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April 15, 2013

**Via Electronic Mail and Hand Delivery**

Hon. Kristi Izzo, Secretary  
New Jersey Board of Public Utilities  
44 South Clinton Avenue, 9<sup>th</sup> Floor  
P.O. Box 350  
Trenton, NJ 08625-0350

Re: In the Matter of the Petition of Public Service Electric and Gas Company for Approval of an Extension of a Solar Generation Investment Program and Associated Cost Recovery Mechanism and for Changes in the Tariff for Electric Service, B.P.U.N.J. No. 15 Electric Pursuant to N.J.S.A. 48:2-21, 48:2-21.1 and N.J.S.A. 48:3-98.1 ("Solar4 All Extension Petition")  
BPU Docket No. EO12080721

Dear Secretary Izzo:

Enclosed please find an original and ten copies of the Position Paper submitted on behalf of the New Jersey Division of Rate Counsel in connection with the above-captioned matter. Copies of the position paper are being provided to all parties by electronic mail and hard copies will be provided upon request to our office.

We are enclosing one additional copy of the comments. Please stamp and date the extra copy as "filed" and return it to our courier.

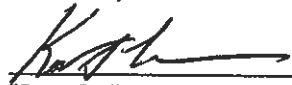
Honorable Kristi Izzo, Secretary  
April 15, 2013  
Page 2

Thank you for your consideration and assistance.

Respectfully submitted,

Stefanie A. Brand  
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By:

  
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encl.

KSL

cc: Hon. Robert M. Hanna, President (via hand delivery)  
Service list (via electronic and regular mail)

In the Matter of the Petition of Public  
Service Electric and Gas Company  
for Approval of Extension of a Solar  
Generation Investment Program and  
Associated Cost Recovery  
Mechanism and for Changes  
("PSE&G S4A Extn")  
BPU Dkt. No.: EO12080721

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**BEFORE THE STATE OF NEW JERSEY**  
**BOARD OF PUBLIC UTILITIES**

**IN THE MATTER OF THE PETITION )  
OF PUBLIC SERVICE ELECTRIC AND )  
GAS COMPANY FOR APPROVAL OF )  
AN EXTENSION OF A SOLAR )  
GENERATION INVESTMENT )  
PROGRAM AND ASSOCIATED COST )  
RECOVERY MECHANISM AND FOR )  
CHANGES IN THE TARIFF FOR )  
ELECTRIC SERVICE, B.P.U. N.J. NO. )  
15 ELECTRIC PURSUANT TO N.J.S.A. )  
48:2-21, 48:21-21.1 AND N.J.S.A. 48:3- )  
98.1 )**

**BPU DOCKET NO. EO12080721**

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**POSITION PAPER OF THE NEW JERSEY DIVISION OF RATE COUNSEL**

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## PRELIMINARY STATEMENT

In the present Petition before the New Jersey Board of Public Utilities (“BPU” or “Board”), Petitioner Public Service Electric and Gas Company (“PSE&G” or “Company”) is seeking approval for a proposed “Solar 4 All Extension” (“S4AE”) program, whereby the Company would develop 136 Megawatts (“MW”) or more of Company-owned and operated solar installations on leased property. The Petition seeks Board approval to invest up to \$729.4 million in such solar projects, which have nothing to do with PSE&G’s core obligation to provide safe, adequate and proper electric and gas service. The Company is proposing to recover all of the costs of the program—including a return on equity at the 10.3 percent, that was used to set rates in the Company’s last base rate case, depreciation, and operations and maintenance costs including administrative costs—through a rate “pass through” clause that would be tried up annually.

Rate Counsel urges the Board to reject PSE&G’s Petition. There is simply no need for the program. Its implementation will inevitably increase costs to ratepayers and may harm the solar industry in New Jersey. As detailed below, over a period of many years—beginning with the enactment of the Electric Discount and Energy Competition Act of 1999 (“EDECA”) P.L. 1999, c. 23, and continuing through the current Energy Master Plan (“2011 EMP”) and the enactment of the Solar Energy Act (“SEA”) in July 2012, P.L. 2012, c. 24, it has been the policy of this State to move toward reliance on competitive markets to achieve the State’s renewable energy and solar energy goals at the lowest possible cost. In the progression toward reliance on market-based mechanisms, PSE&G’s proposal represents a step backward. The Company’s parent corporation, Public Service Enterprise Group, Inc. (“PSEG”), has the ability to participate in the solar market through one of its non-utility affiliates on the same footing as any other entrant, and,

in fact has done so in other states through its affiliate PSEG Energy Holdings. Instead, the Company is seeking to participate in the solar market as a regulated utility, with all costs and risks to be borne by its ratepayers. PSE&G proposes to invest in high-cost projects, which may include a substantial “research and development” component that will benefit selected market participants at ratepayer expense. While this approach would benefit the Company and its selected vendors, it will harm ratepayers and is fundamentally anticompetitive. Other market participants would be compelled to compete against a price-insensitive entity insulated from the normal costs and risks of doing business by means of costly ratepayer-funded subsidies.

The S4AE program is not needed in order for the State to achieve its solar energy goals. New Jersey’s solar energy goals and compliance with the same are expressed through Renewable Portfolio Standards (“RPS”) denominated as annual quantities of solar renewable energy certificates (“SRECs”) (i.e., tradable certificates representing the value inherent in the source of solar-generated energy). In New Jersey, there is currently an oversupply of SRECs –there are more SRECs available than are needed to meet the RPS solar generation obligations of electric generation service providers—and this oversupply is expected to continue over at least the next couple of years and possibly much longer. The oversupply has resulted in lower SREC prices and raised concerns regarding the viability of the solar industry in New Jersey. Adding 136 MW of additional capacity, as proposed by PSE&G, will only intensify the oversupply and further destabilize the SREC market; it will also disrupt the measures to stabilize the market that were recently enacted in the SEA. Instead of enhancing solar development, PSE&G’s proposal is more likely to destabilize the market, and discourage investment by non-utility participants.

S4AE would impose a large and unpredictable financial burden on the State’s residential and business ratepayers. Since the rate impacts of the program are based in part on projections of

the amounts PSE&G can receive by selling the electric output and SRECs produced by the solar facilities, the rate impacts of the program are uncertain. PSE&G estimates that this program will require the collection of over \$900 million from its electric ratepayers over a 25-year period, and, as explained below, Rate Counsel believes this amount is understated. While the program may create some jobs and related economic activity, the rate increases needed to pay for the program will divert money from other sectors of New Jersey's economy, where jobs will be lost. As is explained in detail below, the economic and job creation benefits claimed by PSE&G are overstated, and are offset by the program's detrimental effect on the State's economy. The environmental and other benefits claimed by the Company are likewise unsubstantiated.

For this unnecessary and detrimental program, PSE&G is proposing to earn a return on its investment equal to the weighted average cost of capital ("WACC") used to set rates in its last base rate case, including a 10.3 % return on equity. The WACC approved in PSE&G's last base rate case is dated and excessive relative to current market conditions. Moreover, the Company's proposed rate of return gives no weight to the fact that the clause-type recovery mechanism proposed by PSE&G for its S4AE program poses substantially less risk than recovery of costs through base rates. In fact, the price insensitivity of the program and the proposed concurrent cost recovery make the S4AE virtually risk free.

Additionally, the design of the S4AE suffers from numerous flaws. The proposed rate recovery mechanism requires ratepayers to pay for administrative costs. More importantly, the Company's proposal would add another "pass through" rate recovery mechanism to an already excessive number of such mechanisms. In addition to improperly transferring risks from shareholders to ratepayers, the proliferation of such mechanisms makes it difficult or impossible

to assure that ratepayers are not paying twice for costs already reflected in base rates or other clauses. Further, PSE&G's proposed has a number of program design flaws.

In summary, PSE&G is proposing to be compensated handsomely for virtually risk-free investments while at the same time interfering with and destabilizing the solar market and negatively affecting its residential and business ratepayers and the State's economy as a whole. The proposed program is not needed and is contrary to State energy policy as embodied in statues, regulations and policy statements including EDECA, the RGGI Law, the SEA and the 2011 Energy Master Plan (Dec. 6, 2011). Instead of programs such as the proposed S4AE, PSE&G should focus on its core mission as an electric and gas distribution public utility.

## STATEMENT OF FACTS AND PROCEDURAL HISTORY

By Order dated August 3, 2009, the Board approved a stipulation which resolved PSE&G's earlier petition for a solar investment program known as its Solar 4 All ("S4A") program. I/M/O PSE&G, BPU Dkt. No. EO09020125 (Order, Aug. 8, 2009). The approved S4A program consisted of two segments: (1) a centralized solar segment (40MW) comprised of larger solar installations, and (2) a "Neighborhood Solar" segment (40MW) consisting of solar panels installed on approximately 200,000 utility poles. PSE&G owns and operates the S4A solar systems. PSE&G estimated that its total investment in its S4A program will amount to approximately \$514.6 million, with a return based on the WACC used to set rates in the Company's last base rate case, decided in June 2010, I/M/O Petition of Public Service Electric and Gas Company for Approval of an Increase in Electric and Gas Rates, BPU Dkt. No. GR09050422 (June 7, 2010). SRECs generated by the S4A projects are sold in an SREC auction approved by the Board, with revenues there from offsetting S4A program costs. PSE&G recovers the costs of its S4A program through a separate component of its existing electric Regional Greenhouse Gas Initiation Recovery Charge ("RRC") charge, called the "Solar Generation Investment Program" ("SGIP").

On August 1, 2012, PSE&G filed a Petition ("Petition") with the Board requesting approval of its proposed S4AE program and an associated rate recovery mechanism pursuant to N.J.S.A. 48:3-98.1 et seq. the Regional Greenhouse Initiative Law ("the RGGI Law"). As attachments to its Petition, PSE&G filed the direct testimony of Messrs. Joseph A. Forline, and Stephen Swetz, and Ms. Donna M. Powell, , PSE&G Exhibits *P-11*, *P-12* & *P-12A*, *P-25* and *P-23*, respectively.

By letter dated August 31, 2012, Board Staff advised PSE&G that the Company's filing was not administratively complete. On September 12, 2012, the Company filed supplemental material intended to remedy any deficiencies in its Petition. Board Staff notified the Company by letter dated October 19, 2012 that the Company's Petition, with supplemental material, was administratively complete. Therefore, the 180-day review set by the RGGI Law commenced on September 12, 2012, with an expiration date of March 11, 2013.

PSE&G proposes to extend its existing S4A program, in which the Company collaborates with developers, installers and manufacturers to develop grid-connected solar photovoltaic projects that are owned and operated by the Company. The S4AE Petition seeks authorization for the Company to invest \$729.4 million over five years to develop 136 megawatts of solar capacity. *P-1*, p.2. The solar projects would be divided into four separate "segments: (1) \$474 million would be invested in 90 MW of capacity to be located on closed sanitary landfills, abandoned commercial and industrial sites known as "brownfields," and other "underutilized" properties; (2) \$74 million would be invested in 20 MW to be located on warehouse roofs; (3) \$133 million would be invested in 25 megawatts to be located in parking lots; and, finally, (4) \$9 million would be invested in a pilot program to develop a total of 1 MW in projects that combine solar power with energy storage. PSE&G will own and operate the solar systems on leased space. *P-1*, pp. 12-15. In addition to the proposed capital investments, the Company estimates that it will expend a total of approximately \$39.5 million over the first five years of the program to operate and maintain the solar facilities. *P-1*, p.3.

