SUPERIOR COURT OF NEW JERSEY
APPELLATE DIVISION

DOCKET NO. A-003939-18T1

Civil Action

IN THE MATTER OF THE IMPLEMENTATION OF L. 2018, c. 16 REGARDING THE ESTABLISHMENT OF A ZERO EMISSIONS CERTIFICATE PROGRAM FOR ELIGIBLE NUCLEAR POWER PLANTS	:	On Appeal from a Final Decision of the New Jersey Board of Public Utilities Docket No. EO18080899
APPLICATION FOR ZERO EMISSION CERTIFICATES OF SALEM 1 NUCLEAR POWER PLANT	:	Docket No. EO18121338
APPLICATION FOR ZERO EMISSION CERTIFICATES OF SALEM 2 NUCLEAR POWER PLANT	:	Docket No. EO18121339
APPLICATION FOR ZERO EMISSION CERTIFICATES OF HOPE CREEK NUCLEAR POWER PLANT	:	Docket No. EO18121337

BRIEF AND SUPPLEMENTAL APPENDIX OF RESPONDENT PJM POWER PROVIDERS GROUP

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PRELIMINARY STATEMENT

> *While a strict reading of the ZEC legislation links eligibility for the subsidy to a determination of operating losses, I am compelled to take a more expansive view of the factors that should drive this decision and what constitutes the public interest.*
>
> Commissioner Robert Gordon
> Board of Public Utilities
> April 18, 2018 [Aa743:19-23.]

The above quotation encapsulates the problem with the BPU's decision to award ZECs to the three nuclear power plants that filed applications to receive those subsidies[1]: The BPU simply failed to confine itself to the criteria set by the Legislature for whether a plant is eligible to receive ZECs. Its construction of the enabling legislation was plainly unreasonable, and its actions in granting the applications exceeded its legislatively conferred powers.

At the same time, the BPU failed to carry out the fact-finding function that was delegated to it by the Legislature. Its decision that each applicant had met the statutory criteria for eligibility—in particular, the requirement that the plant is projected to not cover its costs and risks and will therefore cease operations within three years—was not based on any specific findings of fact regarding the costs and risks that would be avoided if the plant shut down. Absent such findings, the

[1] This brief adopts the abbreviations and nomenclature used by appellant, New Jersey Division of Rate Counsel, in its brief. Thus, "BPU" and "Board" refer to the New Jersey Board of Public Utilities, "ZECs" refers to Zero Emissions Certificates, etc.

BPU's decision can only be viewed as arbitrary, capricious and extra-legal. The fact that the decision completely contradicts the findings of its own staff and expert, as well as the other independent entities who weighed in on the issue, only serves to underscore this infirmity.

For these reasons, PJM Power Providers Group ("P3")[2] submits that the BPU's approval of the ZEC applications by the Salem 1, Salem 2 and Hope Creek nuclear power plants should be overturned.

[2] P3 is a non-profit organization dedicated to advancing federal, state and regional policies that promote properly designed and well-functioning electricity markets in the PJM Interconnection, L.L.C. ("PJM") region, which includes New Jersey. The BPU granted P3 participant status in the proceedings giving rise to this appeal. This brief represents the position of P3 as an organization, but not necessarily the view of any particular member with respect to any issue.

STATEMENT OF THE FACTS AND PROCEDURAL HISTORY

Rate Counsel has provided the Court with a thorough and accurate account of the factual and procedural history underlying this appeal, including the events leading up to the Legislature's enactment of L. 2018, c. 16, and the BPU's subsequent award of ZECs to the Salem 1, Salem 2 and Hope Creek nuclear power plants. P3 need not burden the Court with another recitation of those events here. But it does wish to expound Rate Counsel's account by providing additional detail on the background of this matter.

The ZEC Statute

The Legislature provided the BPU with a detailed roadmap for how to go about determining whether a nuclear power plant needs ZECs in order to remain in operation. Section 3.a. of L. 2018, c. 16, spells out the evidence with which an applicant must come forward in order to establish its financial need for ZECs:

> [A] nuclear power plant seeking to participate in the program established by this act shall provide to the board any financial information requested by the board pertaining to the nuclear power plant, including, but not limited to, certified cost projections over the next three years, including operation and maintenance expenses, fuel expenses, including spent fuel expenses, non-fuel capital expenses, fully allocated overhead costs, the cost of operational risks and market risks that would be avoided by ceasing operations, and any other information, financial or otherwise, to demonstrate that the nuclear power plant's fuel diversity, air quality, and other environmental attributes are at risk of loss because the nuclear power plant is projected to not fully cover its costs and risks, or alternatively is projected to not fully cover its costs and risks including its risk-adjusted cost of capital. For purposes of this subsection, "operational

> risks" shall include, but need not be limited to, the risk that operating costs will be higher than anticipated because of new regulatory mandates or equipment failures and the risk that per megawatt-hour costs will be higher than anticipated because of a lower than expected capacity factor, and "market risks" shall include, but need not be limited to, the risk of a forced outage and the associated costs arising from contractual obligations, and the risk that output from the nuclear power plant may not be able to be sold at projected levels.
>
> [N.J.S.A. 48:3-87.5(a); emphasis supplied.]

Section 3(e) goes on to detail the specific elements that an applicant must prove in order to be deemed eligible for a ZEC subsidy. One of those elements is financial need, which the statute addresses as follows:

> To be certified by the board as an eligible nuclear power plant, a nuclear power plant shall:
> . . .
> (3) demonstrate to the satisfaction of the board, through the financial and other confidential information submitted to the board pursuant to subsection a. of this section, and any other information required by the board, . . . that the nuclear power plant's fuel diversity, air quality, and other environmental attributes are at risk of loss because the nuclear power plant is projected to not fully cover its costs and risks, or alternatively is projected to not cover its costs including its risk-adjusted cost of capital, and that the nuclear power plant will cease operations within three years unless the nuclear power plant experiences a material financial change;
> . . . .
>
> [N.J.S.A. 48:3-87.5(e); emphasis supplied.]

In this manner, the statute imposes on a ZEC applicant both a burden of coming forward with evidence and a burden of proof for establishing the financial need element of its application.

The statute requires that the BPU certify the eligibility of a nuclear power plant to receive ZECs, but makes it clear that the BPU is under no obligation to do so:

> If the board determines, in its discretion, that no nuclear power plant that applies pursuant to subsection c. of this section satisfies the objectives of this act, then the board shall be under no obligation to certify any nuclear power plant as an eligible nuclear power plant.
>
> [N.J.S.A. 48:3-87.5(d).]

During the hearings on Senate Bill 877, the chair of the Senate Environment and Energy Committee, Senator Bob Smith, had emphasized BPU's role as an independent fact-finder in this process when responding to criticism that the proposed legislation permitted the BPU to take an applicant's representations as to financial need at face value:

> You do understand, we don't take it at face value. We've set up a mechanism where the Board of Public Utilities gets to see any information that Public Service has and ask for more, and they have to independently come up with a conclusion that the subsidy is needed to keep the plants in operation. So we're not giving this subsidy. They have to prove to an independent body set up by the State of New Jersey to protect the ratepayers as well as make sure there's sufficient energy for the State, they have to prove to them that they do have those financial problems.
>
> [Hearing of the Senate Environment and Energy Committee on S. 877, January 25, 2018, audio recording at 2:09:28; available at https://www.njleg.state.nj.us/media/mp.asp?M=A/2018/SEN/0125-1000AM-M0-1.M4A&S=2018.]

Implementation of the ZEC Act

Following the ZEC statute's enactment, the BPU established an application process for the award of ZECs. On December 3, 2018, BPU Staff issued a "Q&A" statement addressing various questions that had been raised about implementation of the law. In response to a question as to whether ZEC Credits are a foregone conclusion, the Staff responded as follows:

> **A.** No. Under the ZEC law the BPU has the ability to determine which, if any, plants are eligible to participate in the program based upon the criteria discussed below. The BPU further has the clear statutory authority to determine that no plants are eligible. ZECs will only be allocated if the BPU determines that one or more plants are eligible.
>
> [P3sa at 1; emphasis supplied.][3]

ZEC Applications

On December 19, 2018, PSEG Nuclear filed ZEC applications on behalf of the Salem 1, Salem 2 and Hope Creek nuclear power plants. Those applications included a great deal of financial information about PSEG Nuclear and its corporate parent, PSEG, designated as "confidential" and redacted from the public versions of those applications. Rate Counsel and IMM, as intervenors, were given

[3] The citation "P3sa" refers to the supplemental appendix submitted by P3 with this brief. The Q&A of December 3, 2017 cited here was omitted from the Joint Appendix filed by Rate Counsel.

access to that confidential information pursuant to a non-disclosure agreement. P3, as one of the participants, was not allowed to see that confidential information.

Comments from Intervenors

On January 31, 2019, BPU Staff received comments regarding the ZEC applications from various interested parties. The two parties with access to confidential information, Rate Counsel and IMM, both argued that PSEG Nuclear had failed to demonstrate a financial need for ZECs. Rate Counsel concluded that the applications had overstated the likely future costs of the units (Aa382-Aa389) and had understated the revenues from those units (Aa390-Aa405). With respect to the cost of operational and market risks, Rate Counsel noted that the applicants had structured both as cost "cushions," and that the methodology used resulted in speculative and unverifiable costs. (Aa383.)

