://www.monitoringanalytics.com/reports/PJM_State_of_the_Market/2018/2018-som-pjm-volume2.pdf.)

⁷ See September 4, 2019 ZEC hearing, Comments of Joseph Accardo, Transcript, p. 38, lines 15-17; In The Matter Of The Board Of The Board Of Public Utilities Offshore Wind Solicitation For 1,100 MWs -- Evaluation Of The Offshore Wind Applications, BPU Docket No. Q018121289, p. 19 (June 21, 2019) (“The levelized Net OREC Cost (“LNOC”) is \$46.46/MWh.”) (<http://njcleanenergy.com/files/file/6-21-19-8D.PDF>.)

- If the financial condition of the selected nuclear plants is considered in determining whether to change the current ZEC charge of \$0.004/kWh, the Board will need to decide “that a reduced charge will nonetheless be sufficient to achieve the State’s air quality and other environmental objectives by preventing the retirement of the nuclear power plants that meet the [ZEC Law] eligibility criteria.”⁸ This analysis can be performed in a meaningful way only if the ZEC submittals made by applications are considered simultaneously.
- Statutory timelines for the review of future applications should be followed. Consistent with the ZEC Law, a decision regarding the award of ZECs for the second three year eligibility period should be completed by April 2021.
- “Lessons learned” in the previous round of ZEC applications show ways in which the review of future ZEC applications could be handled that would be more efficient and transparent. Notably, the companies believe that there should be more opportunities for engagement between Board staff and applicants. Of particular concern in the first round of ZEC applications was that the Staff’s consultant report was not made available to the applicants for review prior to the issuance of the Board’s April 18, 2019 order. Had there been such an opportunity, the misunderstandings and confusion created by that report might have been avoided.
- The provision included in the ZEC Law to avoid potential “double payments” for the same attributes associated with ZECs is an important consumer protection measure that should be implemented in a straightforward manner. Covered payments can be identified by bright line tests as to whether they are expressly designed to promote environmental or resilience/fuel diversity benefits and as to whether they are already reflected in forward energy prices when ZEC applications are filed. Applying these criteria, Rate Counsel’s suggestion that potential changes to the “minimum offer price rule” (“MOPR”) could create “double payments” misses the mark. The purpose of a MOPR change would be to preserve competitive pricing for units that do *not* receive ZECs or other support payments, not to raise prices for units that do receive them. Similarly, the “double payment” provision does not cover potential changes to energy markets that are designed to improve efficient pricing generally. Payments resulting from such changes would not compensate for specific generation characteristics or be restricted to specific generator types.

PSEG’s and Exelon Generation’s detailed comments follow.

II. Comments

A. The Board Should Retain the Current ZEC Charge

The proceeding held by the Board concerning whether to change the current \$0.004/kWh should be focused on the cost-effectiveness of the ZEC program in achieving New Jersey’s air quality goals. PSEG and Exelon Generation submit that the benefits of the ZEC program in promoting these goals, not to mention other benefits of the ZEC program, clearly outweigh the

⁸ N.J.S.A 48:3-87.5(j)(3)(a)(c).

program's costs. Moreover, the social cost of carbon implied by the ZEC Act charges are below widely scientific valuations of the social cost of carbon. Because of these factors, the ZEC charge set by the legislature clearly continues to meet the statutory standard of being "affordable" to New Jersey resident.⁹ Finally, the Board can be assured, based on the record already before it from the first round of ZEC applications, that the level of the ZEC charge will not result in excessive rates to consumers.

1. The ZEC Program Provides the Most Cost-Effective Means Available to New Jersey to Avoid Carbon Emissions

The Board should retain the existing ZEC charge as the most cost-effective means available to the State to avoid emissions of carbon and other air pollutants. The ZEC Law provides that the Board "may, in its discretion" reduce the ZEC charge if necessary "to ensure that the ZEC program remains affordable to New Jersey retail distribution customers."¹⁰ The ZEC Law also states that the \$0.004/kWh ZEC charge "reflects the emissions avoidance benefits associated with the continued operation of selected nuclear power plants."¹¹ Given the statutory language, the social cost of carbon provides an appropriate benchmark against which to evaluate the ZEC charge and ensure the furtherance of the ZEC Law goals. Viewed through this optic, there is no question that the ZEC program already is affordable for New Jersey retail customers and represents the cheapest solution available to the State to preserve the air quality benefits that the ZEC Law is designed to obtain.

As discussed above, the cost of the ZEC program is much more affordable to New Jersey retail customers as a source of carbon free electricity than any other options. In fact, renewable energy credits ("REC") provided by New Jersey for solar generation exceed \$200/MWh¹² and off-shore wind credits ("OREC") are about \$46/MWh.¹³ At \$10/MWh, ZECs are about 95% less costly than solar and about 75% less costly than off-shore wind for the same zero-carbon benefits.

2. The ZEC Program Provides Carbon Emission Reductions at a Cost that is Lower than the Social Cost of Carbon

The cost of the ZEC program is significantly less than the social cost of carbon. Values for the cost of carbon backed by credible scientific and accounting principles range from \$23 to \$175 per metric ton of CO₂e for the 2020 to 2030 timeframe.¹⁴ In fact, the study performed by the United States Interagency Working Group on the Social Cost of Carbon, expressly identified

⁹ N.J.S.A 48:3-87.5(j)(3)(a)(c).

¹⁰ *Id.*

¹¹ N.J.S.A 48:3-87.5(j)(1).