PSE&G seeks Board approval to recover the costs of its proposed S4AE program, including a return on its net investments in the program based on the WACC used to set rates in the Company's last base rate case, including a 10.3 % return on equity. *P-25*, p. 3. SRECs

generated by the S4AE projects will be sold in the SREC auction approved by the Board for the Company's current S4A program, with revenues there from offsetting program costs. *P-1*, p. 11 and *P-25*, p.5. If SREC prices were to drop below PSE&G's projected levels, the cost to ratepayers would be ever greater than that projected by the Company. *RC-12*, p.22.

PSE&G proposes to recover its costs through a separate component of its existing electric RRC, to be called the "Solar Generation Investment Extension Program Component" ("SGIEPC"). *P-1*, p.3, and pp.16-17; *P-25*, pp.7-8. This component would be applicable to all of the Company's electric rate schedules. The SGIPC would be reviewed, tried up and modified in annual filings. *P-25*, pp.8-9.

On October 23, 2012, the Board issued an Order which retained the instant matter for review and hearing by the Board, and designated President Robert M. Hanna as the presiding hearing officer. By Order dated November 19, 2012, President Hanna set forth a procedural schedule for this matter, which was predicated on a March 2013 agenda date.

Public hearings were held on November 17 and 29, and December 4, 2012, in New Brunswick, Hackensack, and Mount Holly, respectively. *P-2*.

In response to a request made by several parties, President Hanna subsequently set forth a modified procedural schedule via an Order dated January 15, 2013. On January 18, 2013, Rate Counsel submitted the direct testimony of Ms. Andrea C. Crane and David E. Dismukes, PhD. Rate Counsel Exhibits *RC-12* and *RC-3* and *RC-3A* (confidential). The Direct Testimonies of the following intervenor witnesses were also filed on that date: Mr. Thomas Lynch of KDC Solar, Inc., *KDC-1*; Ms. Katie Bolcar Rever of the SELA, *SEIA-1*; Mr. Lyle Rawlings of the MSEIA, *MSEIA-1*; Messrs. William E.S. Kaufman and Lance R. Miller of Wattlots, LLC, *Wattlots-1* and *Wattlots-2*;

Mr. Anthony Shay of Petra Solar, Inc., *Petra-1*; and Mr. Allen Buckman of Sundurance Energy, *Sundurance-1*.

PSE&G, Rate Counsel, and Board Staff subsequently presented a stipulation of settlement seeking an extension of the 180-day RGGI review period to April 1, 2013 which was subsequently approved by the Board, as memorialized in an Order dated January 23, 2013.

On February 4, 2013, Rate Counsel filed the rebuttal testimony of David E. Dismukes, PhD. Rate Counsel Exhibit *RC-4*. On that date PSE&G filed the rebuttal testimony of Messrs. Jorge L. Cardenas, Terrance J. Moran, Paul R. Moul, and Stephen Swetz. *P-24, P-12 and -12A, P-4, and P-26*, respectively. SEIA filed the rebuttal testimony of Ms. Katie Bolcar Rever, *SEIA-2*. Rate Counsel subsequently filed a motion in limine to strike the testimony of Company witnesses Jorge Cardenas and Paul R. Moul or, in the alternative, to extend the discovery period and allow written surrebuttal. PSE&G filed its opposition to Rate Counsel's motion on February 13, 2013.

In order to resolve the motion and pursuant to discussions among the parties regarding an extension of time to permit the filing of surrebuttal testimony and limited discovery, a proposed revised schedule developed by several parties was circulated without objection. In order to provide for the filing of written surrebuttal testimony, and in order to provide the Board with additional time to complete the processing of the Petition and issue a final determination in this matter, PSE&G, Rate Counsel, and Board Staff subsequently agreed to request an extension of the 180-day review period to May 1, 2013. By a procedural Order dated February 21, 2013, President Hanna set forth a revised procedural schedule, conditioned upon the Board approving the anticipated stipulation to extend the 180-day review period deadline. By Order dated March 30, 2013, the Board approved an extension of the 180-day review period, until May 1, 2013.



In accordance with the schedule set forth in the President Hanna's procedural Order dated February 21, 2013, on March 1, 2013, Rate Counsel filed the surrebuttal testimonies of Ms. Andrea C. Crane, Mr. Mathew I. Kahal, and David E. Dismukes, Ph.D. *RC-13*, *RC-2*, and *RC-5* and *-5A* (confidential), respectively.

Evidentiary hearings were held before Commissioner Joseph L. Fiordaliso on March 18, 19, and 21, 2013 in Newark.

## ARGUMENT

### **I. PSE&G'S PROPOSAL IS INCONSISTENT WITH NEW JERSEY SOLAR AND RENEWABLE ENERGY POLICIES AS REFLECTED IN THE GOVERNING STATUTES BOARD ORDERS AND POLICY STATEMENTS.**

As set forth below, the record shows that the proposed S4AE would be anticompetitive, would de-stabilize the State's SREC market, and would create negative impacts on New Jersey's economy. This result is at odds with the public policy goals of the State, as articulated in the relevant statutes and regulations, Board Orders, and the 2011 EMP. The S4AE therefore should be rejected.

PSE&G's S4AE filing has nothing to do with its core obligation to provide safe, adequate and proper electric and gas service to its customers. It is a voluntary program that is unnecessary for New Jersey to meet its solar RPS goals and may in fact harm the Solar Industry in New Jersey. Simply put, it is an investment opportunity for PSE&G proposed to be guaranteed by ratepayers. As such the Board should reject it and dismiss the Petition.

### **A. BY PROVIDING AN UNFAIR RATEPAYER FUNDED SUBSIDY, PSE&G'S PROPOSAL CONTRAVENES MANY YEARS OF POLICY INITIATIVES FAVORING RELIANCE ON COMPETITIVE MECHANISMS TO PROMOTE THE DEVELOPMENT OF SOLAR ENERGY AT THE LOWEST POSSIBLE COST.**

#### **New Jersey Policy**

Over a period of many years, it has been the policy of this State to move toward reliance on competitive market mechanisms to meet the State's renewable energy and solar energy goals at the lowest possible cost. In 1999, with the enactment of EDECA, the Board was directed to adopt its RPS, which required electric power suppliers and basic generation service ("BGS") providers to procure specified percentages of their energy supply from renewable sources, including solar. P.L. 1999, c. 24, sec. 38(d). EDECA also contemplated that the Board could, in

consultation with the New Jersey Department of Environmental Protection, establish a renewable energy trading program to facilitate compliance with the RPS. Id. The Board has since issued regulations requiring electric power suppliers and BGS providers to comply with the solar RPS by producing or buying SRECs, or in the event of a shortfall, by paying a Solar Alternative Compliance Payment (“SACP”). An SREC is a tradeable certificate representing the environmental attributes of one megawatt-hour of solar electric generation. See 2011 EMP, Glossary and Definitions, definition of “Solar Renewable Energy Certificate (SREC).” Under this design, a shortage in the supply of SRECs needed to meet the RPS should result in increased SREC prices, thus encouraging the development of new solar facilities, and conversely, an over-supply should lower prices, thus slowing development. See Id., p. 92.

While the Board initially relied on a combination of SREC prices and other incentives to encourage the solar development needed to meet the RPS, the Board recognized the need to reduce reliance on costly rebates and increase reliance on market-based incentive mechanisms. Accordingly, the Board opened the Solar Transition Proceeding to investigate “more efficient and sustainable means” than rebates to provide incentives for solar development. I/M/O the Renewable Energy Portfolio Standards—Alternative Compliance Payments and Solar Alternative Compliance Payments, BPU Dkt. No. EO06100744, Decision and Order at 2 (Dec. 6, 2007) (“2007 Solar Transition Order”). As noted by Rate Counsel witness Dr. Dismukes, the result of this proceeding was the 2007 Solar Transition Order, which took a number of actions, including establishing a qualification life for solar projects, increasing the trading life of SRECs, increasing the SACP, and establishing an eight-year SACP schedule, all of which were intended to enhance the viability of the solar market by increasing regulatory certainty. Id. at 39-42. See RC-3, p. 7-8.

In addition to these measures, the Board found that “an additional mechanism or mechanisms will be necessary for the market to achieve levels of growth sufficient to meet RPS requirement at an acceptable cost,” and therefore convened further proceedings to consider such mechanisms. 2007 Solar Transition Order at 44. Those further proceedings culminated in a Board Order directing each of the electric distribution companies (“EDCs”) to establish long-term contracting plans. I/M/O the Renewable Energy Portfolio Standard, BPU Dkt, No. EO06100744 (Aug. 7, 2008) (“2008 Utility Solar Order”). The Board directed three of the EDCs, Atlantic City Electric Company (“ACE”), Jersey Central Power & Light Company (“JCP&L”) and Rockland Electric Company (“Rockland”), to develop programs to purchase SRECs from solar developers under 10- to 15-year contracts, based on a competitive procurement process. The 2008 Utility Solar Order set in motion a structured competitive procurement process, whereby non-utility solar developers submitted bids to supply SRECs under long-term contracts, with contracts awarded to the lowest-price bidders after review by an independent Solicitation Manager and approval by the Board. I/M/O Atlantic City Electric Company Renewable Energy Portfolio Standard and I/M/O Verified Petition of Jersey Central Power & Light Co., BPU Dkt. Nos. EO08100875 & EO08090840, Order at 6-7 (Mar. 27, 2009). This process both provided a level playing field for the non-utility solar developers that submitted bids, and served the interest of ratepayers by selecting bids on a least-cost basis. *RC-3*, p. 8-9. PSE&G was permitted to propose an alternative approach based in the Company’s existing Solar Loan program, a program in which the Company makes long-term loans to qualified solar photovoltaic projects in its service territory. The Company’s proposal was, however, required to include modifications “sufficient to enable the loan program to support the transition to a market-based approach of delivering incentives for solar generation.” 2008 Utility Solar Order at 17.

As the utilities completed their implementation of the long-term contracting and loan programs in 2011, the Board initiated an additional stakeholder process to review possible future utility-supported solar programs. This process resulted in an Order dated May 23, 2012. I/M/O the Review of Utility Supported Solar Programs, BPU Dkt. No. EO11050311V (May 23, 2012) (“2012 Utility Solar Extension Order”). The 2012 Utility Solar Extension Order affirmed that utility-supported solar programs should follow a market-based approach. While permitting either loan or solicitation programs, the Board determined that either type program “shall be developed to provide for the lowest achievable and available costs within the market segments on a ‘competitive’ basis that tracks the market rate and without a set floor price.” Id. at 27.

The recently-enacted SEA affirms the principle of reliance on market-based mechanisms. Starting in 2008, a number of factors led to an oversupply of SRECs and dramatic drops in SREC prices. *RC-3*, p. 10-12. The SEA attempts to “rebalance” the current excess supply conditions in the New Jersey solar markets by increasing the RPS from its prior levels through 2022, with corresponding reductions in subsequent years, thus preserving the SREC market as a means of encouraging solar development. *RC-3*, p. 12. Furthermore, the 2011 EMP suggests a cautious approach to rebates and other forms of direct incentives the amounts of which are not regulated by competition. The very first “overarching goal” mentioned in the introduction to the 2011 EMP is to:

Drive down the cost of energy for all customers – New Jersey’s energy prices are among the highest in the nation. For New Jersey’s economy to grow energy costs must be comparable to costs throughout the region; ideally these costs should be much closer to U.S. averages.