IMM reached similar conclusions. It reasoned that the applicants had overstated the need for subsidies for the plants by understating forward energy revenues, understating capacity revenues, overstating costs and overstating the cost of risk. (Aa156.) IMM's comments note that PSEG Nuclear had used percentage "adders" for the cost of operational and market risks that were not supported by actual costs. (Aa169-Aa170.) In IMM's estimation, "PSEG's and Exelon's risk adders do not constitute a cost of risk." (Aa170.)

Comments from P3

P3 likewise concluded that PSEG Nuclear had failed to demonstrate a financial need for ZECs for any of the three nuclear power plants in question. Relying on publicly available information, it pointed to the following considerations in support of its conclusion:

(1) The three nuclear power plants had cleared the Base Residual Auction for the PJM market and were committed to provide energy through May 31, 2022, at their cleared capacity commitment. They would face significant financial penalties if they failed to do so. (Aa185-Aa186.)

(2) The clearing prices for the three units were sufficient to cover their going forward costs through May 2022, without a ZEC. (Aa186.)

(3) No nuclear unit in PJM with a capacity obligation had ever ceased operations and defaulted on a capacity commitment. (Aa187.)

(4) The projected revenues for these units easily cover their going forward/avoidable costs, as well as a portion of sunk costs and return on investment. (Aa189, Aa192, Aa201-Aa202, Aa212-Aa219.)

(5) Market and operational risks are embedded in the cost of capital. (Aa205, Aa225-Aa228.)

Based on these considerations, among others, P3 concluded that any threat to shut down the Hope Creek and Salem plants is simply not credible. (Aa202 at ¶10; Aa203 at ¶12; Aa209 at ¶27.)

PSEG Nuclear's Response to Comments

On February 14, 2019, PSEG Nuclear responded to the comments filed by intervenors and participants. It criticized Rate Counsel and IMM for having

"zeroed out" operational and market risks (Aa534) in their analyses, arguing that "the ZEC Act explicitly recognizes these risks and identifies them as 'costs' to be included in the financial analysis" (Aa541). It defended its use of a ten percent (10%) "adder" over and above actual operational costs as a measure of operational risk, noting that (1) FERC has approved a 10% upward adjustment of cost-based bids to reflect operational risks associated with unit performance in energy markets and (2) the "Avoidable Cost Rates" for the purpose of PJM capacity auctions also allows a 10% adder over the levels of documented costs.

PSEG Nuclear also defended its use of an adder for market risk, calling it "consistent with both PSEG's normal internal practices and the methodology used in other regulatory settings." (Aa543.) It added that its calculation of the cost of market risk had been reduced significantly based on its hedging practices. (Aa 543 at n. 26.) PSEG Nuclear noted that nuclear plants are hedged as part of the portfolio of generating assets owned by the subsidiaries of PSEG Power (which include gas- and coal-fired units), and that the PSEG corporate entity responsible for hedging does not enter into specific contracts to hedge the nuclear plants' output. (Aa544.)

PSEG Nuclear also addressed the argument that operational and market risks are embedded in the cost of capital. It stressed that "[t]he ZEC Act provides that applicants may show either that they are not covering their risk-adjusted cost of

capital *or* that they are not projected to fully cover their costs and risks" (Aa541), and that it had chosen to do the latter. It added:

> Although PSEG Nuclear did not choose the alternative of showing a risk-adjusted cost of capital, it is clear as a matter of statutory construction that, for the drafters of the ZEC Act, the concepts of "risk-adjusted cost of capital" and "cost of risks" were viewed to be interchangeable.
>
> [Aa542, citing N.J.S.A. 48:3-87.5(a).]

Levitan's Eligibility Report

On April 8, 2019, the BPU Evaluation Team received the eligibility report of its expert, Levitan & Associates, Inc. Levitan cited a number of areas in which the ZEC applications had overstated projected costs in their analysis of financial need, stressing the ZEC Act's distinction between avoidable and unavoidable costs. It concluded that, while operational and market risks are common and useful planning parameters, they are not true costs that would be incurred by PSEG Nuclear beyond normal operations and maintenance (O&M) costs. (Aa674.) It reasoned that Section 3.a. of the Act only allows consideration of the cost of operational risks and market risks that would be avoided by ceasing operations, and said, "It is not clear how the costs of operational and market risks would be avoided if they are not incurred in the first place." (Aa675.)

Levitan's conclusion as to the cost of operational risks was supported by its examination of PSEG Nuclear's financial statements:

> We understand the logic and prudence behind using an operational risk cost for internal planning purposes, but note the fact that operational risk is not a true cost and hence is not reported in PSEG's financial statements. To the extent there was uncertainty in PSEG's past O&M cost projections, actual historical O&M costs may have been higher or lower than projected; in any case they were reported as incurred. To the extent the O&M line items in PSEG's certified cost projections for Salem and Hope Creek are based upon those historical values, those projections already incorporate some degree of forecast uncertainty.
>
> [Aa691.]

Levitan went on to specifically question PSEG Nuclear's use of a 10% adder for the cost of operational risks. It noted that the use of such an adder in energy price bids, although permitted by the PJM market, can result in reduced revenues if the bid price is too high and a generator fails to obtain a commitment for its energy supply. While use of such an adder may make economic sense for gas-fired generators, who cannot always predict the intra-day cost of gas and may need to include an uncertainty factor in their bids, nuclear plants do not face the same short-term cost uncertainties with respect to fuel. (Aa691-Aa692; Aa693.)

Levitan also criticized PSEG Nuclear's use of an adder for the cost of market risks in its calculation of avoidable costs. It cited to the fact that PSEG calculates the cost of market risks for its entire generation portfolio, not just for its nuclear power plants, and enters into hedging contracts to mitigate its exposure to market price volatility. And again, it concluded that the cost of market risks is not

a true cost incurred by PSEG Nuclear and questioned whether that cost would be avoided by ceasing operations. (Aa693.)

Levitan found further that PSEG Nuclear had included other costs that should not be taken into consideration when determining whether the nuclear power plants are projected to not fully cover their costs and risks. On labor costs, Levitan reasoned that, even if the plants retired, one-half of the staff would still be required for a number of years to monitor the reactor and storage pool while fuel remains in place, to operate and maintain water cooling/circulation systems, transfer spent fuel from the reactor to the storage pool and encase it in dry storage casks, store the casks and provide security services. Accordingly, only fifty percent (50%) of the plants' labor costs would be avoided, not the full amount included by the applicants. (Aa686.) Similarly, Levitan concluded that about half of the plants' non-labor costs for materials, outside services, support services and fully allocated overhead would continue even after retirement. (Aa689-Aa690.) Levitan also disregarded the spent fuel costs that PSEG Nuclear had included in its certified cost projections. It noted that those costs were not being incurred at all, since the U.S. Department of Energy had stopped collecting fees for future storage of spent fuel at a yet-to-be-built off-site facility and was reimbursing nuclear plants for the cost of on-site storage. (Aa687-Aa689.)

Analysis of BPU's Eligibility Team

On April 17, 2019, BPU's Eligibility Team issued memoranda to the BPU addressing the eligibility of each nuclear power plant that had submitted ZEC applications. In each case, the Eligibility Team found that the applicant had failed to meet the financial need criterion for eligibility under Section 3.e.3. of the ZEC Act.

The Eligibility Team based its determination on an analysis of what costs and risks would be avoided if the plant ceased operations. It reasoned that the requirement that a nuclear power plant demonstrate that it "is projected to not fully cover its costs and risks," set forth in Section 3.e.3, must be read in conjunction with the requirement in Section 3.a. that an applicant submit financial information that includes "the cost of operational risks and market risks that would be avoided by ceasing operations." (Aa627; Aa644-Aa645; Aa661.) And it explained its determination on the basis of that statutory interpretation:

> In interpreting the relationship between these two subsections—subsection (e) requiring evaluation of "costs and risks" and subsection (a) including "the cost of operational risks and market risks that would be avoided by ceasing operations" as part of the financial information submitted in an application, Staff followed the logical flow of the Act as written and, based on thorough analysis, came to a determination regarding costs and risks that is consistent with prior Board decisions, established best practices for ratemaking, and sound economic principles.
>
> [Aa627-Aa628; Aa645; Aa662.]

The Eligibility Team then went on to address and reject specific costs that PSEG Nuclear had included in its ZEC applications. Chief among those was the projected cost of operational and market risks. The Team noted that PSEG Nuclear's financial projections on operational and market risks did not distinguish between avoidable and non-avoidable costs, and that even when asked to produce such information, PSEG Nuclear had failed to do so. (Aa631; Aa648; Aa665.) It agreed with Levitan that, although the inclusion of operational and market risks may be a useful and valid planning tool, such risks do not represent true costs that are incurred and would be avoided by ceasing operations. (Id.) It therefore excluded operational and market risks in its evaluation of a unit's avoidable costs.

The Eligibility Team also excluded half of all labor costs, half of all non-labor costs, and all spent fuel costs included by PSEG Nuclear in its applications, for the reasons stated in the Levitan report. (Aa631-Aa632; Aa649; Aa665-Aa666.)