¹² See September 4, 2019 ZEC hearing, Comments of Joseph Accardo, Transcript, p. 38, lines 15-17; 2018 State of the Market Report, Vol. 2, p. 370 ("[A]verage NJ SREC price[] [was] \$214 per SREC in 2018.") (http://www.monitoringanalytics.com/reports/PJM_State_of_the_Market/2018/2018-som-pjm-volume2.pdf)

¹³ See September 4, 2019 ZEC hearing, Comments of Joseph Accardo, Transcript, p. 38, lines 15-17; In The Matter Of The Board Of The Board Of Public Utilities Offshore Wind Solicitation For 1,100 MWs -- Evaluation Of The Offshore Wind Applications, BPU Docket No. Q018121289, p. 19 (June 21, 2019) ("The levelized Net OREC Cost ("LNOC") is \$46.46/MWh.") (<http://njcleanenergy.com/files/file/6-21-19-8D.PDF>.)

¹⁴ September 4, 2019 ZEC hearing., Comments of Toby Hanna, Transcript, p. 54, lines 10-15.

in ZEC Law findings as support for the law, for 2020, calculated an average value for the social cost of carbon as \$59.75 per metric ton of carbon.¹⁵ Further, the social cost of carbon implied the RECs paid to solar generation in New Jersey in 2018 was about \$439 per metric ton of carbon¹⁶ and the implied social cost of carbon implied by the ORECs that will be paid to offshore wind is expected to be approximately \$120 per metric ton of carbon.¹⁷ Moreover, the United Nations released a study very recently stating that “[t]here *is limited evidence*, but *high agreement* that present costs of carbon are clearly underestimated.”¹⁸ According to the report, when “multiple interacting tipping points” are taken into account, the social cost of carbon should be valued at \$116 per ton of CO₂.¹⁹ In comparison, the social cost of carbon implied by the cost of the ZEC Law is about \$20 per metric ton.²⁰

Moreover, the generic value for the social cost of carbon appears to undervalue the social cost of carbon to New Jersey residents. As noted in a recent report, “[New Jersey] is one of the fastest-warming states in the nation. Its average temperature has climbed by close to 3.6 degrees Fahrenheit since 1895 — double the average for the Lower 48 states.”²¹ As a real-world illustration of negative impacts, the same report notes that the “southern pine beetle had been largely confined to southern U.S. forests . . . [b]ut the warmer temperatures [in New Jersey] have spurred the beetle’s migration north, where it has damaged more than 20,000 acres of the state’s Pine Barrens.”²² Another study showed that in the “intermediate” case for a rise in sea level, homes in New Jersey valued at about \$9.6B would be at risk of being subject to regular flooding.²³ Only one other state – California – had a higher value at risk in the study.²⁴

The investment community also perceives higher than average climate change risks facing New Jersey that could have adverse economic consequences. A recent article in *Barrons* discussed the potential impact of climate change on municipal bonds stating “[c]limate change raises the credit risk of an issuer by damaging its assets and tax base.”²⁵ The article noted that “individual bonds may be at risk” and references “climate-threatened cities like . . . Newark, and states like . . . New Jersey.”²⁶ For example, New Jersey State Transportation Department bonds

¹⁵ *Id.*, Transcript, p. 54, lines 16-22.

¹⁶ See September 4, 2019 ZEC hearing, Comments of Joseph Accardo, Transcript, p. 38, lines 15-17; 2019 Quarterly State of the Market Report for PJM: January through June, p. 366, Table 8-16 (“http://www.monitoringanalytics.com/reports/PJM_State_of_the_Market/2019/2019q2-som-pjm”).

¹⁷ September 4, 2019 ZEC hearing., Comments of Toby Hanna, Transcript, p. 56, lines 20-24.

¹⁸ “The Ocean and Cryosphere in a Changing Climate,” Intergovernmental Panel On Climate Change, September 24, 2019, p. 6-54 (emphasis in original). (https://report.ipcc.ch/srocc/pdf/SROCC_FinalDraft_FullReport.pdf).

¹⁹ *Id.*

²⁰ *Id.*, Transcript, p. 55, line 24 - p. 56, line 8. As Mr. Hanna notes, this is a conservative assumption because it assumes that all of the ZEC program costs go towards the social cost of carbon when, in fact, other benefits such as resiliency, fuel diversity and the avoidance of other pollutants are also realized. See Transcript, p. 55, lines 11-16.

²¹ <https://www.washingtonpost.com/graphics/2019/national/climate-environment/climate-change-america/> (The Washington Post used the National Oceanic and Atmospheric Administration's Climate Divisional Database (nClimDiv), which provides monthly temperature data at the national, state and county level between 1895 and 2018 for the Lower 48 states.)

²² *Id.*

²³ <https://www.ucsusa.org/global-warming/global-warming-impacts/sea-level-rise-chronic-floods-and-us-coastal-real-estate-implications>

²⁴ *Id.*

²⁵ *Barrons*, September 23, 2019, “Wildfires, Hurricanes and Muni Bonds,” p. 30.

²⁶ *Id.*

were given a “Climate Change Threat Rating” by an independent sustainability ratings provider of 64.21% which is decidedly on the high end of a scale that showed ratings between 4% and 79% within the United States.²⁷ As these reports show, New Jersey is more susceptible to the impacts of climate change than most other regions of the country.

In addition to carbon impacts, other pollutants associated with fossil-fuel electric generation have significant social costs on residents. For example, New Jersey has some of the strictest limits on NOx emissions – one of the main precursors to ozone -- in the country. This is important because of the associated health risks. Children are at particular risk from ozone and particulate pollution because their lungs are still growing and they tend to spend more time outdoors. According to the American Lung Association (“ALA”), “[c]hildren have more respiratory infections than adults, which also seems to increase their susceptibility to air pollution.”²⁸ In addition, the ALA found that poorer people and ethnic minorities often face higher exposure to air pollution.²⁹

At the same, New Jersey has struggled to meet its goals. In November of 2017, EPA proposed to “bump up” the classification of the Northern New Jersey area from “moderate nonattainment” to “serious nonattainment” for the 2008 ozone NAAQS of 75 ppb (2008 ozone standard). EPA Administrator Wheeler signed the final rule in August 2019. Areas classified as “serious” for the 2008 ozone standards must meet the standard by July 2021.