*S-2*, p. 1 (2011 EMP, p. 1). Consistent with this goal, the EMP has stressed the importance of relying on the competitive market to assure that renewable resources are delivered at the lowest possible cost. The 2011 EMP’s Plan of Action stresses the need to evaluate “the efficiency and

fairness of incentives and subsidies,” and the importance of formulating “the incentives and portfolio of renewable energy sources that result in the most cost-effective energy alternatives possible.” 2011 EMP, p. 76. The 2011 EMP also states that “[u]ltimately, it is the competitive market rather than New Jersey’s policymakers that should rationalize the amount, location and type of renewable technologies added to the resource mix to satisfy the RPS requirement.” 2011 EMP, p. 87.

Section 13 of the RGGI Law recognized the importance of the Board’s efforts to increase reliance of market-based mechanisms:

In determining the recovery by electric public utilities and gas public utilities of program costs for any program implemented pursuant to this section, the board may take into account ... the effect on competition for such programs, existing market barriers, ..., and the availability of such programs in the marketplace.

N.J.S.A 48:3-98.1(b) (emphasis added). This provision thus explicitly allows the Board to assure that utility proposals are approved only if they are consistent with the basic principle of moving toward reliance on market-based mechanisms to meet the State’s renewable energy goals.

#### **Anti-competitive Nature of S4AE**

The proposed S4AE must be rejected because of its fundamental inconsistency with the State’s policies described above. The anti-competitive nature of this proposal was explained by Rate Counsel witnesses Ms. Crane, an expert on rates and regulatory policy, and Dr. Dismukes, an expert on economics, energy markets, and energy policy. *RC-12*, p. 1-2 & Appendix A; *RC-3*, p. 1-2 & Attachment A, respectively. PSE&G’s parent corporation, PSEG, has the ability to compete in the solar generation market through an unregulated affiliate, and in fact has done so in other states through its affiliate, PSEG Energy Holdings. *RC-12*, p. 12; T135:L7-12 & T136:L1-3 (March 19, 2012). The S4AE, however, skews the competitive market by allowing

PSE&G to participate through regulated rates and “expand its presence in the renewable energy market without PSEG’s shareholders assuming any risk.” *RC-12*, p. 12.

As Dr. Dismukes explained, the proposed S4AE “not only subsidizes utility-owned power generation but insulates that utility-owned generation investment decision from market forces.” *RC-3*, p. 25. The proposed S4AE would make PSE&G’s ratepayers “ultimately responsible for all costs associated with the program.” *RC-12*, p. 13. The Company would earn a guaranteed return on investments, including a 10.3 percent return on equity, and would also recover all other costs, including depreciation, operation and maintenance costs, rental expense, property taxes and insurance. *Id.* The Company has even included in its claim replacements of worn-out inverters in the 2023-27 time frame, and the costs of retiring the facilities at the end of their twenty-year lifespan. *Id.*

With such guaranteed recovery, PSE&G could develop solar facilities without regard to cost or risk, because it would be “backstopped” by captive utility ratepayers:

[I]f future SREC prices fall to levels below what is needed to support the return on and of the Company’s investment, ratepayers will be required to make up any of these shortcomings through their electricity rates. While the Company may be deploying its “patient capital” to support this investment, the “patience” embedded in this capital, and the relative cost associated with utilizing that “patience,” is clearly supported by ratepayers.

*RC-3*, p. 25. Surcharge mechanisms such as the proposed S4AE are particularly lucrative for shareholders; they have become “big business” for utilities. *RC-12*, p. 25, *RC-13*, p. 7. In the present case, PSE&G’s parent corporation, PSEG, apparently is not willing to undertake the proposed solar investments on an unregulated basis, and therefore is seeking to obtain approval to undertake such investments with assurance of cost recovery, including a return on equity of 10.3 percent. *RC-13*, p. 7. As Dr. Dismukes noted, the ratepayer “backstopping” sought by PSE&G would “not [be] afforded to any other non-utility market participant.” *RC-3*, p. 25. As

Dr. Dismukes observed “[s]uch an outcome cannot be consistent, nor supportive, of competitive markets.” *Id.*

The basic inconsistency of S4AE with fair competition was also noted by some intervenors. Thomas P. Lynch, testifying for intervenor KDC Solar noted that both the size and duration of the S4AE will “directly and adversely” impact market competition since PSE&G’s solar investments would be backed with ratepayer funds, giving PSE&G an unfair competitive edge. *KDC-1*, p. 3. Katie Bolcar Rever, testifying for the solar industry group SEIA also noted that:

where the state policy is to create a vibrant competitive marketplace, as is the case in New Jersey, regulators should consider as well the impact of such ownership on the competitive solar market place currently under development via the Solar Renewable Energy Credit (SREC) market. Because the Company is unresponsive to SREC prices, the negative impact of utility direct investment on the competitive market place must be seriously considered and addressed.

*SEIA-1*, p. 3-4.

S4AE also would also deprive the Company’s ratepayers of one of the key benefits of competition—supporting the State’s renewable energy goals at the lowest possible cost. As noted by Rate Counsel witness Dr. Dismukes, it is already apparent from the Petition that PSE&G is proposing to build some very expensive solar generation. Of PSE&G’s four proposed segments, only one, warehouse roof projects with an average cost of \$3,700 per kilowatt (“kW”) of capacity “can be remotely considered economic in today’s solar market . . . .” *RC-3*, p. 30. The average project cost for the entire program is over \$5,000 per kW, and three of the segments have average costs in excess of that amount: \$5,266 per kW for landfill/brownfield segment, \$5,320 per kW for the parking lot segment, and \$8,630 per kW for the pilot and demonstration segment.



Testimony filed on behalf of Intervenor Wattlots, Inc., highlights the potential for the transfer to captive ratepayers of costs and risks that should be subject to the discipline of the competitive marketplace. According to Wattlots' Chief Executive Officer, William E.S. Kaufman, his company produces "innovative designs for the solar industry ...." *Wattlots-1*, p. 2. These include the "Wattlots Power Arbor," described as a "uniquely styled parking lot canopy, which contains proprietary systems ...." *Id.* Mr. Kaufman states that his company is working to "integrate innovative multi-use technologies into the Power Arbor" including advanced communications equipment and battery storage. *Wattlots-1*, p. 3. Wattlots expects the S4AE Parking Lot and/or Pilot and Demonstration segments to provide it with the "assistance" in further developing its products. *Wattlots-1*, p.4; *Wattlots-2*, p. 6, *RCR-P-Wattlots-2*.

In essence, Wattlots apparently expects to leverage ratepayer dollars to fund further research and development of its "proprietary" systems which, according to Mr. Kaufman, will have lower costs after the initial product development has been completed. *Wattlots-1*, p.4. Unlike other market participants, Wattlots, and other similarly situated participants in the proposed S4AE, would not have to justify their proposed product development costs to the investors "fronting" the money, nor share the profits if the newly-developed technology becomes marketable elsewhere in New Jersey or other states. PSE&G, with its guaranteed recovery of all costs, would lack the financial stake that normally constrains prospective investors in expensive new technology.

#### **Lack of Evidence of "Underserved" Market Segments**

PSE&G's argument that S4AE would serve underserved solar markets that could otherwise not attract investment dollars through normal means is unsupported by the record. *P-12*, p. 6. Dr. Dismukes examined actual solar installation data distributed by the Boards' Office

of Clean Energy (“OCE”) and found evidence which contradicts the Company’s claims regarding underserved markets. The OCE data examined by Dr. Dismukes and summarized in a schedule attached to his prefiled surrebuttal testimony shows that at least 60 projects have been built or are underway at brownfields, landfills, and parking lots. *RC-5*, Schedule DED-SR-1. The OCE data also showed 11 brownfield installations totaling 21 MW were completed in New Jersey, including eight in PSE&G’s service territory. Furthermore, the data shows 48 completed parking lot installations totaling almost 24 MW, and seven completed landfill projects totaling 17.2 MW. In addition, about 99 MW have been installed in 11 farmland and 8 “various” locations. In all, Dr. Dismukes found that these projects, totaling 161 MW, comprise about 17 percent of New Jersey’s total solar installations. *RC-5*, p. 7. Moreover, the OCE’s tabulation of such installations is conservative, as the OCE notes that its tabulations are “not a full and complete representation of all solar projects located on these land use types.” *RC-5*, p. 7 n. 21; *T79:L2-11* (March 21, 2013). Nonetheless, the data clearly shows a significant number of landfill, brownfield, and parking lot solar installations. PSE&G’s entry into these markets as a utility with guaranteed cost recovery would adversely affect other potential competitors.

There is also no convincing evidence in the record to support the Company’s contention that its projected installations would not be built without the S4AE. SEIA’s witness, Ms. Rever, testified that the market segments being targeted by the S4AE are not underserved, and specifically noted that the warehouse and parking lot segments do not warrant utility intervention. *SEIA-1*, p. 14-16. Furthermore, the SEIA warned of the risks to competitors by direct utility participation:

There is a heightened risk that the utility will leverage any advantage it has established in marketing, financing, or distributing electricity by virtue of its authority to operate as a regulated entity to supplant, rather than supplement third party development.

*SEIA-1*, p. 15. With respect to the landfill/brownfield segment, SEIA's witness testified that the utility ownership "is one tool" and other incentives or market support mechanism may address any market barriers. *SEIA-1*, p. 16-17.

Further, the proposed landfill/brownfield segment would pre-empt another proceeding before the Board. The SEA directs the Board to "establish a financial incentive that is designed to supplement the SRECs generated by the facility in order to cover the additional cost of constructing and operating a solar electric power generation facility on a brownfield, on an area of historic fill or on a properly closed sanitary landfill facility." N.J.S.A. 48:3-87(t)(1). The Board has initiated a proceeding for this purpose. I/M/O the Implementation of L. 2012, c. 24, the Solar Act of 2012, BPU Dkt. Nos. EO12090032 et al., Order Initiating Proceedings at 2 (Oct. 10, 2012). The need for, proper level of, and form of financial incentives for these types of projects is properly considered in this ongoing proceeding before the Board.

### **Conclusion**

In summary, the proposed S4AE extension is contrary to many years of New Jersey policy favoring the transition to competitive market mechanisms to achieve the State's renewable energy and solar energy goals at the lowest possible cost. S4AE would disrupt these efforts by allowing PSE&G to participate in the competitive solar energy market as an entity insulated, at ratepayer expense, from the cost and risks borne by other market participants. S4AE is a lucrative investment opportunity for PSEG, but it does not serve the policies of this State. This costly and potentially damaging proposal should be rejected.

*NOTE—this section needs to be augmented with info from the hrg transcripts*

**B. THE PROPOSED S4AE WOULD FURTHER DESTABILIZE AN ALREADY OVERSUPPLIED SREC MARKET, IN DIRECT CONTRAVENTION OF THE MARKET STABILIZATION MEASURES REFLECTED IN THE SOLAR ENERGY ACT.**

As set forth below and in testimony, the record shows that the proposed S4AE would have an adverse effect on the SREC market. The SREC market is presently oversupplied and will continue to be so at least for the next several years. See RC-3 and RC-3A (confidential), RC-5 and RC-5A (confidential). Adding another 136 MW, as envisioned by the proposed S4AE, would result in more volatility, hindering further solar development and harming the associated environmental and other benefits of solar. This result would contravene state policy, which fosters the long-term stabilization of solar markets.