The Team found that, if the foregoing costs are removed, all three of the nuclear power plants would have revenues that exceeded their avoidable costs for each year from June 2019 to May 2022. (Aa633; Aa650; Aa667.) It concluded that each applicant unit is financially viable and therefore is not eligible for ZECs. (Aa634; Aa651; Aa670.)

The Board Agenda Meeting

On April 18, 2019—the day after BPU Staff had provided its eligibility analysis—the BPU commissioners held a Board Agenda Meeting to discuss and act upon the ZEC applications filed on behalf of Salem 1, Salem 2 and Hope Creek. The Board did not conduct an evidentiary hearing, but all five commissioners made statements regarding their approach to the issues before them.

BPU President Joseph L. Fiordaliso began with a statement that largely previewed the text of the order entered by the Board that same day. He thanked the BPU Staff and Eligibility Team for their efforts in evaluating the ZEC applications, the comments from interested parties, and the expert report of Levitan. But he declined to adopt their conclusions on operating and market risks:

> Based on the specific language of the legislation, however, I believe that the intent of the legislation was for the Board, as the ultimate decision-makers, to consider operational risks and market risks in its evaluation of these applications. And that it is squarely within the Board's authority to determine the weight that should be given to these factors; namely, risks.
>
> We're defining in the ZEC Act to include operational risks, i.e., operational costs or operating costs higher than anticipated and market risks, i.e., market energy and capacity price volatility.
>
> I further believe that we must balance protecting ratepayers with our responsibility to the citizens of the State; and in making this decision, I believe the Board must, therefore, also consider other outside factors, including fuel diversity, resiliency, impact on RGGI, New Jersey's economy, increasing carbon, environmental impact, and the Global Warming Response Act.
>
> [Aa732:25 to Aa733:19.]

President Fiordaliso went on to recommend a vote in favor of awarding ZECs to Salem 1, Salem 2 and Hope Creek. (Aa735.)

Commissioner Dianne Solomon spoke next. She noted that the ZEC legislation provided "very specific criteria" (Aa736:11-12) for determining whether a nuclear power plant was entitled to ZECs. Specifically, the legislation requires that the generator show that its costs and risks exceed its revenues. If not, "we do not have the authority under the legislation tool [sic] for ZECs." (Aa736:19-20.) She added that "[t]he question on which our decision turns is whether PS's included risks are real and represent a cost of operation." (Aa738:18-20.) However, she never gave her answer to that question. Instead, she compared the consequences that would occur if PSEG Nuclear was correct in its assessment of risks versus the consequences that would occur if it was not correct (Aa738:22-Aa739:5), and bemoaned the failure of the statute to give the board the authority to determine what amount of subsidy should be awarded (Aa739:6-14). She concluded:

> I am, therefore, required to make a Hobson's choice. Because I believe that some level of subsidy is warranted and I believe that the risk of losing our in-state generation and the resulting loss of jobs and costs to ratepayers and the environment, as well as system reliability, outweighs the cost of the proposal, I will reluctantly vote yes.
>
> [Aa739:15-21.]

Commissioner Robert Gordon then spoke. He noted that "[t]he statute governing our decision-making process provided very little flexibility" (Aa740:12-13), and expressed the view that "the Board is being directed to pay ransom and the hostages are the citizens of New Jersey" (Aa742:14-16). He questioned the contention of PSEG Nuclear and Exelon that all three plants are operating at a loss, and noted that every independent analyst that had submitted an assessment to the Board had reported that the applicants' cost figures are "grossly inflated" (Aa742:25) and that each plant is covering its avoidable or going forward costs, "which means that it is economically rational to keep those plants in operation" (Aa743:5-7). He expressed the belief that the ZEC legislation had been enacted, not because the three nuclear power plants are losing money, but because they are not profitable enough. (Aa743:13-16.) Then, in the passage quoted at the outset of this brief, he stated he would look beyond a strict reading of the ZEC legislation and would take a "more expansive view of the factors that should drive this decision." (Aa743:19-23.) He proceeded to support the ZEC subsidies for each of the plants in question.

Next, Commissioner Upendra Chivukula stated, in no uncertain terms, his opposition to granting ZECs to the three plants. Addressing his remarks to Thomas Walker, the Director of State Energy Services who had authored the

memoranda setting forth the Eligibility Team's conclusions, Commissioner Chivukula said:

> Today, when I look at this thing, I think this is highway robbery. And one of the most powerful companies in New Jersey, in the United States is holding, you know, as well as — said, holding over to the head and I talked about that.
>
> The—here, you can, you know, skin the cat whatever way you want.
>
> It's very clear that based on your testimony, these three units, along with Independent Market Monitor, along with the ratepayer counsel and advocate, so they all say that, that they do not need the subsidy at this time.
>
> [Aa748:13-24.]

Finally, Commissioner Mary-Anna Holden spoke. She voiced her concerns over the costs of decommissioning the nuclear power plants and the widespread job loss that would entail. (Aa751:12-Aa752:2.) She then addressed the costs and risks to be considered in determining a plant's eligibility for ZECs:

> Reviewing all reports and opinions, clearly the zero emission certificate legislation directed the Board. Consideration of air attributes was certainly important; but more so, costs and risks, including risk adjusted cost of capital, operational risks, and market risks—most notably, if output were unable to be sold at projected levels—being key factors of eligibility,
>
> In some opinions, assumptions were made if the plant was not operating, there would be no operational risks. That seems intuitively obvious. The goal, to me, is to keep these valued assets operational. Therefore, inherent logic has to assume there is quantifiable risk that cannot be zeroed out.

> In another opinion, market risk was deemed ineligible because true cost could not be assessed until the risk was realized. Then, by that logic, it would no longer be risk but a sure thing. I thought market risk was the legislative driver, in not only New Jersey, but Illinois, Ohio, Pennsylvania, Connecticut, and New York legislation.
>
> This decision then relies upon the preferred methodology one would choose in a standard rate case.
>
> Do you prefer a historic test year where everything is known and measurable or future test year where revenues and expenditures are projected?
>
> I, for one, will not play the equivalent of a generation chicken game with our nuclear power plants. We are talking about the future. What will happen in three years from now? We must project, as in a future test year.
>
> [Aa752:8-Aa753:13.]

Based on this logic, Commissioner Holden voted in favor of eligibility.

The Board then voted, 4 to 1, to approve the motion to award ZECs to the Salem 1, Salem 2 and Hope Creek nuclear power plants.

The BPU's Written Decision and Order

The BPU issued its written decision and order granting the three ZEC applications that same day. The Board noted that its Staff and its expert, Levitan, had "adopted the Board's more traditional view that certain items raised by the applicants—specifically, inclusion of operational risks and market risks, along with other non-realized costs submitted with the applications—should not be considered in the analysis of the need for ZECs." (Aa611.) But the Board believed it was

constrained by the language of the statute itself to include those factors when assessing a plant's financial need:

> The Board believes, however, that the Legislature was clear and specific regarding the criteria according to which the applicants were to be evaluated and the time frame in which the Board was to make a determination. The process and procedures outlined in the Act are a deviation from the usual process and procedures that the Board follows when the Board receives an application from the utilities it regulates. The requirements outlined in the Act are made more difficult to implement by the fact that the applicants for ZECs are not regulated utilities and therefore are not subject to the Board's regulations. Specifically, the ZEC applicants do not have authorized rates of return nor are they subject to rate cases.
>
> More specifically, the issues included in the Act that the Board does not typically consider are operational risks and market risks. The Board believes that the intent of the legislation was for the Board to consider operational risks and market risks in its evaluation of these applications. Under section 3.e (3) of the Act, PSEG must demonstrate that each ". . . nuclear power plant is projected to not fully cover its costs and risks . . . ." The "risks" were defined in the Act to include "operational risks," i.e., operating costs higher than anticipated, and "market risks," i.e., market energy and capacity price volatility. The Board accepts the determination of the Act that these factors must be considered in determining eligibility for ZECs. It clearly is within the Board's authority to determine the weight that should be given to these factors.
>
> [Aa612.]

Applying its reading of the statute, the Board then concluded that all three nuclear power plants were eligible to receive ZEC subsidies:

> Based on the specific language of the Act, therefore, the Board believes that the Legislature specifically intended that these considerations be accounted for in the Board's review of the ZEC applications and that the Board must consider these risks along with

other outside factors, including fuel diversity, resiliency, and the impact of nuclear power plant retirement on RGGI, New Jersey's economy, carbon, and the Global Warming Response Act. Had the Eligibility Team and [Levitan] considered the two risk factors as well as the other externalities, and had they reviewed the financial filings as submitted by the applicants, the plants would have been deemed eligible to receive subsidies, as a matter of fact.

[Aa613.]