Taking into account the additional social costs associated with NOx and other air pollutants avoided by nuclear power in addition to the social cost of carbon further confirms the affordability of the ZEC Program. It is clear that the societal benefits of the ZEC Program greatly outweigh the program’s cost.

3. The Board Already Has An Ample Record Demonstrating that the Current ZEC Charge Will Not Over-compensate Selected Nuclear Plants

The Board already has an ample record to be assured that the current ZEC charge will not over-compensate selected nuclear plants. PSEG’s applications showed that the \$0.004/kWh charge resulted in payments to the selected plants that, for most years, were below the costs and risks of operating the plants.³⁰ Further, none of the challenges made to PSEG’s submittals provides a sound basis to question this showing.

²⁷ *Id.* at 31 (chart entitled “Risk Business”. Bonds for the Transportation District of New York-Newark-Jersey City, NJ-NJ-PA received a nearly as high “Climate Threat Rating” of 60.72%. Ratings were prepared by HIP Investor (<https://hipinvestor.com/>).

²⁸ *Id.*, p. 42.

²⁹ *Id.*, p. 46.

³⁰ *See e.g.*, December 19, 2018 transmittal letter to Hope Creek application, p. 6 (“As shown in greater detail in responses to the questions and data responses posed in the application template, Hope Creek is projected not to fully recover its costs and risks. In fact, even with the ZEC payment, projected revenues are inadequate to cover all costs and risks of the unit. Confidential materials provided in the applications, including, most notably, III-ZECJFIN – 6, amply support this analysis.”). The Salem units showed similar results.

The claims made by other parties purporting to show deficiencies in the elements of PSEG's calculations of costs, risks and revenues do not hold up to serious examination. For example, the consultant retained by Board Staff, Levitan & Associates, Inc. made two very significant adjustment errors. The first erroneous adjustment disregarded the costs of risks³¹ – which the Board ultimately, and correctly, rejected because consideration of risks is expressly established in the ZEC Law. The second adjustment suggested a disallowance of half of the operational and capital costs based on the assumption that, after electricity production ceases, many plant activities would need to continue for at least five years until all the spent fuel is placed into dry cask storage.³² The assumption that half of the operating costs would continue to be incurred, after electricity production ceases, is inconsistent with industry experience which has demonstrated much larger reductions.³³ More fundamentally, this recommended disallowance failed to incorporate the fact – clearly supported by PSEG's application submittals -- that these costs are avoidable because they would not be on-going expenses paid by the plant owners, but rather costs paid out of the plants' fully-funded decommissioning trust fund.³⁴

Other parties also made very significant errors. For example, Rate Counsel and the IMM also ignored all the costs of risks notwithstanding that the statute identified these as an appropriate cost category for inclusion.³⁵ In addition, Rate Counsel and P3 vastly overstated the revenues the plants could reasonably be expected to receive.³⁶ Rate Counsel's consultants made revenue calculations based on on-peak prices which clearly was not representative of the expected revenue stream for nuclear plants that typically run 24 hours a day. P3's witness erred by calculating revenues based on prices at points remote from the plants' delivery injection points where prices typically cleared at higher levels without making any adjustments.

Further, on top of the costs and risks shown in our applications, revenue levels from the energy market have declined significantly from the time PSEG filed its ZEC applications. Currently, forward energy market prices measured at the PJM Western Pricing hub are down by about 10% from the levels used in PSEG's filings. The revenue reduction resulting from this drop in energy prices results in an additional \$100M shortfall in revenues.³⁷ This provides an enhanced level of assurance that the current \$.004/kWh charge is not excessive. In sum, taking

³¹ See April 18, 2019 Order, New Jersey Zero Emission Application Eligibility Report (Public Version) prepared by Levitan & Associates, Inc., April 8, 2019 (“Levitan Report”), pp. 2-3, 19-21.

³² *Id.*, Levitan Report, pp. 3, 18-19.

³³ See “Appendix To Power Reactor Transition From Operations To Decommissioning Lessons Learned Report, Section 4.1, Staffing during Decommissioning Transition,” Appendix 4-1 (<https://www.nrc.gov/docs/ML1630/ML16302A022.pdf>).

³⁴ See, e.g., PSEG's response to IUD-5 (“Costs incurred during decommissioning (site security, real estate taxes for example) which would be covered by the Decommissioning Trust Fund and therefore for the purpose of this analysis are assumed to be avoidable.”); PSEG's response to Rate Counsel data request RCR-PS-HC (S1,S2)-E-20, subpart “d”, (“[T]he earliest date when additional DTF funds can be accessed to support decommissioning activities for the unit would be approximately 30 days after permanent cessation of operations, to allow for time to transfer all fuel from the reactor vessel to the spent fuel pool and to submit the certification for permanent removal of fuel from the reactor vessel.”) In addition, PSEG also included Decommissioning Cost Analyses for all three plants (see responses to IUD-2) that describe the stages of decommissioning activities including the preparation stage at which the fuel rods remain in the storage fuel. See, e.g., Hope Creek Study, Section 2 pp. 4, 10. It is clear from those reports that the costs Levitan deemed to be unavoidable would be funded by the Decommissioning Trust Fund.

³⁵ See PSEG Nuclear Response To Intervenor/Participant Comments, February 14, 2018, pp. 8-9, 12-15.

³⁶ *Id.*, pp 22-28.

³⁷ September 4, 2019 ZEC hearing, Comments of Frank Huntowski, p. 50, line 4 – p. 51, line 7.

account of the obvious and most significant errors made by parties who challenged PSEG's application submittals, even without considering the reductions in energy price levels, it is clear that the \$0.004/kWh charge will not over-compensate the selected nuclear plants.