**Bases of Solar Policy**

EDECA initially established the Renewable Portfolio Standard (“RPS”) requirements, which form the basis for solar development in the State. See N.J.S.A. 48:3-87. Subsequent legislation and Board Orders provided further guidance for the development of solar energy projects. Early on, the Board took a significant step in stabilizing the solar markets over the long term with its 2007 Solar Transition Order. The 2007 Solar Transition Order set a SREC trading life of two years and an eight-year Solar Alternative Compliance Payment (“SACP”) pricing schedule. In conjunction with the RPS, the parameters established for SREC trading lives and the Board’s eight-year outlook provided a more stable framework for solar market development.

Later, the Board reinforced its long-term outlook for the solar market with its 2008 Utility Solar Order. Therein, the Board directed certain EDC's to establish long-term contracting plans for solar energy, based on a competitive procurement process. Again, the 2008 Utility Solar Order embodied a long-term view of the solar market.

### **Recent Changes in the Solar Markets**

As Dr. Dismukes testified, the solar market today is much different than the solar market in 2008. *RC-3*, pp. 10-12. Since that time, there have been marked changes in both the demand and supply sides of the solar market. Dr. Dismukes found that the "demand" side of the solar market, comprised of the demand for solar energy (i.e., SRECs), has declined while the "supply" side of the market, consisting of the provision of SRECs and driven by both existing and new solar installations, has increased. *Id.*

Dr. Dismukes testified that the recent economic recession led to a significant reduction in electricity demand. *RC-3*, p. 11 and Schedule DED-4. This reduction in electricity demand, in turn, led to a significant reduction in the need for SRECs, since the solar RPS requirements are driven primarily by formulae tied to some percentage of electricity sales or generation. *Id.* Hence, the recent recession led to a decrease in the number of SRECs needed to meet RPS requirements, thereby depressing the demand side of the solar market. *Id.*

Meanwhile, a number of factors caused an increase in the supply of SRECs. Dr. Dismukes found that increases in the supply of solar panels and equipment, and decreases in the price of solar panels, led to an over-supply situation on the SREC supply side. *RC-3*, pp. 11-12.

Dr. Dismukes further testified on the ability of markets to correct for supply and demand imbalances, as it pertains to the solar market:

Over time, these types of excess supply situations are typically corrected by either a significant reduction in supply (i.e., excess SRECs) or a significant increase in

demand (i.e., the solar RPS or mandate), or in some instances, a combination of both.<sup>1</sup>

Therefore, based on the economic principle of supply and demand, one could reasonably expect an oversupply of SRECs to result in lower SREC prices and vice versa. In turn, all else equal, higher SREC prices could reasonably be expected to encourage more development, while lower SREC prices could reasonably be expected to discourage development.

### **The Solar Energy Act ("SEA")**

In response to the recent events affecting the solar market, the SEA was enacted in 2012. As set forth above, once again a long-term approach to creating a vibrant solar market was taken. In short, the SEA increased the RPS for Energy Year ("EY") EY2014-2023, then reduced the RPS requirements for the post EY2023 period. Overall, the SEA increases the net New Jersey SREC requirement by some 38 percent (3.9 million SRECs) over the next 15 years. *See* Schedule DED-5. However, while the SEA increased the RPS requirements through EY2023, the SEA also decreased the corresponding SACP. The SACP schedule set forth in the Board's 2007 Solar Transition Order established an EY2014 SACP price of \$625.<sup>2</sup> In contrast, the SEA sets the new EY2014 SACP level at \$339, a full 47.1 percent reduction from the level set in 2007. RC-3, p. 13; N.J.S.A. 48:3-87(j). Furthermore, the SACP prices set by the SEA are then required to decrease at an annual average rate of approximately 2.5 percent until EY2028 where the SACP will be set at \$239.<sup>3</sup> *Id.*; RC-3, p. 13.

Dr. Dismukes concluded that by significantly reducing the SACP price the SEA attempts to balance the interests of ratepayers and the solar industry. RC-3, p.13. In all, by setting the

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<sup>1</sup> RC-3, p. 12.

<sup>2</sup> RC-3, p. 13

<sup>3</sup> N.J.S.A. 48:3-87(j).

RPS and SACP far into the future, the long-term outlook of the SEA provided a measure of stability for the solar market.

Dr. Dismukes referred to the post-SEA solar market conditions as the “new normal,” which he defined as follows:

This “new normal” consists of a New Jersey solar market that has relatively steady and strong solar installation rates (“build rates”) with lower and more stable SREC prices.<sup>4</sup>

As shown by the solar market forecasts developed by Dr. Dismukes and the OCE, the solar capacity added by the proposed S4AE will upset the balance of this “new normal.”

PSE&G claims that its proposed S4AE is consistent with the SEA because the proposed program “targets market segments that have been specifically identified in the recently enacted Solar Law.”<sup>5</sup> However, contrary to the Company’s assertions, even if assuming *arguendo* it served underserved segments, PSE&G’s S4AE proposal would do so at the expense of what Dr. Dismukes found to be the SEA’s overall effect: “creating market stability for New Jersey solar and SREC markets.” *RCR-3*, p. 23. Dr. Dismukes concluded that the proposed S4AE would “oversupply’ the [solar] market with unnecessary rate-based solar investments” that is “not consistent with what appears to be the [SEA’s] primary goal.” *Id.*

### **The S4AE’s Adverse Effect on the Solar Market**

In contrast to the efforts of the Board and the Legislature, the proposed S4AE would destabilize the solar market. The record below clearly shows that the additional SREC capacity proposed by PSE&G is not needed. Moreover, by introducing a prodigious amount of solar

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<sup>4</sup> *RC-3*, p. 15.

<sup>5</sup> *P-11*, p. 2.

capacity into the market, backstopped by ratepayers, PSE&G's proposed S4AE would upset any balance achieved by the various statutes and Orders which guide solar development in the State.

Dr. Dismukes found that even using very conservative assumptions, New Jersey's SREC supply will be in excess of the State's RPS requirement through EY2018. *RC-5*, pp. 9-10. In short, Dr. Dismukes' findings show the advent of "a 'new normal' in New Jersey solar energy markets, consisting of relatively steady and strong solar installation rates with lower and more stable SREC prices." *RC-5*, p. 9.

The proposed S4AE would upset this delicate balance. Dr. Dismukes found that if the S4AE were to proceed as proposed, the SREC market "will never return to balance through at least EY2020." *Id.* Furthermore, Dr. Dismukes found that other solar development would have to decrease to about 68 to 69 percent of the State's RPS in EY2014 and EY2015 in order to accommodate the capacity that would be developed under the S4AE, as proposed. *Id.* at p. 10. Dr. Dismukes concluded that "[t]his is a level of under-development well below what most forecasts and solar stakeholders expect for those [Energy Years]." *Id.*

Dr. Dismukes' findings are consistent with the OCE's revised solar generation forecast. The OCE revised its earlier forecast to include 2012 solar projects installed subsequent to October 31, 2012.<sup>6</sup> In turn, Dr. Dismukes' updated his earlier projections, incorporating the new OCE data. *RC-5*, Schedule DED-SR-4. Dr. Dismukes updated analysis incorporates the "significant" build rates projected by the OCE over the next five energy years, ranging between 14 MW and 48 MW. *Id.*, p. 14.

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<sup>6</sup> The BPU-OCE presented its revised forecast at the Renewable Energy subcommittee meeting held on February 14, 2013.



Significantly, Dr. Dismukes's projections are based on very conservative assumptions, relative to the State's annual RPS requirements.<sup>7</sup> Dr. Dismukes assumes the SREC market will be oversupplied from EY2012 through EY2014, with SREC supply equating to 150 percent, 200 percent, and 125 percent of the State's RPS in each of these energy years, respectively. He also assumes that in EY2015 and EY2016, the SREC supply (excluding S4AE) will only account for 90 percent of the State's RPS. In short, Dr. Dismukes's assumptions were intended to be "consistent with the most pessimistic solar development forecasts presented in this proceeding." *RC-5*, p. 9. Dr. Dismukes's forecast shows that if the proposed S4AE is approved, "it will make an already extensive solar over-supply situation worse and will likely extend market oversupply conditions for a much longer period of time than is currently anticipated." *RC-3*, p. 20.

Notably, Dr. Dismukes's forecasts are consistent with the OCE's revised forecasts. The OCE also estimates SREC supply will exceed the new solar RPS requirement set forth in the SEA until EY2016. *RC-5*, p. 6 and Schedule DED-SR-5. In only one Energy Year (EY2016) in its "low" estimate did the OCE's forecast of SREC supply fall below the RPS requirement for that year. *Id.* Overall, Dr. Dismukes found that the OCE's median SREC availability forecast ranged from a high of 230 percent of the annual SREC requirement to a low of 116 percent of the SREC requirement in EY2016. *Id.*

In sum, both Dr. Dismukes and the OCE forecast an oversupply of SRECs<sup>8</sup> thru EY2016. Even PSE&G's own forecast, which it presented late in this proceeding, is only able to justify the inclusion of its proposed S4AE by assuming a 487 MWh, or 26.7 percent, shortfall in New Jersey solar generation supply in EY2014. *See RC-5*, p. 12 and *RCR-P-53*. By introducing a

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<sup>7</sup> The results of that analysis are presented in Dr. Dismukes' testimony, *RC-3*, Schedule DED-SR-2. The first page of this schedule presents the SREC supply assumption used in this analysis relative to the State's annual RPS requirements.

<sup>8</sup> Except for the OCE's EY 2016 low forecast, discussed above.

significant amount of SREC supply over the coming years, the S4AE would upset the balance of supply and demand that was carefully cultivated through prior Board Orders and legislation.

Furthermore, the Board should reject Intervenor suggestions to address any solar market imbalance created by the S4AE by prohibiting PSE&G's S4AE projects from generating SRECs. Notably, the MSEIA advocated a prohibition against SREC generation by S4AE projects:

MSEIA's position is that SRECs were created to support the growth of solar power in a competitive marketplace. Therefore, we believe that it is inappropriate for solar capacity developed and owned by a regulated monopoly to receive SRECs.<sup>9</sup>

Rate Counsel submits that to develop solar projects without the generation of the associated SRECs should be rejected as contrary to SEA. The SEA reflects a careful balancing of supply and demand that would be upset by the proposed S4AE. Essentially, a prohibition against SREC generation by S4AE projects would have an effect, from a supply and demand perspective, not unlike raising the RPS requirements. In short, this would eviscerate the careful balancing exemplified by the SEA and, therefore, would directly contravene the policy goals embodied in the SEA. Furthermore, a prohibition against SREC generation would drastically increase the cost of the S4AE program for ratepayers, as discussed in Point I. C below. In sum, the Intervenor's suggested prohibition would not be a cure for the market imbalances created by the proposed S4AE program.

### **PSE&G's Criticism of the Forecasts Are Unfounded**

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<sup>9</sup> MSEIA-1, Direct Testimony of Lyle Rawlings, p. 3.

As set forth below and in the testimony of Dr. Dismukes, PSE&G's arguments which attempt to refute the evidence that its proposed S4AE is unnecessary are without merit. Dr. Dismukes summarized PSE&G's three main arguments:<sup>10</sup>

First, the Company claims that attempting to predict the New Jersey future solar build rates or future SREC prices is difficult in light of uncertainties.<sup>11</sup> Second, the Company claims that a review of the historic solar build rate in New Jersey suggests that the market may not be overbuilt for as long as some parties have suggested.<sup>12</sup> Lastly, the Company insists that Rate Counsel is "missing the point," in its definition of necessity.<sup>13</sup> PSE&G claims that its proposal is intended to ensure solar development on non-productive properties consistent with the State's general policy objectives.<sup>14</sup>

Each of PSE&G's arguments is addressed below.