ARGUMENT

POINT ONE

THE BOARD'S DECISION THAT ALL THREE APPLICANTS MET THE FINANCIAL NEED CRITERION FOR AN AWARD OF ZECS WAS BASED ON A PLAINLY UNREASONABLE CONSTRUCTION OF THE ENABLING LEGISLATION

The ZEC Act calls for the BPU to conduct a rigorous analysis of an applicant's financial information, including the cost of operating and market risks that would be avoided if the plant shuts down, before certifying that the plant is projected to not fully cover its costs and risks. But the construction of the ZEC Act on which the BPU based its decision to award ZECs improperly allowed the agency to consider unquantified risks and "other externalities" as fudge factors tipping the scale in favor of a finding of financial need. That construction ran roughshod over the safeguards that the Legislature had placed into the statute, exceeded the authority delegated to the BPU, and was plainly unreasonable.

A. Standard of Review

Appellate review of an agency decision calls for the court to conduct a three-part analysis:

> (1) whether the agency's action violates express or implied legislative policies, that is, did the agency follow the law; (2) whether the record contains substantial evidence to support the findings on which the agency based its action; and (3) whether in applying the legislative policies to the facts, the agency clearly erred in reaching a conclusion that could not reasonably have been made on a showing of the relevant factors.

In re Alleged Improper Practice Under Section XI, Paragraph A(d) of the Port Authority Labor Relations Instruction, 194 N.J. 314, 331-332 (2008), cert. denied, 555 U.S. 1069 (2008), quoting In re Herrmann, 192 N.J. 19, 27 (2007). In determining whether the agency did in fact "follow the law," the reviewing court conducts a *de novo* review of the agency's construction of the enabling legislation. Russo v. Board of Trustees, Police and Firemen's Retirement System, 206 N.J. 14, 27 (2011).

When an agency's decision is based on its interpretation of a statute or its determination of a strictly legal issue, reviewing courts are not bound by the agency's interpretation. Saccone v. Board of Trustees of Police and Firemen's Retirement System, 219 N.J. 369, 380 (2014). "That is so because it is the responsibility of a reviewing court to ensure that an agency's administrative actions do not exceed its legislatively conferred powers." In re Virtua-West Jersey Hosp. Voorhees for a Certificate of Need, 194 N.J. 413, 422 (2008).

A court may give substantial deference to an agency's interpretation of a statute that the agency is charged with enforcing, particularly when its interpretation involves a permissible construction of an ambiguous provision or the exercise of expertise. Bowser v. Board of Trustees, Police and Firemen's Retirement System, 455 N.J. Super. 165, 171 (App. Div. 2018). However, an agency may not under the guise of interpretation give a statute a greater effect than

the language allows. Matter of Schedule of Rates for Barnert Memorial Hosp., 92 N.J. 31, 40 (1983). The touchstone is whether the agency's construction of the statute is "plainly unreasonable." Communications Workers of America, AFL-CIO v. New Jersey Civil Service Com'n, 234 N.J. 483, 515 (2018); Waksal v. Director, Div. of Taxation, 215 N.J. 224, 231 (2013). An agency's construction of a statute is plainly unreasonable if it gives a statute any greater effect than is permitted by the statutory language, alters the terms of a legislative enactment, frustrates the policy embodied in the statute, or is plainly at odds with the statute. Patel v. New Jersey Motor Vehicle Com'n, 200 N.J. 413, 420 (2009) (citing T.H. v. Div. of Developmental Disabilities, 189 N.J. 478, 491 (2007)).

B. The Board's construction of the ZEC Act is plainly at odds with the statute's requirement that an applicant demonstrate that its projected costs—including the cost of operational and market risks—exceed its projected revenues over the next three years.

A fundamental tenet of statutory construction requires that a statute be read in its entirety and that each part or section be construed in connection with every other part or section so as to provide a harmonious whole. Patel, 200 N.J. at 419; Burnett v. County of Bergen, 198 N.J. 408, 421 (2009). Another fundamental tenet requires that the words used in a statute be given their plain meaning. Patel, 200 N.J. at 418. In addition, it must be presumed that every word has meaning and is not mere surplusage; to construe a statute otherwise would be to render part of it

superfluous. Jersey Central Power & Light Co. v. Melcar Utility Co., 212 N.J. 576, 587 (2013).

The BPU failed to follow these basic principles when considering the financial need requirement for obtaining a subsidy under the ZEC Act. That failure requires a reversal of its decision granting ZECs to the Salem 1, Salem 2 and Hope Creek nuclear power plants.

The five criteria that an applicant must satisfy in order to be eligible to receive a ZEC subsidy are set forth in the separately-numbered subsections of Section 3.e. of the ZEC Act. N.J.S.A. 48:3-87.5(e)(1)-(5). An applicant must satisfy all five of those criteria in order to be certified as an eligible nuclear power plant. One of those criteria requires a showing that the plant contributes to the air quality of New Jersey by minimizing harmful emissions. N.J.S.A. 48:3-87.5(e)(2). A separate criterion requires a plant to demonstrate that it is in financial need of the statutory subsidy in order to cover its projected costs and risks. N.J.S.A. 48:3-87.5(e)(3). Those are discrete requirements, and the fact that an applicant may satisfy one has no bearing whatsoever on whether it will satisfy the other.

N.J.S.A. 48:3-87.5(e)(3) lays out both what an applicant must demonstrate in the way of financial need and how it must go about making that demonstration. To be eligible for ZECs, a nuclear power plant must

> demonstrate to the satisfaction of the board, through the financial and other confidential information submitted to the board pursuant to

> subsection a. of this section, and any other information required by the board, . . . that the nuclear power plant's fuel diversity, air quality, and other environmental attributes are at risk of loss because the nuclear power plant is projected to not fully cover its costs and risks, or alternatively is projected to not cover its costs including its risk-adjusted cost of capital, and that the nuclear power plant will cease operations within three years unless the nuclear power plant experiences a material financial change; . . . .

Pursuant to the plain language of this provision, the way that a nuclear power plant goes about proving that it is projected to not fully cover its "costs and risks," and that it will cease operations within three years unless it experiences a material financial change, is through the "financial and confidential information submitted to the board pursuant to subsection a. of this section." N.J.S.A. 48:3-87.5(a) provides a detailed explanation of the information that must be submitted to the board in that regard. That information includes "the cost of operational risks and market risks that would be avoided by ceasing operations." N.J.S.A. 48:3-87.5(a) then goes on to specifically define the meaning of "operational risks" and "market risks" as used in that subsection.

The financial need requirement set forth in subsection e.3 of N.J.S.A. 48:3-87.5 does not exist in a vacuum. By its own terms, it must be read in conjunction with subsection a. But the BPU's written decision completely ignores the statutory requirement that an applicant submit financial information as to the cost of operational and market risks that would be avoided by ceasing operations, and

treats the "risk" factor of subsection e.3 as something that it may consider separately from and in addition to the "cost" factor:

> The Board believes that the intent of the legislation was for the Board to consider operational risks and market risks in its evaluation of these applications. Under section 3.e (3) of the Act, PSEG must demonstrate that each ". . . nuclear power plant is projected to not fully cover its costs and risks . . . ." The "risks" were defined in the Act to include "operational risks," i.e., operating costs higher than anticipated, and "market risks," i.e., market energy and capacity price volatility. The Board accepts the determination of the Act that these factors must be considered in determining eligibility for ZECs. It clearly is within the Board's authority to determine the weight that should be given to these factors.
>
> [Aa612; emphasis supplied.]

Nothing in the ZEC Act supports the Board's interpretation that it has the authority to give operating and market risks whatever weight it sees fit when analyzing an applicant's financial need. The "risk" factor is not a silver bullet that will save a ZEC application when an applicant is not otherwise able to demonstrate that its projected costs for the next three years outstrip its projected revenues. Under Section 3.a. of the ZEC Act, the Board is supposed to evaluate the cost of operational and market risks that would be avoided if the plant were to cease operations. N.J.S.A. 48:3-87.5(a). That is how those risks factor into the analysis: as part of the projected costs of keeping the plant in operation.

The BPU's Eligibility Team got this right when it explained how it had interpreted and applied the statute:

> In interpreting the relationship between these two subsections—subsection (e) requiring evaluation of "costs and risks" and subsection (a) including "the cost of operational risks and market risks that would be avoided by ceasing operations" as part of the financial information submitted in an application, Staff followed the logical flow of the Act as written and, based on thorough analysis, came to a determination regarding costs and risks that is consistent with prior Board decisions, established best practices for ratemaking, and sound economic principles.
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> [Aa627-Aa628; Aa645; Aa662.]

But the Board rejected this construction of the ZEC Act. (Aa612.) It then compounded its own misreading by relying on factors other than costs and risks when evaluating whether the applicants had demonstrated the requisite financial need:

> Based on the specific language of the Act, therefore, the Board believes that the Legislature specifically intended that these considerations be accounted for in the Board's review of the ZEC applications and that the Board must consider these risks along with other outside factors, including fuel diversity, resiliency, and the impact of nuclear power plant retirement on RGGI, New Jersey's economy, carbon, and the Global Warming Response Act.
>
> [Aa613; emphasis supplied.]

Nothing in N.J.S.A. 48:3-87.5(a) or N.J.S.A. 48:3-87.5(e)(3) permits the BPU to consider these "other outside factors" when assessing a plant's financial need. Certainly "fuel diversity, resiliency, and the impact of nuclear power plant retirement on RGGI, New Jersey's economy, carbon, and the Global Warming Response Act" may have been factors motivating the Legislature to pass the ZEC

Act in the first place, but those are not factors that have any bearing on a nuclear power plant's financial need for ZECs. For the BPU to have relied in any way, shape or form on those factors when considering financial need was, purely and simply, legal error.