B. Rate Counsel Erroneously Contends that The Board is Obligated to Conduct a Cost of Service Analysis and To Consider the Impact of Other Retail Rate Components In Order to Evaluate the Current ZEC Charge

Rate Counsel's comments at the September 4, 2019 public hearing suggested that the Board was bound by traditional rate-making principles in determining whether to change the \$0.004 ZEC charge.³⁸ Based on Rate Counsel's positions taken elsewhere, these comments apparently refer to Rate Counsel's claim that the New Jersey Supreme Court's decision in In Re Proposed Increased Intrastate Industrial Sand Rates, 66 N.J. 12, 23-24 (1974) requires that the ZEC payments be reviewed under cost-of-service principles. But Rate Counsel is mixing apples and oranges. In the Industrial Sand case, the Board was obligated to set rates based on cost-of-service principles, whereas under the ZEC Law the ZEC charge amount "reflects the emissions avoidance benefits associated with the continued operation of selected nuclear power plants." The ZEC Law does not contemplate, let alone require, that the Board undertake a cost-of-service analysis in connection with the ZEC charge. As discussed above, the affordability of the ZEC charge is a function of the emission avoidance benefits of retaining the nuclear power plants versus other methods of avoiding increased carbon emissions.

Rate Counsel also errs by suggesting that the ZEC charge amount must be considered along with "all other rate increases" including charges associated with other programs such as offshore wind, solar, energy efficiency and resiliency programs.³⁹ If this view were accepted, however, it would usurp the role of the legislature in passing the ZEC Law. The legislature directed the Board to apply the statutory criteria of the ZEC Law in order to determine whether it should award ZECs in order to preserve at-risk nuclear generators. But the legislature did not empower the Board to decline awarding ZECs because funding for other programs has also been provided. In fact, it would fly in the face of legislative intent to take needed funding away from the most cost-effective program for meeting air quality goals while continuing to fund less-effective options.

C. If the Board Initiates a New Proceeding To Review The Costs of the Nuclear Plants In Evaluating the Current ZEC Charge, The Analysis Must Be Performed Simultaneously With Review of the Applications Themselves

As shown above, the Board should exercise its discretion to retain the current ZEC charge level given the cost-effectiveness of the ZEC program in meeting air quality goals. It is clear that the ZEC charge is affordable to New Jersey retail consumers as the most cost-effective means of meeting the State's air quality goals and, in particular, of avoiding increased carbon emissions within the State. In addition, the record created in the first round of ZEC applications provides assurance that the ZEC charge does not over-compensate the selected nuclear plants.

³⁸ September 4, 2019 ZEC hearing, Comments of Brian Lipman, p. 23, lines 22-23.

³⁹ *Id.*, p. 23, line 23 – p. 24, line 4.

At the July 10, 2019 open meeting, Board Staff seemed to suggest that the level of the ZEC charge would be reviewed separately from the evaluation of ZEC applications and in advance of the ZEC application submittals.⁴⁰ This approach makes sense provided that the review of the ZEC charge level is focused on the emission avoidance value of the ZECs. For the reasons discussed above, PSEG and Exelon Generation submit that evaluating the ZEC charge in this manner is appropriate.

However, if the Board does decide to initiate a proceeding to evaluate the ZEC charge that will consider the financial condition of the nuclear plants, the ZEC application submittals and the evaluation of the \$0.004/kWh charge should occur simultaneously. The ZEC Law allows the Board to reduce the ZEC charge only if “the board determines that a reduced charge will nonetheless be sufficient to achieve the State’s air quality and other environmental objectives by preventing the retirement of the nuclear power plants that meet the [ZEC Law] eligibility criteria.”⁴¹ Accordingly, if the Board does initiate a proceeding to evaluate the current ZEC charge that will focus on the cost of operating the nuclear plants, or somehow fails to conclude that the ZEC program is cost-effective as an emission avoidance measure, it would need to find that a reduced payment will be sufficient to keep eligible nuclear plants from retiring.

Unless the Board has the ZEC applications before it when making this determination, there will not be a sufficient record for finding that a charge lower than \$0.004/kWh will still prevent retirements. The Board would not be in compliance with the statutory requirements if it reduced the \$0.004/kWh charge without having first reviewed ZEC applications to ascertain that eligible plants would remain in operation if they were awarded less valuable ZECs.

D. The Application Review Process Should be Completed by No Later than April 2021

At the July 10, 2019 meeting, Board Staff suggested that ZEC applications should be filed in April 2021.⁴² But this application submittal timeline would not be consistent with the ZEC Law. The controlling ZEC Law provision states:

No later than 13 months prior to the conclusion of the initial eligibility period [ending on May 31, 2022], and no later than 13 months prior to the conclusion of each three energy year eligibility period thereafter, a nuclear power plant may demonstrate its eligibility to the board and the board may certify the nuclear

⁴⁰ This is indicated by the July 10, 2019 Order which provides that the Board needs to make a determination of whether to change the ZEC charge by April 2021 coupled with the Board Staff’s indication that the filing requirements for the next round of ZEC application would be submitted to the Board by April 2021. *Compare* July 10, 2019 Order, p. 8 (“If the Board reduces the per kilowatt-hour charge, the Board shall make its determination no later than 13 months prior to the start of the next eligibility period - that is, by April 30, 2021 - and the reduction shall be applicable to the next eligibility period only.) with Transcript of July 10, 2019 Agenda Meeting, Comments of Mr. Walker, p. 7, lines 3-4 (“And we’ll present [proposed application modifications] to the Board by April of 2021.”)

⁴¹ N.J.S.A. 48:3-87.5(j)(3)(a)(c).