First, contrary to PE&G's contention, uncertainty need not devalue the role of forecasting. Forecasting inherently involves uncertainty. How the forecaster addresses uncertainty is crucial. Here, as shown above, Dr. Dismukes used very conservative, in fact, pessimistic assumptions about the solar market in his forecast. Despite the use of such pessimistic assumptions, Dr. Dismukes ultimately found that the proposed S4AE would worsen the current over-supply situation and would extend the over-supply situation longer into the future than would otherwise be the case. *RC-3*, p. 20. Furthermore, PSE&G's criticisms of the accuracy of OCE's forecasts is unsupported by any variance analysis or any other type of credible analysis. *RC-5*, p. 11 and *RCR-P-53*. In fact, Dr. Dismukes noted that "the OCE's projections are consistent with other sources, including commercial sources purchased by the Company." *RC-5*, p. 11. In sum, PSE&G's criticism of the solar market forecasts presented by Dr. Dismukes and the OCE are unsupported by any credible analysis and should be rejected.

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<sup>10</sup> *RC-5*, pp. 7-8.

<sup>11</sup> *P-12*, p. 11.

<sup>12</sup> *Id.*

<sup>13</sup> *Id.*

<sup>14</sup> *Id.*

Second, PSE&G's statements about the adverse effect of recent build rates, cancellations, and other factors on solar market forecasts are without merit.<sup>15</sup> PSE&G contends that two recent cancellations of large grid supply projects indicates "evidence" of a significant reduction in build rates beyond that incorporated within forecasts by market analysts.<sup>16</sup> The effect of the two cancellations cited by PSE&G was already noted by Dr. Dismukes in his analyses of the OCE's forecasts. *RC-5*, p. 15.

PSE&G's contentions about the scrub rate were also refuted by an analysis performed by Dr. Dismukes. Dr. Dismukes performed an analysis of solar projects in the pipeline using data from monthly reports compiled by the OCE. *RC-5*, Schedule DED-SR-3.<sup>17</sup> His analysis compared the total capacity of projects listed in the project pipeline with the capacity of those that end up being cancelled or scrubbed.<sup>18</sup> Dr. Dismukes's analysis showed that, historically, grid-connected projects within the pipeline were far more likely to come to fruition than net-metered projects. *RC-5*, Schedule DED-SR-3. Only at the beginning of 2012 did the grid-connected solar completion rate start to decline. *Id.* However, although Dr. Dismukes found that the scrub rates for grid-connected projects has increased above historical averages over the past year or so, grid-connected solar projects account for less than 30 percent of solar capacity moving within the pipeline, on average, since November 2010. *RC-5*, p. 13. Dr. Dismukes's analysis also showed that even during the substantial run up in grid-connected capacity seen in the summer of 2012, grid-connected solar energy only accounted for 30.6 percent of the total solar energy pipeline. *Id.* Dr. Dismukes found that the decline in the completion rate of grid-

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<sup>15</sup> *Id.* at p. 12.

<sup>16</sup> *Id.* at p. 14.

<sup>17</sup> This schedule depicts, on a capacity (kW) basis, the percentage of grid-connected and net metered capacity residing within the pipeline in any given month versus the amount of capacity which ends up actually being constructed.

<sup>18</sup> For the purpose of his analysis, Dr. Dismukes removed all projects within the pipeline as of December 31, 2012 from calculations as it is unknown whether these projects will be built.

connected projects had little effect on the overall completion rate of solar energy capacity in the pipeline, which remained at a substantial 58.2 percent in October 2012. *Id.* This is due to the small percentage of grid-connected projects in the New Jersey solar market. *Id.*

Moreover, offsetting the recent decline in the completion rate for grid-connected solar projects is the relatively strong completion rate for net-metered solar projects. Dr. Dismukes found the completion percentage of net metered capacity has remained strong, averaging 62.5 percent since November 2010 and has ranged between a low of 54.5 percent and a high of 70.9 percent. *RC-5*, p. 13 and Schedule DED-SR-3. In sum, relatively strong net-metered completion rates and a forecast of high completion percentages going forward refute PSE&G's claims about a weakening of the solar market which would support the capacity addition proposed by the S4AE.

In addition, the OCE forecasts of monthly build rates continue to be significant, at between 18 MW per month to 48 MW per month, over the next five energy years. *RC-3*, p. 15 and Schedule DED-7; *RCR-5*, p. 14 and Schedule DED-SR-3. This represents a strong build rate despite being lower than the recent peak high build rates of between 48 MW per month to 55 MW per month seen during the December 2011 to June 2012 time period. *RC-3*, p. 15.

Finally, contrary to PSE&G's assertions, the S4AE is not needed to advance the State's solar policy goals, as discussed in Point I. A above. As set forth in Subsection A, there is no convincing evidence to support the Company's contention that its projected installations would not be built without the S4AE. Moreover, as discussed in Point I. A, the proposed S4AE is premature given the pending Board proceeding, pursuant to the SEA, addressing incentives for solar development on brownfields, areas of historic fill, and properly closed sanitary landfills.

**C. THE PROPOSED S4AE WOULD IMPOSE SUBSTANTIAL AND UNCERTAIN BURDENS ON NEW JERSEY RESIDENTS AND BUSINESSES, AND WOULD NEGATIVELY IMPACT THE STATE'S ECONOMY, CONTRARY TO POLICIES REFLECTED IN EDECA, THE RGGI LAW AND ELSEWHERE.**

In addition to the serious potential impact of the propose S4AE on the State's solar energy markets, the Board must also consider its impact on PSE&G's ratepayers and the New Jersey economy as a whole. As Dr. Dismukes noted in his prefiled surrebuttal testimony, while the RGGI legislation permits utilities to seek cost recovery for renewable energy programs, the Board is not required to unconditionally accept any proposal offered by a utility. *RC-5*, p. 3.

Other legislation enacted since the RGGI legislation specifically directs the Board to consider the overall economic impact proposals such as the S4AE. The Solar Energy Advancement Act, P.L. 2009, c. 289, signed into law in January 2010, recognized a role for electric utility involvement in the attainment of the State's solar energy goals N.J.S.A. 48:3-87(k) but also established criteria for the Board to consider in carrying out its responsibilities under N.J.S.A. 48:3-87, including "promot[ing] the lowest cost to ratepayers ...." N.J.S.A. 48:3-87(l)(8). More recently, the SEA, enacted in July 2012, implicitly recognized the need to balance support for the solar industry against the interests of ratepayers, increasing the RPS for Energy Years 2014 through 2023 while simultaneously reducing ratepayers' exposure for the resulting costs by reducing the SACP for each Energy Year from 2014 through 2018. See RC-3, p. 12 & Schedule DED-5.

As noted in Point I.A. above, a key goal of the 2011 EMP is to "[d]rive down the cost of energy for all customers." *S-2*, p. 1 (2011 EMP, p. 1). Further, the EMP also emphasizes the need to carefully evaluate the costs and benefits of such proposals. The EMP explicitly states that the options for meeting the State's renewable energy goals should be evaluated through rigorous cost/benefit studies that consider "all cost and benefits, both direct and indirect." *RC-5*, p. 5,

quoting 2011 EMP, p. 75. The measures chosen to promote the State's renewable energy goals should not do so at the expense of other objectives such as "reliability and economics," and "[e]mphasis should be placed on resources that provide a net economic benefit to the State by providing jobs and investment, in addition to clean energy." *RC-5*, p. 5, quoting 2011 EMP, p. 76.

The S4AE program does not meet the test of economic reasonableness. The high costs of the Company's proposal are not justified by any benefits that can reasonably be expected to result from this program.

### **High Cost of Program**

Based on the Company's estimates, the direct rate impact of the S4AE over the 2013-2038 period will be approximately \$868 million, or approximately \$264 million on a net present value basis. *RC-3*, Schedule DED-24, page 2 of 2. However, the amount of the actual burden on ratepayers is uncertain. As explained in Dr. Dismukes' prefiled direct testimony, the Company's rate impact estimates include a number of revenue credits that are applied as an offset to program costs, including the proceeds received from the sale of SRECs, and electric energy and capacity to be generated by the proposed solar facilities. *RC-3*, p. 41. The Company's estimated revenue credits are overstated. The assumed credits from the sale of SRECs assume an SREC price of \$200 over the entire program. *RC-3*, p. 42. A more realistic estimate is indicated by the results of the most recent SREC auctions, which have seen prices as low as \$70 per SRECs, a level comparable to the price reported by Bloomberg New Energy Finance ("Bloomberg"), a company providing subscription-based analysis. *RC-3*, p. 42-43.<sup>19</sup> The Company has estimated revenues

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<sup>19</sup> PSE&G provided several solar energy market analyses, forecasts and outlooks prepared by Bloomberg in a discovery response, subject to a claim of confidentiality. *RC-3*, p. 16, *RCR-P-1*, Confidential

from energy sales based upon a wholesale energy price forecast prepared by Rutgers University's Center for Energy, Economic & Environmental Policy ("CEEEP") in June 2012. This forecast is used by the Board for the evaluation of energy efficiency. However, the version used by the Company was preliminary and did not reflect the consideration of comments and inputs from other parties participating in the development of the avoided energy cost forecast. This forecast was updated by CEEEP in October 2012 reflecting its consideration of input from other parties. The October CEEEP forecast anticipates energy prices that average 15.5 percent less than the projections included in the June forecast. *RC-3*, p. 44. The Company's capacity sales revenues, used as an additional offset to its proposed solar program costs, were also developed from the much higher, and preliminary, June 2012 forecast. The more current October 2012 forecast anticipates capacity prices some 20.5 percent lower than previously forecasted. *RC-3*, p. 44-45.

Using more realistic assumptions for SREC, energy and capacity revenue credits, Dr. Dismukes estimates a total rate impact substantially higher than the net present value ("NPV") of \$264 million implied in the Company's filing. *RC-3*, p. 45<sup>20</sup> Dr. Dismukes has also calculated alternative rate impacts under differing SREC price assumptions from \$0 to \$200 per SREC. At assumed values that appear more realistic based on recent SREC auctions, the total rate impact of the S4AE is \$348 million (NPV), at \$100 per SREC, and approximately \$384 million (NPV) at \$50 per SREC. *RC-3*, p. 45 & Schedule DED-24, p. 2. The rate impacts of the program would be even higher if the Board were to adopt the suggestions of some Intervenors to retire rather than

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Attachment 15. The amount of the Bloomberg SREC price forecast is shown in the Confidential version of Dr. Dismukes' direct testimony, *RC-3A*, p. 42.

<sup>20</sup> The difference between the Company's and Dr. Dismukes' estimated rate impacts are quantified in the Confidential version of Dr. Dismukes' direct testimony *RC-3A*, p. 45 and in Confidential Schedule DED-24.



sell the SRECs produced by its solar facilities developed under S4AE. If these SRECs were retired, then the rate impacts associated with Company's full proposal would be about \$1.35 billion, with a net present value of about \$419.5 million. RC-3, Schedule DED-24 p. 2 of 2. RC-4, p. 9.