The statements made by the BPU commissioners who voted in favor of granting ZECs are illuminating in terms of how profoundly unreasonable their interpretation of the ZEC Act was. President Fiordaliso's comments (Aa732:25 to Aa733:19) essentially track the text of the Order and suffer from the same infirmities as the written decision itself. Commissioner Solomon got the question right—"whether PS's included risks are real and represent a cost of operation" (Aa738:19-20)—but she never answered that question or the larger question of whether the plant's costs exceed its revenues (Aa736:11-20). She simply concluded, without explanation, that "some level of subsidy is warranted" (Aa739:16-17), and proceeded to cast her vote in favor of granting ZECs by citing to her own set of outside factors, including job loss and system reliability. Commissioner Gordon, despite concluding that the language of the ZEC statute itself "links eligibility for the subsidy to a determination of operating loss," stated that he was "compelled to take a more expansive view of the factors that should drive this decision." (Aa743:20-23; emphasis supplied.) And Commissioner Holden appeared to conclude that the ZEC Act had "directed" the Board to award

ZECs. (Aa752:8-10.) She proceeded to assume the existence of quantifiable risk on the basis of nothing other than "inherent logic." (Aa752:20-21.)

All of this flies in the face of what the statute itself says and requires: a discrete assessment and determination of financial need based on the evidence, without any regard to externalities, assumptions, inherent logic, or factors that the Legislature "should have" but did not direct the BPU to consider. The statute calls for the BPU to actually quantify, in terms of dollars and cents, the projected cost of operating and market risks—not to apply some open-ended risk factor bearing no relationship to the costs of operating and market risks that would be avoided if the plant ceased operations. That point was lost on the commissioners who had the final say as to whether the ZEC applicants had satisfied all five of the criteria set out in the statute for being certified as eligible nuclear power plants.

Any idea that the Legislature had, for all intents and purposes, directed the BPU to award ZECs to PSEG Nuclear by including the "risks" factor in the statute is dispelled by the Legislature's own pronouncements on that subject. As Rate Counsel notes in its brief (Ab10-Ab11), the primary sponsor of Senate Bill 877, Senate President Sweeney, assured everyone present during the hearing before the Senate Environment and Energy Committee on January 25, 2019, that it was not the intent of the proposed legislation to guarantee a subsidy to anyone: "This creates one thing—a process of review where PSEG will show their books to the

BPU and the BPU has the authority and ability to make a determination at that point. There is no guarantee here." (Hearing of the Senate Environment and Energy Committee on S. 877, January 25, 2018, audio recording at 16:46; available at https://www.njleg.state.nj.us/media/mp.asp?M=A/2018/SEN/0125 1000AM-M0-1.M4A&S=2018.) The chair of the committee, Bob Smith, likewise sought to assuage concerns that the proposed legislation permitted the BPU to take an applicant's representations as to financial need at face value, stating emphatically:

> You do understand, we don't take it at face value. We've set up a mechanism where the Board of Public Utilities gets to see any information that Public Service has and ask for more, and they have to independently come up with a conclusion that the subsidy is needed to keep the plants in operation. So we're not giving this subsidy. They have to prove to an independent body set up by the State of New Jersey to protect the ratepayers as well as make sure there's sufficient energy for the State, they have to prove to them that they do have those financial problems.
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> [Hearing of the Senate Environment and Energy Committee on S. 877, January 25, 2018, audio recording at 2:09:28; available at https://www.njleg.state.nj.us/media/mp.asp?M=A/2018/SEN/0125-1000AM-M0-1.M4A&S=2018.]

BPU Staff gave a similar assurance following the enactment of the law. In the Q&A letter it sent out addressing various questions that had been raised about implementation of the ZEC law, it bluntly answered "No" to the question whether ZEC credits are a foregone conclusion, adding,

> Under the ZEC law the BPU has the ability to determine which, if any, plants are eligible to participate in the program based upon the criteria discussed below. The BPU further has the clear statutory authority to determine that no plants are eligible. ZECs will only be allocated if the BPU determines that one or more plants are eligible.
>
> [P3a1.]

But in the final analysis, these assurances were all for naught. The BPU chose to override the interpretation given to the statute by its own Eligibility Team, saying:

> Had the Eligibility Team and [Levitan] considered the two risk factors as well as the other externalities, and had they reviewed the financial filings as submitted by the applicants, the plants would have been deemed eligible to receive subsidies, as a matter of fact.
>
> [Aa613; emphasis supplied.]

The BPU's own words, and those of the commissioners who voted in favor of certifying all three ZEC applicants as eligible nuclear power plants, reveal the BPU's interpretation of the statutory language to be plainly unreasonable. Yes, the BPU had discretion with respect to its review of the financial information on which it was to base its determination of financial need. But it was required by law to exercise that discretion in accordance with the authority actually conferred on it by the Legislature—not by accepting the financial filings submitted by the applicants at face value. The BPU's misreading of the statute caused it to exceed the delegation of authority it had actually been given. Its decision should be overturned, as a matter of law.

POINT TWO

THE BPU'S DECISION WAS ARBITRARY AND CAPRICIOUS BECAUSE IT WAS UNSUPPORTED BY ANY FINDINGS OF FACT AS TO THE COST OF OPERATIONAL AND MARKET RISKS

The BPU's determination that the Salem 1, Salem 2 and Hope Creek nuclear power plants satisfied the financial need requirement for ZEC eligibility included no fact findings as to the cost of operational and market risks that would be avoided if the plants were to cease operations. The Board simply treated those risks, along with other "externalities," as unquantifiable evidence of financial need to which it could give whatever weight it wanted. That treatment of operational and market risks was arbitrary and capricious, and fatally taints the Board's decision to award ZECs to those three plants.

A. Standard of Review

In addition to determining whether an administrative agency properly followed the law, a reviewing court must consider whether the findings of fact on which the agency based its decision are supported by substantial evidence and whether the agency erred in applying the law to the facts. In re Alleged Improper Practice, supra, 194 N.J. at 331-332; Public Service Electric and Gas Co. v. New Jersey Dept. of Envtl. Protection, 101 N.J. 95, 103 (1985). Administrative agencies charged with applying legislative policies to particular individuals act in a quasi-judicial capacity, and fact-finding is a basic requirement imposed on them.

In re Issuance of a Permit, 120 N.J. 164, 171 (1990); Blyther v. New Jersey Dept. of Corrections, 322 N.J. Super. 56, 63 (App. Div. 1999), certif. denied, 162 N.J. 196 (1999). The agency's findings of fact must be sufficiently specific that a reviewing court is able to ascertain whether the facts on which an order is based afford a reasonable basis for that order. New Jersey Bell Tel. Co. v. Communications Workers of America, 5 N.J. 354, 377 (1950).

"[T]here is a compelling need for quasi-judicial and administrative agencies to understand what constitutes adequate findings of fact, the practical reasons why they are mandated, the distinctions between ultimate and basic facts, and the necessity that the findings have evidentiary support." Benjamin Moore & Co. v. City of Newark, 133 N.J. Super. 427, 429 (App. Div. 1975). As stated by the court in Blackwell v. Dept. of Corrections, 348 N.J. Super. 117, 122 (App. Div. 2002):

> [A] mere cataloging of evidence followed by an ultimate conclusion of liability, without a reasoned explanation based on specific findings of basic facts, does not satisfy the requirements of the adjudicatory process because it does not enable us to properly perform our review function . . . .

Accord, Riverside General Hosp. v. New Jersey Hosp. Rate Setting Com'n, 98 N.J. 458, 468 (1985); Application of Howard Savings Inst. of Newark, 32 N.J. 29, 52 (1960).

Courts will defer to the technical expertise of an agency when that expertise is a factor in the agency's decision. In re Adoption of Amendments to Northeast,

Upper Raritan, Sussex and Upper Delaware Water Quality Management Plans, 435 N.J. Super. 571, 583 (App. Div. 2014), certif. denied, 219 N.J. 627 (2014). But no special deference is appropriate where an agency's technical expertise is not a pertinent factor in how the agency reached its decision. 613 Corp. v. State, Div. of State Lottery, 210 N.J. Super. 485, 496 (App. Div. 1986). And the requirement that an agency's decision be based on specific findings of fact applies regardless of the amount of technical expertise the agency may bring to the table:

> [N]o matter how great a deference the court is obliged to accord the administrative determination which it is being called upon to review, it has no capacity to review at all unless there is some kind of reasonable factual record developed by the administrative agency and the agency has stated its reasons grounded in that record for its action.

In re Issuance of a Permit, 120 N.J. at 173 (quoting State v. Atley, 157 N.J. Super. 157, 163 (App. Div. 1978)).