⁴² See Transcript of July 10, 2019 Agenda Meeting, Comments of Mr. Walker, p. 7, lines 3-4 (“And we’ll present [proposed application modifications] to the Board by April of 2021.”)

power plant's eligibility to receive ZECs for additional eligibility periods of three energy years, consistent with the provisions of this act.⁴³

The ZEC Law thus requires that an applicant has “demonstrate[d] its eligibility” to receive ZECs *and* that the Board has “certify[ied] the nuclear plant’s eligibility to receive ZECs” by April 1, 2021 for the next cycle of ZEC applications. Accordingly, the Board must *complete* its review of the ZEC applications by that time.

This timing also makes sense from a practical standpoint because it assures the completion of the application review process prior to the date of the next RPM auction which would ordinarily occur in May 2021. The timeline thus reduces the risk faced by a plant owner that it may be required to commit its plant for an additional capacity year before it knows whether it will receive ZECs. Similarly, this time line gives unsuccessful applicants who are currently receiving ZECs more than a year to unwind any capacity commitments they have made for years outside of the ZEC payment period before the current ZEC period ends.

E. The Application Submittal and Review Process Should Be Streamlined, Have Enhanced Opportunities For Engagement and Be Made More Transparent

The ZEC application submittals and the process for the review of the applications that occurred late in 2018 and earlier in 2019 represented the first time both that the Board as well as PSEG and Exelon Generation participated in the ZEC Program. PSEG and Exelon Generation believe that there are “lessons learned” that could be implemented in the future to make the application submittal and review process streamlined and more transparent. It is also noteworthy that the Board now has greater flexibility regarding the timeline for review of ZEC applications instead of having to act within the compressed timeline imposed by the ZEC Law for the first eligibility period.

First, the most important improvement that could be made in the application review process would be to create additional opportunities for the applicants, Staff and other participants to engage with each other and to exchange information. For example, as noted above, a major shortcoming in the first ZEC eligibility period was that the Staff’s consultant report contained obvious and easily addressed errors. Had applicants reviewed that report during the application process, those errors could have been corrected. Not giving applicants an opportunity to address the report or the preliminary Staff findings perpetuated the confusion engendered by these mistakes.

PSEG and Exelon Generation thus recommend that the Board include in the review process, a procedural step providing for the release of preliminary findings by the Board Staff or the Board’s consultants. This would enable applicants and other participants to have an opportunity to comment. In addition, the Board may wish to consider holding a public hearing following the release of the preliminary findings, at which time the Board Staff and its consultants would have an opportunity to ask questions of the applicants and other parties.

⁴³ N.J.S.A 48:3-87.5(h)(2).

Second, the timeline should be extended. The initial timeline for submittal and review of the ZEC applications was fixed by statute. The Board should take the opportunity provided for the next round of ZEC applications to allow applicants and itself more time in which to prepare and review the submittals. PSEG and Exelon Generation suggest the following as an illustrative timeline for the proceeding:

- April 2020 – the Board issues its order regarding application requirements.
- September 16, 2020 – interested nuclear power plants submit applications.
- September 17, 2020 to November 2, 2020 – Staff, Staff’s consultant and intervenors submit data requests.
- November 16, 2020 – final date for responding to data requests.
- December 16, 2020 – all participants may submit comments regarding the application submittals; in addition, Staff’s consultant issues a report making preliminary findings regarding the applications.
- January 8, 2021 – all parties, including applicants, may submit comments regarding other participants’ comments and the Board Consultant’s preliminary findings.
- January 15, 2021 – legislative-style public hearing where Staff and Staff’s consultant may pose questions to applicants and other participants.
- January 22, 2021 – participants have an opportunity to submit final written comments regarding applications and matters raised at January 15, 2021 hearing.
- January 22, 2021 -- Staff and its consultants may pose additional data requests to applicants.
- March 2021 – Board issues decision regarding ZEC awards.

PSEG and Exelon Generation submit that this timeline – or a similar timeline – would give all parties a fair opportunity to present their views, develop a robust record and create additional transparency with respect to the Board’s deliberative process.

Third, the application process should be streamlined. The breadth of the materials mandated by the Board for the application process covering the first eligibility period was understandable because the process had never been done before. The Board now has experience and should be in a position to understand what data was really useful. For example, one of the elements for the applications was the “Value in Use (“VIU”) for the unit per IAS 36.”⁴⁴ This requirement required applicants to undertake an accounting calculation based on a European Accounting Standard not even relevant to business in the United States. This analysis, which was difficult to create, was not mentioned in the Board’s findings, was not referenced in comments by any party and was not the subject of a data request. It should not be required for the next round of ZEC applications.

Another example is the requirement that the applicants supply copies of all hedges. PSEG and Exelon Generation do not disagree that the requirement to indicate hedging positions made sense. But no useful purpose was served by requiring that copies of the hedges themselves be included. In general, the Board should carefully review the application submittal materials

⁴⁴ See “Order Establishing The Program, Application, And Procedural Process,” Docket No. EO18080899, Appendix B (November 19, 2018).

from the first round of submittals, determine which categories were not useful and should eliminate those from future submittals.

Fourth, the materials comprising the applications should be submitted in electronic formats in most cases. In fact, many of the application submittals required by the Board would be much more useful in electronic formats than in hard copy. PSEG and Exelon Generation submitted numerous boxes of paper documents – comprising hundreds of thousands of pages -- made up of regulatory filings to FERC, the SEC and the NRC. The cost of copying these documents amounted to hundreds of thousands of dollars while serving no useful purpose because reviewing them in hard copy is much less efficient than identifying relevant documents through key word searches of the electronic versions. In addition, many of these documents, the SEC and NRC documents in particular, are already found on the companies’ or government websites. Supplying links to those folders on the company’s website or the government’s website would have provided access to the documents in a cost-effective and transparent manner.⁴⁵ PSEG and Exelon Generation thus encourage the Board to consider how it could lower costs and increase transparency by using technology.