The Company's experience with the original S4A program provides further reasons to question the reliability of the Company's estimated rate impacts for S4AE. As acknowledged by Company witness Stephen Swetz at the evidentiary hearing in this matter, in recent years the Company's projected revenue requirements for S4A have increased substantially. As of the time the Stipulation for the S4A program was signed in 2009, the Company was projecting revenue requirements of \$15.301 million for 2012, and \$13.024 million for 2013. *T42:L5-8 & T42:L17:22* (March 21, 2013); *RC-10*, p. 1, col. 24. The Company's latest projections, provided as part of a discovery response in the Company's current RRC true-up filing, show a revenue requirement of \$37.183 million based on 11 months of actual data and one month of projections for 2012, and a projected revenue requirement of \$30.274 million for 2013. *T42:L9-13 & T42:L23 - T43:L1* (March 21, 2013); *RC-11*, p. 2, col. 24. Combined, the current projection for both years is about \$39 million more than originally projected. *T43:L2-6* (March 21, 2013). Mr. Swetz acknowledged that this discrepancy is due to "significant changes to the SREC prices, capacity and energy market that have impacted the revenue requirements." *T44:L5-7* (March 21, 2013). The Company's actual experience thus confirms the significant changes in rate impact that can occur if SREC prices and prices for electric capacity and energy differ from those assumed in the S4AE filing.

In rebuttal testimony, the Company has suggested that Dr. Dismukes' estimated rate impacts are overstated, because lower SREC prices, while increasing the S4AE surcharge, will

also result in lower prices for electric generation service. *P-12*, p. 25-26. Initially, Rate Counsel respectfully submits that future rates for electric generation service should not have any bearing on the Board's evaluation for the S4AE. PSE&G has presented no analysis of the degree to which the S4AE, if approved, will affect SREC prices over the time when the rates necessary to fund the program would be in effect. PSE&G can not take credit for the low SREC prices that may occur based on market conditions that exist without any consideration of S4AE. Expected savings on the "commodity" side of ratepayers' energy bills should not be viewed as an opportunity to increase rates for distribution service.

Further, PSE&G has not provided any documentation or analysis that any reduction in rates for generation service would be sufficient to offset the high cost of S4AE. First, there is no way to predict to what extent lower SREC prices would be passed through ratepayers by Basic Generation Service providers and Third-Party Suppliers. *RC-5*, p. 18-20. Second, the cost of solar generation to be developed in the S4AE program is so far "out of the market" that any reduction in the price of generation service would not offset the high costs of the program. *RC-5*, p. 20-21 & Schedule DED-SR-6. Rejection of S4AE does not mean that the RPS will not be achieved nor that additional solar facilities will not be built; it just means that the market will determine the amount and ratepayers will not subsidize PSE&G's shareholders.

The Company also attempted to minimize the high cost of its proposal by focusing on annual per-customer rate impacts instead of total costs. At the evidentiary hearing in this matter, Company witness Mr. Moran asserted that considering the total dollar impact of the program over the entire proposed rate recovery period "obfuscates the real impact to ratepayers." *T19:L14-16* (March 19, 2013). Citing the Company's rate impact estimates, Mr. Moran stated that "the impact on a typical residential ratepayer would average less than seven dollars per year

over the life of the program and would be at the most about eleven to twelve dollars per year for a brief period ...” T20:L2-6 (March 19, 2013). Rate Counsel submits that it is the Company’s approach that is misleading. By focusing on the relatively modest per-customer, per-year impact, Mr. Moran minimizes the fact that the Company’s proposal would result in a 23-year commitment to a rate surcharge for some 2.2 million electric ratepayers. His approach is no more reasonable than considering only the monthly amount of a payment on an automobile loan, without consideration of the duration of the payment stream and the loan amount. The Board should consider the total amount of the financial commitment PSE&G is seeking from its ratepayers, not just the annual amount for a single residential customer.

Even using the Company’s likely understated rate impact analysis, the Company is seeking a financial commitment from its ratepayers of around a quarter of a billion dollars on a net present value basis. By any standard, this is a significant commitment, which should be justified by a convincing showing of positive benefits. However, the economic and other benefits claimed by the Company are based on flawed and incomplete analyses. As explained in Rate Counsel’s testimony, the S4AE will result in negative economic impacts, and will not produce the environmental and other benefits claimed by the Company.

#### **Negative Net Economic Impacts**

The Company has sought to justify the cost of the proposed S4AE by citing two types of benefits. First, the Company asserts that the program will create economic benefits including “885 job-years of direct labor to complete the projects” and another “800-900 job-years of indirect labor created by the [S4AE program],” resulting in an estimated \$94 million in additional worker income, \$7 million in additional State tax revenues, \$9 million in addition local tax revenues, and an addition of \$147 million to the State gross product, over the five-year

life of the program. *P-11*, p. 10-11. Second, the Company asserts that the S4AE will provide environmental benefits in the form of reduced carbon and other emissions. *P-1*, par. 30; *P-11*, p. 12-13; *RC-3*, p. 46. As explained in detail below, the Company has confused benefits with incremental benefits. While the S4AE program will certainly benefit some participants in the solar market, and while the solar facilities will result in avoided carbon and other emissions, PSE&G has not demonstrated that the program would result in any incremental economic or environmental benefits.

With regard to the claimed economic benefits, the Company has overstated the New Jersey jobs and other benefits that would result from the S4AE, and more important, has failed to account for the negative economic impacts that would result from the rate increases needed to fund the program. When the total impacts of the program are correctly analyzed, they show that S4AE would result in negative net economic impacts.

First, as explained by Dr. Dismukes, PSE&G has improperly assumed that 100% of the capital expenditures for the program will remain in New Jersey—it has not accounted for “leakages” associated with out-of-state purchases. *RC-3*, p. 35-36. Based on the Company’s experience with its original Solar 4 All program, it is likely that some 37.5 percent of S4AE expenditures will be to out-of-state firms. *RC-3*, p. 36-37. Further, the Company’s analysis does not take into account that the rate increases needed to fund the program will create negative economic impacts. This occurs because rate increases will reduce household income and increase business costs, thus reducing the amounts spent on goods and services. This, in turn, leads to “ripple effects” or “multiplier effects” in the overall economy. *RC-3*, p. 38-39.

A proper analysis, accounting for leakages and the negative impacts of rate increases, shows that the economic costs of the program will exceed the benefits. Using the Company’s

estimated rate impacts, the S4AE would cause an estimated net contraction in the New Jersey economy of about \$56.7 million on a net present value basis, and a reduction in employment of 3,561 job-years. *RC-3*, p. 39. As acknowledged by Dr. Dismukes, these impacts are relatively small given the size of the New Jersey economy and the long time period over which they will occur. *RC-3*, p. 40-41. Nonetheless, Dr. Dismukes' analysis shows that, even using PSE&G's estimated rate impacts its claims that the S4AE will produce positive economic benefits are without foundation.

Further, as explained above, the Company's estimated rate impacts are likely understated. Using Dr. Dismukes' more realistic rate impact estimates, the reduction in the State's economic output would be about \$185.8 million on a net present value basis, total employment would be reduced by about 7,222 job-years, and New Jersey labor income would be reduced by about \$22.5 million. *RC-3*, p. 47. If the Board were to adopt the suggestions of some Intervenors to retire all SRECs associated with the S4AE, the State could see a decline of \$305.9 million on a net present value basis, a loss of 9,677 job-years, and a loss of \$67.4 million on a net present value basis in total labor income. *RC-4*, p. 9.

In his rebuttal and rejoinder testimony, PSE&G witness Mr. Moran raised a number of criticisms of Dr. Dismukes' rate impact and cost-benefit analyses. These criticisms should be rejected as unfounded and contrary to proper economic modeling, as explained below.

Initially, Mr. Moran's rebuttal testimony cites the support of some members of the construction trades and some Intervenors for the proposed S4AE. *P-12*, p. 18-21. Such support provides no basis for the Board to conclude that the program will be beneficial to the State's economy as a whole. The testimony filed in support of the S4AE was submitted on behalf of those whose firms or members stand to profit from the program. *Petra-1*, p. 2-3; *Sundurance-1*,

p. 2-3; *Wattlots-1*, p. 4; *T83:L11-18* (March 21, 2013). S4AE would clearly benefit the solar industry participants that expect to participate in the program as vendors, as well as the members of the construction trades to be employed by the selected vendors. However, as discussed above, benefits are not the same as incremental benefits. The anecdotal evidence cited by Mr. Moran does not establish an incremental benefit for the New Jersey economy as a whole.

In his rebuttal testimony, Mr. Moran criticizes Dr. Dismukes' use of a leakage factor to account for the fact that some S4AE expenditures will flow to out-of-state firms. Mr. Moran disputed the use of a leakage factor because it been PSE&G's "experience" that out-of-state contractors use New Jersey labor for construction. *P-12*, p. 22. As Dr. Dismukes explained in his surrebuttal testimony, leakages are a crucial and well-recognized component of input-output modeling. *RC-5*, p. 22-23. Inputs used in such modeling must reflect dollars actually spent in the study area. In this case, to the extent money paid to contractors is not in turn spent in New Jersey, that money does not create jobs in New Jersey. *RC-5*, p. 22. Mr. Moran's rebuttal testimony suggested that Dr. Dismukes should have assumed a "zero" leakage factor, i.e., that he should have assumed that none of the money collected for the program would be spent out of state. *RC-5*, p. 26. Such an assumption is manifestly unreasonable. Even assuming projects were built using 100% New Jersey labor, it is unreasonable to assume that an out-of-state vendor would use exclusively New Jersey professional and support services, or purchase all equipment and supplies in New Jersey. *Id.* As Dr. Dismukes explained at the evidentiary hearing in this matter, "the checks go out of state ... and it is usually the case that when those dollars flow back to the companies that are engaged in these type[s] of activities they go to their home office where in turn they are used to support projects, they pay taxes, income taxes, property taxes, they pay wage bills and they pay other things in their home state where they are located, not in [the] State

of New Jersey.” *T176: L5-16* (March 19, 2013). Dr. Dismukes’ leakage factor was based on the best available information from the Company and, as he explained at the hearing, this factor is reasonable based on his experience: “[i]n my experience in doing economic impact modeling on a wide range of energy projects of the past twenty-five years 37 percent is actually a very good number, that is a relatively low level leakage.” *T176:L17-25* (March 19, 2013).

The Company did not provide any documentation that would support its proposal to assume no leakage. Following the submission of Mr. Moran’s rebuttal testimony, the Company was asked to provide supporting documentation for its “zero” leakage assumption, including copies of invoices and contracts for solar projects supported by out-of-state contractors. PSE&G did not provide the requested information, asserting that the information was “not relevant” to this proceeding. *RC-5*, p. 26-27. In Dr. Dismukes’ experience, this type of documentation would have allowed him to “ascertain exactly where those dollars are flowing ...” *T178:L10-12* (March 19, 2013). As Dr. Dismukes noted at the hearing, “this kind of documentation should have been behind your original work papers for your direct testimony and it wasn’t there.” *T178:L3-6* (March 19, 2013). Since the Company has not provided the invoices and other supporting documentation that would allow a more refined determination of a leakage factor, its proposal to assume “zero” should be rejected.