An agency's decision that is not based on specific findings of fact is nothing but "willful and unreasoning action, without consideration and in disregard of circumstances," and should be overturned as arbitrary and capricious. In re Proposed Xanadu Redevelopment Project, 402 N.J. Super. 607, 642 (App. Div. 2008), certif. denied, 197 N.J. 260 (2008) (quoting Bayshore Sewer Co. v. Dept. of Envtl. Protection, 122 N.J. Super. 184, 199 (Ch. Div. 1973), aff'd, 131 N.J. Super. 37 (App. Div. 1974)).

B. The Board's conclusion that the ZEC applicants had established a need for financial subsidies was not based on any specific fact findings regarding the cost of operational and market risks.

N.J.S.A. 48:3-87.5(a) requires that any nuclear power plant seeking to participate in the ZEC program provide the BPU with "certified cost projections over the next three energy years" that include "the cost of operational risks and market risks that would be avoided by ceasing operations." But the BPU made no findings of fact with regard to that cost factor. It simply concluded that the "costs and risks" language of N.J.S.A. 48:3-87.5(e)(3) required it to give weight to operational and market risks independent of costs—a conclusion that was based on an improper construction of the ZEC Act itself. (See Point One.)

But even ignoring the evidentiary requirements of N.J.S.A. 48:3-87.5(a), the BPU could not have reached a conclusion on the ultimate issue of financial need without attempting to quantify the impact of operational and market risks on a plant's ability to "fully cover its costs and risks." N.J.S.A. 48:3-87.5(e)(3). Implicit in the Legislature's use of the term "cover" is a comparison of money in to money out.[4] The BPU made no fact findings whatsoever in this regard. Instead, it appeared to blindly accept the submissions of PSEG Nuclear on that subject, overriding the conclusions of its own professional staff and expert and thereby

[4] Among the definitions of the word "*cover*" is "to defray the cost of," as in "*cover* expenses." Cover [def. 13]. 2019. In Miriam-Webster Online, retrieved October 21, 2019, from https://www.merriam-webster.com/dictionary/cover.

undermining the entire purpose of including a financial eligibility factor in the ZEC legislation.

The BPU begins its discussion of the applicants' financial eligibility for ZECs by rejecting the analysis of its own Staff and expert, Levitan, regarding the cost of operational and market risks. It states that they had "adopted the Board's more traditional view that certain items raised by the applicants—specifically, inclusion of operational and market risks, along with other non-realized costs submitted with their applications—should not be considered in the analysis of the need for ZECs." (Aa611.) But in the Board's estimation, the process and procedures of the Act are "a deviation from the usual process and procedures that the Board follows when the Board receives an application from the utilities it regulates." (Aa612.) It then points specifically to operational and market risks as issues that the Board "does not typically consider," and concludes that the legislation requires consideration of those issues in the Board's evaluation of the applications, saying, "It clearly is within the Board's authority to determine the weight that should be given to these factors." (Id.)

The Board then jumps to the ultimate conclusion—without any further analysis or findings—that the applicants have satisfied the financial need requirement for obtaining ZECs:

> Based on the specific language of the Act, therefore, the Board believes that the Legislature specifically intended that these

> considerations be accounted for in the Board's review of the ZEC applications and that the Board must consider these risks along with other outside factors, including fuel diversity, resiliency, and the impact of nuclear power plant retirement on RGGI, New Jersey's economy, carbon, and the Global Warming Response Act. Had the Eligibility Team and [Levitan] considered the two risk factors as well as the other externalities, and had they reviewed the financial filings as submitted by the applicants, the plants would have been deemed eligible to receive subsidies, as a matter of fact.
>
> [Aa613.]

The Board's reasoning here is suspect on a variety of grounds:

First, notwithstanding the Board's view, the Eligibility Team and Levitan did consider operational and market risks in analyzing the applicants' financial eligibility for an award of ZECs. They did so by analyzing whether those factors represent costs that "would be avoided by ceasing operations," within the intendment of N.J.S.A. 48:3-87.5(a). The Eligibility Team's review of the applications noted that PSEG Nuclear's financial projections on operational and market risks did not distinguish between avoidable and non-avoidable costs, and that even when asked to produce such information PSEG Nuclear had failed to do so. (Aa631; Aa648; Aa665.) PSEG Nuclear's failure to provide information requested by the Board, as required by the statute, was in and of itself a basis for "zeroing out" the cost of those risks for purposes of determining financial need.

The record also discloses other reasons for discounting the cost of operational and market risks. The comments submitted by Rate Counsel and

IMM—the two intervenors given access to PSEG Nuclear's confidential financial information—challenged PSEG Nuclear's use of "adders" for those risks as speculative and based on unverifiable costs. (Aa169-Aa170; Aa383.) Levitan's report noted that nuclear power plants do not face the same short-term fuel cost uncertainties as gas-fueled plants and questioned whether the use of a 10 percent adder for operational risks made sense in that regard—even if the PJM market allows the use of such an adder when submitting bids. (Aa691-Aa693.) Levitan also questioned PSEG Nuclear's calculation of the cost of market risks (such as the inability to sell output at projected levels) as having been based on its parent company's entire generating portfolio, which includes gas-fired and coal-fired plants. (Aa693.) P3's comments cited to the facts that the three applicants had cleared the Base Residual Auction for the PJM market and were committed to provide energy through May 31, 2022 at their cleared capacity commitment, that the plants would face significant financial penalties if they failed to do so, and that no nuclear unit in PJM with a capacity obligation had ever ceased operations and defaulted on a capacity commitment. (Aa185-Aa187). P3 also responded to BPU Staff's questions as to how generators in the PJM market typically cover their operational and market risks, explaining how such risks are mitigated through practices such as enhanced maintenance, market offers, and hedging contracts. (P3sa4-P3sa10.) All of this information was considered by the Eligibility Team in

evaluating the cost of operational and market risks that would be avoided if the plants shut down. (Aa628-Aa630; Aa645-Aa647; Aa662-Aa664.)

Second, the Eligibility Team's conclusion that the three nuclear plants were not eligible for ZECs did not rest exclusively on the existence or non-existence of quantifiable operating and market risks. The Eligibility Team agreed with Levitan's assessment that the three applicants had included certain other costs in their applications that would not be avoided if they ceased operations or that would not have been incurred in the first place. Thus, the Team's analysis excluded half of all labor and non-labor costs submitted by PSEG Nuclear on the ground that, even if the plants shut down, for a number of years they would still incur one-half of their operating costs in those categories. (Aa631-Aa632; Aa649; Aa665-Aa666.) The Team also rejected altogether the inclusion of the spent fuel costs projected by PSEG Nuclear on the ground that the plants were not incurring those costs at all because the U.S. Department of Energy had stopped collecting fees for future off-site storage and was reimbursing nuclear plants for the cost of on-site storage. (Aa632; Aa649; Aa666.) The Board, on the other hand, never addressed those costs in its decision.[5]

[5] The Board's failure to make any findings of fact with regard to whether those labor, non-labor and spent fuel costs should be included in determining the profitability of the plants takes on added significance if one accepts the conclusion of Rate Counsel that, even without Staff's adjustment to eliminate the applicants'

Third, the Board's decision included no analysis of the basic facts that go into the decision whether the three nuclear power plants would or would not fully cover their costs and risks. Indeed, the Board made no specific findings whatsoever as to those basic facts. What were the projected revenues that went into its analysis? What were the costs? What figures did the Board use for the cost of operational and market risks? What figures did it use for the cost of labor that would be avoided if the plants ceased operations, for non-labor costs, for spent fuel costs, for all the other elements of projected operating costs over the next three energy years? The Board's Order and written decision fails to provide any answers to these questions.

Instead of making specific findings as to these basic facts, the Board simply ascribes to itself the authority to determine the weight that should be given to the operational and market risk factors. (Aa612.) But that is not what the statute allows. The Board is to determine whether the nuclear power plant "is projected to fully cover its costs and risks." N.J.S.A. 48:3-87.5(e)(3). The "fully cover" language necessarily requires the Board to quantify the cost of operational and market risks in its analysis, along with all other costs and revenues. It is not a weight of the evidence issue.

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claimed costs of operational and market risks, the plants would still be profitable. (Ab42.)

Fourth, the Board's decision relies on outside factors—including fuel diversity, resiliency, and the impact of nuclear power plant retirement on RGGI, New Jersey's economy, carbon, and the Global Warming Response Act—to further tip the scales in favor of its ultimate conclusion of financial need. As discussed in Point One, supra, those considerations are nowhere to be found in the ZEC Act as factors bearing on the financial eligibility requirement.

Fifth,—and perhaps most egregiously—the Board's decision simply accepts PSEG Nuclear's submissions at face value. The Board concludes that if Staff and Levitan had reviewed the financial filings "as submitted by the applicants," the plants would have been deemed eligible to receive subsidies, "as a matter of fact." (Aa613.) This "finding" by the Board on the ultimate issue is not a finding of fact at all. It suggests that the Board has done nothing other than rubber-stamp the applications for approval, and has absolved itself of the statutory duty to certify that an applicant is an eligible nuclear power plant under the ZEC program. This is exactly the outcome that opponents of the ZEC bills feared and that the Legislature assured would not take place.