F. The Board Should Adopt a Bright Line Test Consistent With The Intent of the ZEC Law for Identifying Revenues Covered by the “Double-Payment” Mechanism

The ZEC Law states:

To ensure that a selected nuclear power plant shall not receive double-payment for its fuel diversity, resilience, air quality, or other environmental attributes, the board shall annually determine the dollar amount received by the selected nuclear power plant in an energy year pursuant to a law, rule, regulation, order, tariff, or other action of this State or any other state, or a federal law, rule, regulation, order, tariff, or other action, or a regional compact referenced in paragraph (4) of subsection e. of this section. Notwithstanding paragraph (2) of this subsection, the number of ZECs purchased by each electric public utility from a selected nuclear power plant for an energy year shall be reduced by the number of ZECs equal in value to the dollar amount determined by the board in this paragraph, multiplied by the percentage of electricity distributed in the State by the electric public utility as compared to other electric public utilities in the State. To the extent that the board determines that a selected nuclear plant receives revenues for its fuel diversity, resilience, air quality, or other environmental attributes, the board shall immediately reduce the number of ZECs on a prospective basis consistent with the level of such revenues.⁴⁶

⁴⁵ To the extent that the Board may be concerned about having hard copies available for viewing by members of the public that do not have computer access, PSEG and Exelon Generation suggest that the Board could direct the companies to provide computers with the applications loaded on to them that could be made available to public visitors at the Board’s offices.

⁴⁶ N.J.S.A 48:3-87.5(i)(3).

This provision is designed to protect consumers from the possibility that a nuclear plant receiving ZECs would be over-compensated if it also received other payments intended to compensate for the same attributes that the ZECs were designed to preserve. Applied consistently with its intended purpose, the provision can be implemented in straightforward manner by applying two bright line tests.

First, based on the statutory language and evident statutory purpose, the provision only applies to payments associated with a program or market element that is *designed* to promote fuel diversity, resilience, air quality, or any other environmental goal. This would include, for example, revenue impacts of carbon cap-and-trade and carbon tax programs as well as a program such as the one proposed by the Department of Energy to preserve generators needed for resiliency. However, revenue impacts related to changes in energy and capacity market design that are intended to improve price formation generally for the whole market – without regard to the specific fuel diversity, resilience, air quality or other environmental characteristics of particular plants or generation technologies – would not qualify. The Board can identify covered payments easily by identifying their intended purpose through tariff filings or other documents describing the goals of the tariff change or program.

Second, even if a particular payment is the type of payment that falls within the scope of the “double payment” provision, it should still not be deducted from future ZEC payments if the amount was included in expected energy market revenues at the time the applicant made its eligibility demonstrations. If the anticipated payments were included in the forward energy curve at the time of an application submittal because market participants were building them into their bids, they will have already been accounted for as support for the unit. For example, New Jersey announced its intent to participate in the RGGI program prior to the time that PSEG and Exelon Generation made their initial application submittals for ZECs in December 2018. Anticipated energy market price impacts associated with RGGI were included in forecasts submitted by the applicants and therefore were already considered in the application process.

Rate Counsel made comments at the September 4, 2019 public meeting suggesting that the “double payment” provision could potentially apply to all sorts of market design changes that may be implemented and suggesting that the Board will be faced with a difficult task of identifying covered payments.⁴⁷ But Rate Counsel is mistaken and suggests a construct that is clearly inconsistent with the ZEC law. The bright line tests identified above will make the Board’s analysis straightforward. For example, Rate Counsel stated that a potential expansion of the “minimum offer price rule” (“MOPR”) that would impose bid floors on existing plants that receive state support payments, such as ZECs, would fall within the scope of the “double payment” provision.⁴⁸ Rate Counsel apparently claims that the expanded MOPR, coupled with other accompanying elements of PJM’s proposal, amounts to “double payment” to ZEC recipients because “the only reason the price is being driven up is because the units are receiving a subsidy.” But this is demonstrably false. In actuality, the potential MOPR changes are designed (i) to allow states to achieve their own public policy goals (but not to actively promote them) and (ii) to establish competitive prices for plants that do not receive ZECs or other support payments.

⁴⁷ See September 4, 2019 ZEC hearing, Comments of Brian Lipman, p. 18, line 15 – p. 21, line 19..

⁴⁸ *Id.*, Transcript, p. 19, line 20 – p. 20, line 13..

The goals of the proposed MOPR changes are clear from PJM's transmittal letter that accompanied its filing:

PJM proposes both an expanded MOPR and Resource Carve-Out construct. The Resource Carve-Out is designed to realize the concept suggested in the June 29 Order [finding the current MOPR not to be just and reasonable] to offer an alternative to MOPR that would permit subsidized resources to obtain a capacity commitment, but do so without having to clear the PJM capacity market. The expanded MOPR, coupled with the Resource Carve-Out as proposed here, offers the Commission a defensible FPA-compliant path to accept and limit the trade-off that comes from recognizing subsidized, and hence uneconomic, resources as PJM capacity.

But additionally, for the Commission's further consideration under FPA section 206, PJM describes an approach that would combine the Resource Carve-Out with an explicit mechanism to restore prices in the residual capacity market to the theoretically correct competitive level. This approach is described as the "Extended Resource Carve-Out" or "Extended RCO."⁴⁹

The PJM proposals do not in any respect seek to compensate units for particular attributes. It is clear from this passage as well as other passages in PJM's FERC submittals that the proposed capacity market changes are not within the "double payment" provision in the ZEC legislation.