The 10 percent leakage factor assumed in Mr. Moran’s rejoinder exhibits *P-17*, *P-18* and *P-19* should also be rejected. In his rejoinder testimony, Mr. Moran continued to object to the use of any leakage factor, but stated that “in order to satisfy Dr. Dismukes’ concerns about PSE&G’s labor allocations, I have performed additional cost benefit analysis conservatively assuming that only ninety percent of the professional labor would be New Jersey based ...” *T41:L2 - T42:L7* (March 19, 2013). The basis for this assumption appears to be Mr. Moran’s

assertions that “one hundred percent of the installation labor for PSE&G’s solar facilities has and will continue to be local,” and that “based on the experience of the PSE&G solar team and its EPC contractor, practically all other provisional labor would also be local.” *T41: L11-17* (March 19, 2013). This type of undocumented assertion, which appears to be based at least in part on the observations of persons other than Mr. Moran, should not be accepted by the Board as the basis for a serious analysis of the costs and benefits of the proposed S4AE.

Mr. Moran’s prefiled rebuttal testimony also criticized Dr. Dismukes’ use of the Jobs and Economic Development Impact (“JEDI”) model to estimate the impact of the proposed S4AE on the New Jersey economy. Mr. Moran dismissed the JEDI model as “simple spreadsheet screening tools” that “cannot accurately model some of the more complicated aspect[s] of the Solar 4 All Extension program,” and, specifically, “does not have the ability to directly model multi-year programs such as [the] Solar 4 All Extension.” *P-12*, p. 28. These criticisms are simply incorrect. The JEDI model is, in fact, not a “simple spreadsheet model.” While this model is designed to be user-friendly, it is not simplistic. It has been designed to allow for modeling of the economic impacts of “an array of energy project types across the U.S.” *RC-5*, p. 29. Contrary to Mr. Moran’s assertion, the JEDI model, and the IMPLAN model upon which it is based, “can be easily modified to estimate dynamic economic impacts,” and in fact Dr. Dismukes did just that to develop the economic impacts presented in his prefiled direct testimony. *RC-5*, p. 34.

The JEDI and IMPLAN models have been extensively used over the years in academic studies, as well as by other entities such as the U.S. Environmental Protection Agency, the World Bank, the Center for Renewable Energy at Illinois State University, and other government entities. *RC-5*, p. 31-32. During the Company’s cross-examination of Dr. Dismukes, he was questioned about Rate Counsel’s objection to a discovery request in which the Company sought



copies of “all studies, analyses, and reports in which the IMPLAN model has been used to calculate the output, employment, or income impacts of projected energy price changes.” *P-20, T169:L10-12* (March 19, 2013). There have been numerous studies performed using IMPLAN, examples of which can be found on IMPLAN’s website. *P-20 (PS-S4A-DED-20)*. As Dr. Dismukes noted at the evidentiary hearing, it would have would have been unreasonable to expect Rate Counsel to “collect every one of those studies and do your research for you on this particular issue.” *T170:L22-24* (March 19, 2013).

In his rejoinder testimony, Mr. Moran appeared to acknowledge that Dr. Dismukes’ use of the JEDI model was reasonable: “After spending time reviewing the model, working with it and discussing it with colleagues at PSE&G, I agree that, assuming the correct inputs are used, the JEDI model is a useful high level planning tool. In fact we will probably use it for future analysis of solar programs.” *T36:L11-16* (March 19, 2013). This testimony should put to rest any suggestion that Dr. Dismukes’ use of the JEDI model was in any way unreasonable, as originally stated by Mr. Moran in his rebuttal testimony.

#### **Absence of Environmental and Other Benefits**

PSE&G also claims that the S4AE will produce environmental benefits in the form of reductions in carbon and other emissions. *P-1*, par. 30; *P-11*, p. 12-13; *RC-3*, p. 46. As Dr. Dismukes explained, the environmental benefits should be considered attributable to the S4AE only if this program leads to solar capacity that would not have been built otherwise.

However, as explained in Points I.A and I.B. above, the S4AE is likely to displace solar investments that would have been made by non-utility entities in the absence of the program, or to discourage solar investment by destabilizing the market. Thus, this program could induce a

neutral or even negative environmental impact. In the absence of any showing that the S4AE will produce incremental environmental benefits, none should be attributed to the program.

The suggestions of some Intervenors that the S4AE will bring distribution system benefits sufficient to justify the high cost of the program should likewise be rejected. *MSEIA-1*, . Q5/A5; *Petra-1*, p. 2; *Wattlots-2*, p. 7; *P-12*, p. 21. Such benefits have not been documented. MSEIA witness Lyle Rawlings has provided with his testimony a study purporting to show such benefits. *MSEIA-1*, Q5/A5 & attached Exhibit A. However, in response to a Rate Counsel discovery request Mr. Rawlings stated he was “not the author of any part of the study, and did not conduct the quantitative estimates or calculations included in the study. *RCR-P-MSEIA-6*. MSEIA also objected to providing any of the workpapers and supporting documentation underlying the report, asserting that Rate Counsel’s request was unduly burdensome, and that the requested materials were “private, confidential, proprietary, or a trade secret” and were “not in MSEIA’s custody or control.” *Id.* Since there has been no opportunity to review the underlying basis for the study, and no opportunity to cross-examine its authors, the Board should give it no weight. No other party has attempted to document or quantify any distribution system benefits that would result from the S4AE.

### **Conclusion**

The proposed S4AE would result in hundreds of millions of dollars in rate increases. The economic benefits asserted by PSE&G are overstated, and are offset by the economic harm that would result from the rate increases needed to fund this costly program. It should be rejected as contrary to New Jersey’s policy to meet its renewable energy goals with due regard to creating net economic benefits for the State as a whole.

**II. THE S4AE HAS OTHER FUNDAMENTAL FLAWS.**

**A. THE BOARD SHOULD REJECT THE S4AE, HOWEVER, IF APPROVED THE S4AE PROGRAM RETURN ON EQUITY SHOULD BE NO HIGHER THAN 9.75%**

For the reasons set forth in this Brief, the Board should reject the S4AE in its entirety; however, if the Board chooses to approve any part of the program the Board should adopt a ROE no higher than 9.75% for the calculation of the Weighted Average Cost of Capital (“WACC”). Rate Counsel Witness Ms. Andrea Crane testified that present market conditions do not warrant the same 10.3% ROE award from the Company’s last base rate case which became effective in July 2010. Ms. Crane testified that a 9.75% ROE is more appropriate and consistent with the most recent equity awards by the Board in an electric utility base rate case. Ms. Crane also testified that it would be reasonable for the Board to adopt a significantly lower return on equity, than 9.75% because of the difference in investment risk between the S4AE program, which provides the Company prompt dollar-for-dollar rate recovery of its costs through the use of the RRC, and the Company’s investment in traditional distribution plant recovered through base rates. *RC-12*, pp. 13-17.

The Company’s rebuttal witness, Mr. Paul R. Moul, agreed with Ms. Crane, that the cost of capital had declined since the Company’s last base rate case in 2010. *T48:L14-20*. (March 18, 2013) In addition, Mr. Moul testified that the proposed “tracker” program provides dollar-for-dollar cost recovery through the RRC without the risks of a base rate case. The only conclusions the Board can reach, based upon the testimony in the record, is that the Company’s proposed ROE of 10.3% would result in over-recovery from ratepayers, and a ROE even lower than 9.75% would be justified because of the greatly reduced investment risk.

In selecting any ROE, the Board must balance a just and reasonable cost to ratepayers with the need for a regulated utility to earn a return that is sufficient to attract capital to finance its continued operations. In determining a just and reasonable rate of return in a base rate case the Board must assure the rates do not exceed the level required to assure the financial integrity of the regulated utility so as to maintain its credit and attract capital, and must be commensurate with returns on investments with comparable risks. See, Bluefield Water Works & Improvement Co. v. Public Serv. Comm'n of W. Va., 262 U.S. 679, 692-93 (1923). Rates set by the Board, "can never be more than the reasonable worth of the service supplied; neither can it be fixed so low as to be confiscatory." Pub. Serv. Coordinated Transport. v. State, 5 N.J. 196, 225 (1950). The S4AE program is not exposed to the same level of investment risk as investment in the distribution assets of the Company. The proposed S4AE cost recovery mechanism ensures that the Company will recover 100% of the prudently-incurred program costs. Therefore the Company's proposed 10.3% ROE, taken from the last base rate case, is both unreasonable and fails to achieve an appropriate balancing of shareholder and ratepayer interests.

#### **Capital Costs Have Decreased**

As set forth in the Company's petition and supported by its witness, Mr. Steven Swetz, the Company is proposing to utilize a weighted average cost of capital ("WACC") of 8.21% as set forth in Mr. Swetz's direct testimony, "The overall cost of capital utilized to set rates for the initial rate period of the Program will be based on the Company's most recent base rate case, BPU Docket No. GR09050422, which is 8.21% (11.8520% on a pre-tax basis), based on a return on equity of 10.3% and current tax rates." P-25, p. 3. The currently authorized 10.3% ROE was the result of a settlement in the last base rate case, reflecting compromise by several parties on many different issues. RC-12, p.11

In the three years since the Company's last base rate case, Ms. Crane noted that financial market conditions have changed substantially. Ms. Crane testified that 30-year U.S. Government bonds fell from a rate of 4.23% in May 2009 to 2.88% in December 2012. Ms. Crane found a similar decline in AAA-rated corporate bonds, where the rates fell from 5.54% in May 2009 to 3.65% in December 2012. Ms. Crane also testified that dividend yields have generally declined as stock prices have increased, specifically noting that the Dow Jones Utility Index has increased significantly since the Company's last base rate case. Ms. Crane concluded her analysis of market conditions by stating that there has been an overall decline in equity returns based on the Discounted Cash Flow ("DCF") model. Ms. Crane's testimony notes that decreased borrowing costs have caused the Company's embedded cost of debt to decrease from 6.21% to 5.05% since the last base rate case. (Mr. Swetz, in his rebuttal testimony states that the Company's November 2012 embedded cost of debt was 5.3483%, which Rate Counsel accepts.) *P-25* This evidence supports Ms. Crane's conclusion that the Company's overall cost of capital has declined substantially since the last base rate case. *RC-12*, pp. 12-14

Under cross-examination, Mr. Moul agreed with Ms. Crane's testimony that the utility cost of equity has declined since the Company's last base rate case.

Q. At page 3, line 19 of your testimony, you state that market conditions have changed since July 2010.

A. Yes.

Q. Does this sentence mean that you acknowledge that as a general matter the utility cost of equity has declined since July 2010?

A. I agree with that. *T48:L14-20*. (March 18, 2013)

Ms. Crane's testimony, coupled with Moul's admission under cross examination that the utility cost of equity has decreased since the Company's last base rate case, leaves only one conclusion

from the established record; that is, the Company's proposed 10.3% ROE is too high and no longer represents a reasonable return for ratepayers to support. *RC-12*,p. 14-15.

Ms. Crane's testimony that the cost of capital for utilities has decreased is supported by Mr. Kahal's testimony regarding his review of Mr. Moul's Exhibit PRM-2, the Regulatory Research Associates ("RRA") survey of state regulator ROE awards for electric utilities in 2012. Mr. Kahal removed the vertically-integrated electric utilities from the survey, as being irrelevant to the sample since the market risk for those utilities is different. Using only those 2012 ROE awards (from the RRA survey) for delivery service electric utilities, the appropriate measure for PSE&G, the 2012 average ROE award is 9.74% or consistent with Ms. Crane's recommendation of a ROE of not more than 9.75%. *RC-2*,pp. 32-33.