Tellingly, the Board itself acknowledges that it has no particular experience in conducting the kind of analysis required under the ZEC Act:

> The process and procedures outlined in the Act are a deviation from the usual process and procedures that the Board follows when the Board receives an application from the utilities it regulates. The requirements outlined in the Act are made more difficult to implement

> by the fact that the applicants for ZECs are not regulated utilities and therefore are not subject to the Board's regulations. Specifically, the ZEC applicants do not have authorized rates of return nor are they subject to rate cases.
>
> [Aa612.]

This may explain why the Board did not consider itself bound by its professional staff's evaluation. But it also suggests that, under these circumstances, the Board's own decision is entitled to no particular deference by the reviewing court:

> The deference courts give to an agency's determination in matters within the agency's expertise is based in most instances on our recognition of the support of a professional staff. . . . An agency's expertise includes the expertise of its staff.

New Jersey Dept. of Public Advocate v. New Jersey Bd. of Public Utilities, 189 N.J. Super. 491, 519 (App. Div. 1983) (citations omitted).

The question left unanswered is why the BPU decided in favor of awarding ZECs to the three nuclear power plants that filed applications under the statute. Rate Counsel hypothesizes that it did so because the commissioners believed the plants' owners would shut them down absent those subsidies, and blinked in a high stakes game of "chicken." (Ab2; Ab38.) ZEC applicants are in fact required to demonstrate to the Board that "the nuclear power plant will cease operations within three years unless the nuclear power plant experiences a material financial change." N.J.S.A. 48:3-87.5(e)(3). Further to that requirement, PSEG Nuclear submitted corporate resolutions stating that each of the three plants would be shut

down. But those submissions alone were not grounds for the Board to determine that the plants had satisfied the financial needs requirement for ZEC eligibility. Under N.J.S.A. 48:3-87.5(e)(3), an applicant must demonstrate that it is projected to not fully cover its costs and risks and that it will cease operations within three years unless it experiences a material financial change. Neither demonstration on its own is sufficient to establish a financial need for a ZEC subsidy.

In short, the fact that PSEG Nuclear had resolved to shut down all three of these nuclear power plants within three years if they did not obtain ZEC subsidies does not excuse the Board's lack of analysis and fact finding on the question of whether those plants would fully cover their costs and risks. The law required more than a willful and unreasoning reaction to the threat that the plants would be closed. Without specific findings on the basic facts, the BPU's decision cannot be considered anything other than arbitrary and capricious. Rate Counsel's appeal should be upheld, and the decision of the BPU should be overturned.

CONCLUSION

For all the foregoing reasons, P3 respectfully submits that the BPU's decision should be reversed on appeal.

Dated: November 6, 2019

Respectfully submitted,

s/ Joseph P. LaSala

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December 3, 2018

RE: Zero Emissions Certificate Implementation

Board Staff has developed the following Q&A in regards to the implementation of the Zero Emissions Certificate Law.

Frequently Asked Questions about the Implementation of the Zero Emissions Certificate ("ZEC") Law

The Zero Emissions Certificate ("ZEC") Law (P.L. 2018, c.16) requires the New Jersey Board of Public Utilities ("BPU") to establish a program that may subsidize nuclear power plants at risk of early retirement in order for the state to maintain the environmental benefits that the plants provide. The BPU has established an application process, discussed further below, with applications due by December 19, 2018. The BPU will then determine which plants, if any, are eligible to collect ZECs and rank those eligible plants accordingly. Only a certain number of ranked plants may be eligible to collect ZECs, initially for a three-year period, with each ZEC representing one megawatt-hour of energy produced. The number of plants/units selected will not be determined until the ranking list is considered by the Board in April. The total number of plants will be based on their cumulative output and not exceed 40% of the total energy consumed in NJ from the 2017 Energy Year, as per the law. We anticipate up to three units could be deemed eligible to receive ZECs based upon this parameter.

Q. Are ZEC Credits a foregone conclusion?

A. No. Under the ZEC Law the BPU has the ability to determine which, if any, plants are eligible to participate in the program based upon the criteria discussed below. The BPU further has the clear statutory authority to determine that no plants are eligible. ZECs will only be allocated if the BPU determines that one or more plants are eligible. The BPU has until April 2019 to review ZEC applications and make a final determination regarding eligibility.

Q. How will the Board of Public Utilities determine if a plant is eligible to receive ZECs?

A. The BPU has established a robust and extensive application process for nuclear power plant owners that wish to apply to the ZEC program. Plant owners seeking eligibility must provide a substantial amount of information concerning the plant's finances and environmental impact, as well as the impact of its potential closure on the state. The BPU created the application after conducting a state-wide stakeholder process in which experts and interested parties submitted testimony regarding what information should be contained within the application.

To be deemed eligible for ZECs, plants must satisfy the following five specific criteria:

- The plant must be licensed to operate by the United States Nuclear Regulatory Commission prior to May 23, 2018 and through 2030 or later.
- The plant must demonstrate to the satisfaction of the BPU that it makes a significant and material contribution to the air quality in the State by minimizing emissions that result from electricity consumed in New Jersey, it minimizes harmful emissions that adversely affect the citizens of the State, and if the nuclear power plant were to be retired, that that retirement would significantly and negatively impact New Jersey's ability to comply with State air emissions reduction requirements.
- The plant must demonstrate to the satisfaction of the BPU, through financial and other information submitted to the BPU, that the nuclear power plant's fuel diversity, air quality, and other environmental attributes are at risk of loss because the nuclear power plant is projected to not fully cover its costs and risks, or alternatively is projected to not cover its costs including its risk-adjusted cost of capital, and that the nuclear power plant will cease operations within three years unless the nuclear power plant experiences a material financial change.
- The plant must certify annually that it does not receive any other payment or credit, for its fuel diversity, resilience, air quality or other environmental attributes that will eliminate the need for the nuclear power plant to retire.
- Submit an application fee of $250,000 to the BPU.

In determining if a plant is eligible to receive ZECs, the Board will carefully weigh eligibility and ranking criteria to ensure that any plant receiving ZECs maximizes the benefits to New Jersey.

The complete application can be viewed online at:
https://www.bpu.state.nj.us/bpu/pdf/energy/NJ%20ZEC%20Application%20Issued%2011-19-18.pdf

Q. Are nuclear power plants located outside of New Jersey eligible to receive ZECs?

A. While out-of-state nuclear plants may apply to receive ZECs, only those plants that satisfy the five specific criteria discussed above may be deemed eligible for ZECs.

Q. What is the impact of ZECs on Ratepayers?

A. The size of any ZEC subsidy will vary based upon which, if any, nuclear power plant(s) is found eligible and how much electricity the power plant(s) generates. A ZEC is awarded for each megawatt-hour of energy produced by a selected nuclear power plant. If the Board deems any unit eligible to receive ZECs, the law sets forth a collection rate of $0.004 per kilowatt-hour consumed by retail customers, which would be effective for an initial 3 year period. *While the total amount of collection is estimated to be $300 million per year, the total amount of the ZEC payments to an eligible plant or plants could be less than $300 million, depending on the number of eligible plants*

and their energy output. If more money is collected than is necessary to fund ZEC payments for an Energy Year, the Board will fully refund remaining funds to ratepayers through an annual true-up process.

Electric utilities will only impose this rate change, beginning in April 2019, if the Board deems a plant eligible to receive ZECs. If awarded, and upon completion of the three year period, the Board will reevaluate the necessity of the subsidy and may modify the rate downward, if appropriate, if the Board deems one or more plants eligible for a subsequent three-year subsidy.

If the Board finds that no plants are eligible to receive ZEC payments, there will be no impact on ratepayers.

Q: Can the Board adjust the amount of the ZEC awards and rates collected?

A. If ZECs are awarded, at the end of the first three-year ZEC period the law provides that the Board has the discretion to reduce the $.004 per kilowatt-hour charge if that amount is unnecessary to maintain the State's air quality and environmental objectives. Additionally, the Board has the authority to evaluate whether any plants continue to be eligible for ZEC payments in the subsequent three-year period. In the event that the Board determines no nuclear units are eligible for a subsequent three-year period, the Board may also reduce the per kilowatt-hour charge in the final Energy Year of the initial eligibility period as appropriate.

Q. When will the collection to fund the ZEC program begin?

A. Pursuant to the ZEC Law, the BPU approved the utility tariff mechanism to collect revenues for the ZEC program. *However, this mechanism will only take effect if plants are found to be eligible by the BPU.* If the BPU determines that none of the applicant plants are eligible, no money will be collected to fund the program and the Board will take action to adjust the utility tariffs accordingly. If the Board determines that one or more nuclear power plants are found eligible, the collection will commence in April 2019. If more money is collected than is necessary to pay for subsidies, the remaining funds will be refunded to ratepayers through an annual true-up process.

Q. Will other parties be involved in the decision making process?

A. Yes. The BPU determined at its November 2018 Board Meeting, in consultation with the New Jersey Attorney General's Office, that the New Jersey Ratepayer Advocate and the PJM Independent Market Monitor have been granted full intervention in the ZEC proceeding. As a result, both parties will have access to all of the information submitted by the power plants to the BPU, including confidential financial information. Additionally, the BPU is in the process of hiring a consultant to assist its financial and economic review of the applications, lending additional expertise to the decision-making process.