PSEG and Exelon Generation recommend that a two-part process be used for determining whether a revenue stream should be considered a "double payment." Under the ZEC Law, this determination should occur "annually."⁵⁰ In the first phase, on its own, the Board should make an assessment as to whether revenues received by selected nuclear plants could be considered "double payments" based on the bright line tests discussed above. In most cases this analysis should be simple and straightforward. If the Board makes a determination that no revenues qualify as "double payments," it should issue an order so stating. However, if the Board does find that a particular revenue stream is, or might be considered to be, a "double payment," it should provide an opportunity for written comments by ZEC recipients, Rate Counsel and other affected parties. The comments would cover whether the revenues streams identified by the Board are "double payments" and, if so, the level of "double payments." Following the receipt and review of comments, the Board would issue an order explaining its decision.

G. The Dry Cask Storage Study Should Focus On The Long Term Dry Cask Storage Strategy Considering the License Life of the Plants, the Independent Spent Fuel Storage Installation (ISFSI) facility for the Salem and Hope Creek site, and the Casks. The Study Should Be Performed by Individuals with Expert Knowledge from the Nuclear Industry, Academia, and PSEG

⁴⁹ *Calpine Corporation, et. al.*, Docket No. EL16-49-000 *et. al.*, "Initial Submission Of PJM Interconnection, L.L.C.," pp 7-8 (October 2, 2018).

⁵⁰ N.J.S.A 48:3-87.5(i)(3). The ZEC Law does not specify when during the year the determination should occur. But it would seem reasonable to make the annual determination shortly after the energy year begins, *i.e.*, June or July.

The question posed in the notice states:

N.J.S.A. 48:3-87.5(m) requires that “[t]he owner of a selected nuclear power plant shall, within two years after receiving ZECs, conduct a study and prepare a written report in cooperation with selected experts, to determine the optimal use of dry cask storage of spent nuclear fuel at its site, considering environmental impacts, worker safety, and cost impacts.”

- What aspects of dry cask storage should this study address?
- What should be the ultimate goal of this study; i.e., costs, safety of process, applicable standards to employ?
- What, if anything, should be considered outside of environmental impacts, worker safety, neighborhood safety, and cost impacts?
- What information is important to the State? Items such as licensing, inspection and certification reports, cask life-cycle limits and cask replacement, and security?

By way of background, PSEG constructed the Independent Spent Fuel Storage Installation (“ISFSI”) facility for the Salem and Hope Creek site, and in 2006 began moving spent fuel into dry storage. PSEG operates the ISFSI facility under the general license provisions for the site and has selected the Holtec International HI-STORM 100 Dry Cask Storage System for dry storage casks. Each dry storage cask consists of a concrete-filled steel overpack containing a seal-welded multi-purpose canister (“MPC”) and is capable of storing 32 discharged fuel assemblies for Salem or 68 discharged fuel assemblies for Hope Creek. The ISFSI facility is designed to store up to 200 of these casks. To date, 64 casks have been loaded and are stored at the facility.

The ISFSI facility and casks are licensed by the Nuclear Regulatory Commission (NRC). The HI-STORM 100 System is an NRC-approved dry spent fuel storage cask system as specified in 10 CFR 72.214. NRC Certificate of Compliance (“CoC”) No. 1014 (Docket No. 72-1014) confers NRC approval of the system for use by 10 CFR Part 72 general licensees. The NRC developed cask licensing requirements through a public process to provide a sound basis for ensuring protection of public health and safety and the environment. The NRC performs periodic inspections to ensure that the ISFSI continues to meet Federal Nuclear Safety, Security, and Environmental requirements.⁵¹

As stated by the NRC

Dry cask storage is safe for people and the environment. Cask systems are designed to contain radiation, manage heat and prevent nuclear fission. They must resist earthquakes, projectiles, tornadoes, floods, temperature extremes and other scenarios. The heat generated by a loaded spent fuel cask is typically less than is given off by a home-heating system. The heat and radioactivity decrease over time without the need for fans or pumps. The casks are under constant monitoring and surveillance. ... Since the first casks were loaded in 1986, dry storage has released no radiation that affected the public or contaminated the environment.

⁵¹ See <https://www.nrc.gov/waste/spent-fuel-storage/oversight.html>

There have been no known or suspected attempts to sabotage cask storage facilities. Tests on spent fuel and cask components after years in dry storage confirm that the systems are providing safe and secure storage. The NRC also analyzed the risks from loading and storing spent fuel in dry casks. That study found the potential health risks are very small.⁵²

As part of the license renewal for Salem and Hope Creek, the NRC staff concluded that the radiological impact to the public and workers from continue operation during the renewal term, including the operation of the site ISFSI, would be small, *i.e.*, not detectable or so minor that it has no noticeable effect.⁵³ In addition, under the Continued Storage of Spent Nuclear Fuel Rule, the NRC staff determined that the public and occupational health impacts of dry cask storage beyond the end of the licensed life for operation of the nuclear reactors and for the indefinite storage timeframe before final disposal in a permanent repository were also small.⁵⁴ \

In addition, the NJ Department of Environmental Protection's Bureau of Nuclear Engineering ("BNE") provides oversight of the Salem and Hope Creek plants and the ISFSI. The BNE has access to information provided to the NRC for inspection purposes and the opportunity to participate on NRC Inspections, and has participated on NRC Inspections of the ISFSI. The BNE also maintains an Environmental Surveillance and Monitoring Program for the Salem & Hope Creek Site. The objectives of this program are to monitor impacts of the plants on the environment and population from the plants. They carry out these objectives through the use of an advanced remote monitoring system near the sites (called the Continuous Radiological Environmental Surveillance Telemetry or CREST system) and a comprehensive ambient monitoring program at the sites.⁵⁵ CREST stations are located around the owner controlled area, including three along the east, south and west sides of the ISFSI security fence.