STATE OF NEW JERSEY
BEFORE THE
BOARD OF PUBLIC UTILITIES

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**

RESPONSE OF PAUL M. SOTKIEWICZ, PH.D. ON BEHALF OF THE PJM POWER PROVDIERS GROUP IN REGARD TO STAFF QUESTIONS ON ACCOUNTING FOR RISK

I. INTRODUCTION

1. My name is Dr. Paul M. Sotkiewicz. I am the President and Founder of E-Cubed Policy Associates, LLC ("E-Cubed") and formerly served as the Chief Economist in the Market Service Division of PJM Interconnection, L.L.C. ("PJM"). I have been asked by the PJM Power Providers Group ("P3") to submit responses on their behalf in regard to questions posed by the New Jersey Board of Public Utilities ("NJ BPU" or "BPU") staff regarding accounting for risk in PJM's markets on March 1, 2019 in BPU Docket No. EO18080899.[1]

2. Specifically, the questions are the following:

> Please describe how generators bidding into the PJM Energy and Capacity Markets typically cover their operational and market risks. Specifically, please

[1] State of New Jersey, Office of Attorney General, Department of Law and Public Safety, Division of Law, In the Matter of the Implementation of L. 2018, c. 16 Regarding the Establishment of a Zero Emission Certification Program for Eligible Nuclear Power Plants BPU Docket No. EO18080899, Letter addressed to PSEG, Rate Counsel, NJLEUC, IMM, NRG, and P3, March 1, 2019.

discuss whether these risks are built into pricing bids (as defined by the PJM market guidelines), or assumed by the bidder?[2]

II. MITIGATING MARKET RISK ASSOCIATED WITH CHANGES IN UNDERLYING CONDITIONS

3. Generation resources can manage shifting supply-demand conditions in both the short-term and long-term through various contractual arrangements that provide price certainty into the future. These shifting supply and demand conditions include secular changes in energy and peak demand growth, changes in underlying fuel prices, and technological innovations that can drive unexpected shifts in market prices for energy and capacity.

4. Given that generation resources owners are much closer to these developments than are customers, the wholesale market places the burden for mitigating these risks on the generation owners.

5. Mitigating such risk does not mean that the generation owners will only get the upside risk of the hedge paying higher-than-market prices, they may also experience instances where the hedge pays out lower-than-market prices. The point of instruments to hedge against overall market risk is that generation owners are buying certainty around their future revenue streams.

6. Additionally, in order to execute such a hedging strategy, generation owners must find a willing counter-party to take the counter position on the hedge. This only happens to the extent that there are counter parties that have a different view of the future and are willing to take the counter position in the anticipation they will earn the upside risk of the hedge.

[2] *Id*.

7. All such hedges against market conditions take place outside of the framework of the PJM market, though the structure of the PJM market provides the opportunity to execute that hedge.

III. OPTIMAL OFFERS AND RISK MITIGATION IN THE ENERGY MARKET

8. In competitive electricity markets it is the responsibility of the generation owner to find the means to mitigate operational and market risks, and to enjoy the payoffs from successfully managing this risk as well as any potential downside of not successfully managing such risks.

9. In the energy market a competitive offer is equal to the generator's marginal cost of operation including fuel cost, variable operating and maintenance ("O&M"), and any emissions related costs such as the cost of allowances for nitrogen oxides ("NOx") and sulfur dioxide ("SO2") related to the EPA administered Cross State Air Pollution Rule ("CSAPR") or carbon dioxide ("CO2") allowances associated with participation in the Regional Greenhouse Gas Initiative ("RGGI").

10. When there is no market power mitigation imposed, generation resources with market-based rate authority granted by FERC can submit offers that can reflect their assessment of risks over and above the aforementioned marginal costs of being committed in the day-ahead ("DA") market or being dispatched in the real-time ("RT") market. However, the inclusion of such risks in market-based energy market offers reduces the likelihood of a resource being committed or dispatched. The consequence of doing so could be to leave the generation resources uncommitted or dispatched despite having costs below the energy price and giving up what is an otherwise profitable strategy. In other words, such a risk mitigation strategy on its own is likely to lead to lower profits than for the generator than it would otherwise enjoy by offering into the energy market competitively.

A. Risk Mitigation in Day-Ahead and Real-Time Energy Markets

11. The kinds of risk that could be faced by being committed in the DA Energy Market include: 1) Tripping offline in the RT energy market when prices are higher than in the DA market and having to settle at the higher RT energy price; or 2) having prices that are higher RT than DA and foregoing additional revenues.

12. The risk of tripping off-line can be easily managed through prudent maintenance practices that ensures the resource will be operational and meets its DA commitments.[3] In fact, for nuclear resources on average, this is not a concern since as a fleet they have the lowest equivalent Forced Outage Rates under demand ("EFORd") of any other generator type in PJM.

13. With respect to the risk of being unable to earn RT prices if they are expected to be higher than DA prices, generators have strategies available to them to manage this market risk. A generation resource with its DA commitment can also simultaneously clear a virtual demand bid known as a Decremental Bid ("DEC") in the DA Energy Market for an amount equal to the amount of generation it clears. In the DA Market the net settlement is then zero.

14. In the RT Energy Market, the DEC is then "unwound" and looks like virtual supply in real-time, but the generator commitment remains and simply runs as committed DA. The RT settlement leaves the generator exposed to RT prices and enjoying those higher prices relative to what they might have earned DA. Of course, there is also the risk that RT

[3] The costs of such prudent maintenance practices can be reflected in the PJM RPM Capacity Market, as discussed below.

energy prices are lower than DA prices and in this case such a strategy may not be profitable.

15. Risk mitigation is not a guarantee of always "winning" or receiving the highest prices possible, but it simply provides certainty to the generator on the prices (DA vs. RT) it will face or the ability to operate to meet its commitments.

B. Risk Mitigation in the Face of Market Power Mitigation in the Energy Market

16. In the energy market, for cost-based offers when market power mitigation is imposed to manage local transmission constraints, there is a 10 percent adder that accounts for the concept that costs cannot be measured perfectly, or for costs that are hard to quantify such as risk. In this way risk can be accounted for in cost-based energy market offers.

17. But again, like market-based offers, including a 10 percent adder into an otherwise competitive offer places the resource at risk for not being dispatched if there are other resources available to manage the local transmission constraint. In the PJM market, the frequency of market power mitigation is extremely low with only 0.1 percent of unit run hours subject to such mitigation.

IV. OPTIMAL OFFERS AND RISK MITIGATION IN THE RPM CAPACITY MARKET

18. Absent any risk of being subject to performance penalties, the optimal offer into the capacity market is the net avoidable or net going forward costs for the resource to remain in commercial operation. Net avoidable/going forward costs consist of fixed costs that must be incurred in each year to remain in commercial operation less net energy and ancillary service market revenues. These fixed costs include fixed O&M, administrative overhead, property taxes, insurance, facility staffing and any other such costs that must be incurred no matter how much the unit operates in the energy market. This optimal

offer is the competitive offer into the capacity market, and this is directly analogous to offering in at marginal cost in the energy market.

A. Mitigating Performance Risk through Enhanced Maintenance Practices

19. In the current capacity market, under Capacity Performance ("CP"), resources are subject to performance penalties if they are unable to perform when the system needs them most: system emergencies. To manage this risk, enhanced O&M can mitigate such performance risk and the cost of mitigating this risk can be placed directly into capacity offers as part of net avoidable/going forward costs.

20. In this instance, mitigating performance risk can be done through additional expenditures, but those expenditures can also be reflected in the optimal capacity market offer and are recoverable in the capacity market.

B. Mitigating Performance Risk through Offers

21. Generation resources can factor in performance risk when needed into their capacity market offers to any extent they wish so long as the offer is below Net CONE*B. In this way the risk of non-performance during system emergencies can be explicitly accounted for, and this would also provide additional revenues to go toward covering potential penalty costs or for better maintenance and preventative measures to ensure performance under the most extreme of weather conditions when emergencies are most likely to occur.

22. But as with market-based energy market offers, there are down-side risks to building in penalty and performance risk into capacity offers in that it is possible to be "out-competed" by resources with lower risks, all things being equal, and be left without a capacity commitment to cover net avoidable/going forward costs.

23. This offer flexibility allows a resource to build in risk for lower than expected net energy revenues in future years. But the same downside risks also apply here in that a resource

offering above their expected net avoidable/going forward costs can be out-competed for capacity commitments from other resources that do not face such risks.

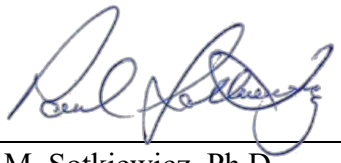
24. Moreover, even if a resource has verifiable avoidable/going forward costs in excess of New CONE*B, the market seller offer cap formula in the PJM tariff allows for a 10% adder that accounts for hard to quantify costs such as risk.

V. CONCLUSIONS

25. Generation resources have many opportunities to manage their market and operational risk both outside of PJM's markets and within the framework of PJM's markets.

26. Given this ability to manage risk, it would not be appropriate to allow PSEG nuclear resources to include in any ZEC payments risks for which they already have the ability to manage and for which they are best positioned to managed.

Respectfully submitted,



Paul M. Sotkiewicz, Ph.D.