With the past and ongoing licensing and oversight activities provided by both the NRC and BNE, the safety, security, and environmental impacts of the study should rely on reviewing relevant NRC licenses and inspection reports, BNE activities, and PSEG's response to any inspection findings associated with Dry Cask Storage.

The primary focus of this study should be on the long term dry cask storage strategy taking account of the license life of the plants, the ISFSI, and the casks. This should involve review of the strategies for storing spent fuel in the spent fuel pools, the rate of transfer to dry casks, and the storage in dry casks at the ISFSI, considering licensing and legal requirements as well as the results of previous studies/reports. Site procedures and processes for loading and transporting casks to the ISFSI should be evaluated with respect to operational/staffing costs (including Security), potential industrial safety issues, and radiological safety considerations. Through consultation with experts and other sources of information on best industry practices,

⁵² See <https://www.nrc.gov/reading-rm/doc-collections/fact-sheets/dry-cask-storage.html>.

⁵³ See NUREG-1437, Generic Environmental Impact Statement for License Renewal of Nuclear Plants, Supplement 45 Regarding Hope Creek Generating Station and Salem Nuclear Generating Station, Units 1 and 2, Final Report (March 2011).

⁵⁴ See NUREG-2157, Generic Environmental Impact Statement for Continued Storage of Spent Nuclear Fuel, Final Report published September 2014.

⁵⁵ See <https://www.state.nj.us/dep/rpp/nee/index.htm>.

the study should identify any opportunities for cost beneficial improvements in safety and/or significant reductions in costs.

PSEG recommends that selected experts should include: subject matter expert from PSEG Nuclear, industry experts (EPRI, NEI, and/or former government employees with relevant experience), and a member from academia from a university with an established nuclear engineering program. The NJ DEP's BNE should have full access to the study and its deliberations and provide their perspective on the results.

H. The Term “Full or Near Full Capacity” for the Purpose of the ZEC Law Certification Should Focus on the Capability of the Plants Based On Their Operating Licenses and Design Limits While Recognizing that This May Not Always Be Possible Despite Prudent Operating Practices

The question posed in the notice states as follow:

N.J.S.A. 48:3-87.5(h)(3) states that “[a] selected nuclear power plant shall annually certify to the board that it will continue operations at full or near full capacity for the duration of the period of its eligibility to receive ZECs, except with respect to nuclear power plant shutdowns for necessary maintenance and refueling.”

- How should the Board define “full or near full capacity” for the purposes of this requirement?

The term “full or near full capacity” arises in the context of representations required to be made by the plant operator. PSEG, as operator, intends to operate the Salem and Hope Creek nuclear plants at the highest output allowed by the operating licenses and within the design limits of the plants and the nuclear fuel. In addition, the ZEC Law creates inherent incentives to operate in this manner because selected nuclear power plants (NPPs) only earn ZECs for actual energy produced. However, it must also be recognized that no plant operator can guarantee that a plant will always operate at the highest level allowed by its licenses and design limits notwithstanding prudent operating practices. Accordingly, there must be a balance between the intention to operate at full output and the reality that not every contingency can be anticipated and that it would not be reasonable to expect that forced outages can be avoided.

Taking these considerations into account, PSEG and Exelon Generation recommend the following definition for “full or near full capacity”:

The Selected NPP should operate at its maximum output with the exception of reduced output or outages associated with equipment maintenance and/or repair that a prudent owner or operator of a NPP would undertake, NRC License limitations, fuel limitations (for example rod pattern adjustments, end of operating cycle fuel management, and coast downs), environmental and atmospheric conditions, transmission constraints, temporary de-rates or energy output reductions as directed by PJM Interconnection, L.L.C, and other events beyond its

control (including but not limited to acts of God, flood, drought, earthquake, storm, fire, lightning, epidemic, war, riot, labor dispute, labor or material shortage, sabotage, or explosion).

This definition would protect consumers by requiring operations at the maximum operating capability levels of the units except for refueling outages, necessary maintenance and events that an operator cannot reasonably control.

I. The Study Concerning the ZEC Program Required by The ZEC Law To Be Completed Within 10 Years Should Focus on Whether the Program Achieved the Stated Objectives of the ZEC Law And How Well It Succeeded in Meeting Those Objectives In Comparison With Other Programs that Have the Same Goals

The study concerning the ZEC program required by the ZEC Law should focus on the achievement of the ZEC Law's objectives. These are the avoidance of air emissions affecting New Jersey and its residents and the extent to which the fuel diversity provided by availability of selected nuclear plants avoids power disruptions and price spikes. In addition, the study should consider whether the ZEC program is cost-effective compared with other options that might be available to achieve these objectives.

Accordingly, PSEG and Exelon Generation propose that the following factors be addressed:

1. Cost of avoided carbon emissions associated with the ZEC program compared to the level of costs that would have been incurred to achieve the same magnitude of carbon avoidance benefits through other technologies or State programs.
2. Cost of avoided carbon emissions associated with the ZEC program compared to scientifically accepted social cost of carbon values.
3. Role of NJ nuclear generators in providing power during extreme weather events or other periods of system stress, especially when gas supplies may be limited; estimates of the savings realized by New Jersey residents by avoiding power disruptions and by avoiding gas or electric price spikes that would have occurred if the selected nuclear plants had not been available should be included.
4. The extent to which the nuclear generators contributed to the achievement of NJ's environmental goals while the ZEC program was in effect and the extent to which any selected nuclear plants are expected to be needed to meet the State's environmental goals in the future.

Because this study is not required for several years, PSEG and Exelon Generation may wish to supplement these comments regarding the scope of the study at a later date as more experience is gained regarding the ZEC program.

PSEG and Exelon Generation appreciate the opportunity to provide comments.

Very truly yours,



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