#### **Lower ROE from Minimal Investment Risk**

The Company is proposing a 10.3% ROE but fails to acknowledge the significant differences between base rate recovery and cost recovery through the "tracker" program it proposes. A base rate proceeding examines investment risk on all utility investments. Costs, between rate cases, are recovered only if sales have increased or other costs have declined relative to revenues and expenses included in the previous base rate case. Since there is no "true-up" between base rate cases (as proposed in the Solar 4All program through the RRC) investment risk is dependant upon revenue and expenses between base rate cases. If revenues rise and expenses decrease, the Company may earn more than its authorized return and shareholders would benefit from the gain. If revenues decrease and expenses rise, the Company may not earn its authorized return and shareholders would suffer. In this way return on distribution assets through base rates is a more risky investment than through a relatively assured cost recovery mechanism, like the Company proposes in S4AE. *RC-12*, p. 7. This risk is

avoided by the Company under the proposed S4AE program. As proposed, ratepayers provide prompt full and dollar-for-dollar cost recovery through the annual true up of expenses and revenues through the RRC.

Ms. Crane testified that a significantly lower rate than 9.75% may be reasonable because the Company's proposed program provides the Company 100% of its costs through the RRC, eliminating investment risk for this program. If shareholders bear no risk of loss of their investment, the Company's cost of debt may be the appropriate return to use as cost of capital. Therefore, should the Board decide to grant the Company's request and approve any part of this program, the ROE should be reduced commensurate to the risk incurred. *RC-12*, pp. 17-18.

The Company's witness, Mr. Moul, agreed with Ms. Crane when questioned by Board Staff under cross examination:

Q. The proposed recovery mechanism for Solar 4 All basically guarantees the cost of its programs will be recovered from the ratepayers. Is that correct?

A. Sure. It's the same as any type of tracker you have, whether it's environmental or energy efficiency trackers or bad debt expenses. I mean it's a characteristic of a tracker or a rider or clause, whatever you want to call it. *T-69:L6-14* (March 18, 2013)

Mr. Swetz, in his rebuttal testimony, notes that the Board could disallow a cost the Company incurred if it was found to be imprudent, arguing that the Company did face some degree of investment risk. *P-26*, p. 3. However, as acknowledged by the Company in its response to RCR-ROR-17, the Board has never disallowed a cost incurred by the Company for any of its energy efficiency or renewable energy programs for imprudence. Mr. Moul, too, under cross examination by Board Staff, admitted that he didn't know of any instance where costs for any solar program of the Company had been disallowed by the Board. *T-70:L20-22* (March 18, 2013)

The surrebuttal testimony of Mr. I. Kahal specifically addresses the difference between using the ROE from a base rate case and the lower risk from a cost recovery tracker, such as is proposed in the S4AE program. Mr. Kahal states: “The issue is not whether PSE&G has *any* risk associated with these programs, but rather whether such risk is comparable to that under standard regulation, based on cost recovery in base rate cases.” He concludes: “Unquestionably, cost recovery is far more certain under the fully reconcilable cost recovery tracker proposed for the solar program.” *RC-2*, p. 8.

If the Board were to approve the S4AE program with a 10.3% ROE the Company would enjoy an incentive to invest as much as possible in these low risk high return projects. Investments in this program would be more attractive, on a risk/return basis, than investments in the distribution system recovered through base rate recovery. Importantly, the evidence clearly demonstrates that the requested 10.3% ROE exceeds by a large margin PSE&G’s current cost of equity, creating a perverse incentive for the Company to inflate its investments and to move into regulated, monopoly utility service investments that more properly belong on the unregulated side of the business. This issue was demonstrated through the cross-examination of Mr. Moul with respect to the Value Line Report for PSE&G dated November 23, 2012. *RC-1*. Mr. Moul acknowledged that the Value Line Report stated that PSE&G management was offsetting declines in non-utility profits with strong returns in regulated utility profits. When asked, Mr. Moul offered his opinion that a 10.3% ROE on the utility side of a diversified business would be attractive, stating:

I mean, in this environment of low natural gas prices which drive the competitive electric market, the returns aren’t what they used to be [for non-regulated business]. I mean that’s pretty obvious. And the companies that are diversified that have both regulated and non-regulated, the regulated returns are attractive at this point in time. *T-53:L10-15* (March 18, 2013)



To grant the Company its requested 10.3% ROE, based on an outdated base rate settlement, considering the reduced investment risk would unreasonably reward the Company's shareholders at the expense of the ratepayers.

**Company Argument**

The Company initially offered the direct testimony of Mr. Swetz in support of its proposed ROE of 10.3%. Mr. Swetz indicated that any change in the WACC authorized by the Board in a subsequent case would be reflected in the annual true-up in subsequent years. *P-25*, p. 3. The Company, following Ms. Crane's direct testimony, filed the rebuttal testimony of a new witness, Mr. Paul R. Moul in response. Mr. Moul, in his rebuttal to Ms. Crane's direct testimony, agrees with Ms. Crane that market conditions have reduced the cost of equity since the Company's last base rate case but nevertheless argues the 10.3% ROE established July 2010 when the base rate case was settled, should continue to apply in today's very different capital market and economic environment. In addition, Mr. Moul presented discounted cash flow ("DCF"), risk premium, capital asset pricing model ("CAPM"), and comparable earnings studies in an effort to support the Company's position with respect to its requested return on equity.

Mr. Moul argues that because of the long recovery period associated with the proposed S4AE program, it is unreasonable to expect current low interest rates to be maintained during the 25 year period of this program. In addition, Mr. Moul argues that today's rates are, by historical standards, unreasonably low. Mr. Moul concludes his primary criticism of Ms. Crane's analysis by stating, "It is indisputable that today's low interest rate cannot be representative of the average interest rates for the next twenty-five years." *P-4*, pp. 5-6. However, Mr. Moul, under cross-examination, admitted that the Company controls the timing of when to file a base rate case, which would include updating the ROE applicable to any S4AE program:

Q. At page 5 you express concern that this proceeding could lock in a low return on equity for the solar tracker. Is that correct?

A. Yes.

Q. In response to RCR-A-51, you state that the solar tracker return on equity will be updated after each PSE&G rate case. Is that correct?

A. Yes

...

Q. So if the market cost of equity increases and PSE&G determines that its earnings are insufficient, it can file a rate case. Correct?

A. Oh, sure...

Q. But certainly if its earnings are being impacted by return on equity, it could choose to file a rate case?

A. Absolutely. I agree with you. *T48-49:L23-22* (March 18, 2013)

Mr. Moul's unsupported speculation that the present low rate of interest may or may not increase over the 25 year anticipated life of this program is irrelevant. ROEs have increased and decreased over the past 25 years and will undoubtedly change over the next 25 years. What is undisputed is that the Company may file a base rate case at any time it feels market conditions and its own earnings position warrant an adjustment to its base rates. There is no need for the Board to continue to employ in the Solar tracker an overstated ROE that no longer reflects current market conditions based on speculation that at some unspecified future time capital costs may increase from today's levels. PSE&G will have every opportunity to address that circumstance if it comes to pass and seek whatever adjustment to its return that is warranted.

Mr. Moul in his rebuttal testimony did not directly address Ms. Crane's testimony regarding risk and the low-risk cost recovery under the S4AE program as proposed by the

Company. Mr. Moul states; “The Solar Programs are not dissimilar in risk from the overall PSE&G utility business, as discussed in the Rebuttal Testimonies of Mr. Moran and Mr. Swetz.” *P-4*, p. 3. When pressed to further explain his testimony under cross-examination by Board Staff, Mr. Moul declined to offer an opinion of his own:

Q. And can you please clarify on what basis you still support the 10.3 return requested by the company in this proceeding?

A. Well, I’ve looked at testimony of other company witnesses that described some of the operational risks associated – I’m – you know, that’s outside of my field and I need to rely on other people that are expert in that – in those matters. And based upon my reading of the testimony of the company witnesses, lead me to believe without doing my own analysis that the risks were indistinguishable. *T63:L4-14* (March 18, 2013)

Mr. Moul’s rebuttal testimony was specifically focused on the appropriate ROE to be included in the S4AE and Solar Loan III programs. *P-4*, p. 1. Mr. Moul conducted an analysis based upon the DCF model, the Risk Premium (“RP”) analysis, the CAPM and the comparable Earning (“CE”) methods. Based on Mr. Moul’s analysis, the range of indicated returns were between 9.33% (CAPM) and 11.66% (RP). The average of all methods, according to Mr. Moul, was 10.76% and the midpoint is 10.5%. Mr. Moul testified that the Company should be granted an opportunity to earn 10.875% and that as a result, 10.3% is reasonable. *P-4*, p. 16.

Rate Counsel presented the Surrebuttal Testimony of its witness Matthew I. Kahal in response to Mr. Moul. Mr. Kahal responded to and corrected Mr. Moul’s CAPM studies by removing extraneous “adders” that are unrelated to the Company’s cost of equity and that have received little or not regulatory acceptance. When Mr. Moul’s studies are corrected to remove these adders Mr. Kahal demonstrates that Mr. Moul’s DCF study produces a cost of equity estimate of 9.34% to 9.61%. When similar corrections to remove extraneous adders are made to

the CAPM study, Mr. Kahal demonstrates that Mr. Moul's CAPM study produces a cost of equity estimate of about 8.5%. *RC-2*, p. 7. Both results are well below Ms. Crane's recommended "no higher than 9.75%." As Mr. Kahal was submitting surrebuttal testimony he limited himself to correcting Moul's studies and using only Mr. Moul's data set, but he noted that in other electric and gas utility cases his own recent DCF estimates have ranged between 9.0% to 9.5%. *RC-2*, pp. 6-7.

Mr. Kahal, in his surrebuttal testimony, specifically addressed the extraneous adder Mr. Moul describes as a "leverage adjustment." Mr. Moul used the leverage adjustment adder to both his DCF and CAPM studies, which ultimately work to the benefit of shareholders and at the expense of ratepayers. As Mr. Moul states; "if book values are used to compute the capital structure ratios, then an adjustment is required." *P-4*, p. 24. As noted by Mr. Kahal, "this is a candid admission that the leverage adder is not part of the utility cost of equity, as measured by the standard DCF formula, but is included due to capital structure ratemaking practices." *RC-2*, p. 22.

Mr. Kahal testified that both the Company and Rate Counsel accept the use of a book value capital structure for setting rates and that the capital structure is not in dispute in this case. Mr. Kahal testified that a departure from that standard would be novel:

The standard practice (a market cost of equity coupled with a book value capital structure) is the essence of cost-based ratemaking that fully meets the capital attraction standard and has been used successfully by the BPU (and other regulatory commissions) for decades. I am also not aware of PSE&G in past cases advocating an ROE adder above its cost of equity due to the Board's use of book value capital structure. *RC-2*, p. 22.

Mr. Moul admitted, under cross examination than a few Pennsylvania cases prior to 2007, have adopted his extraneous adder leverage adjustment. *T-57:L1-3* Based upon the undisputed

downward trend of the cost of capital overall, and analyses specific to this case, the Company's 10.3% recommendation is excessive and would unfairly overcharge customers.

**Conclusion**

It is within the Board's power to grant a reasonable ROE to the Company that balances a return sufficient to attract capital to finance its operations with a just and reasonable cost to ratepayers. Rates should not exceed that return necessary to balance these competing needs. The record and testimony in this matter upon which the Board must make its decision is that the Company's proposed ROE of 10.3%, as established in July 2010 from a 2009 rate case is too high considering current market conditions. That fact, coupled with the reduced investment risk resulting from the cost recovery proposed through a RRC, support a finding that the ROE for any part of the program the Board may approve should be no greater than 9.75%.

**B. S4AE BURDENS RATEPAYERS WITH ADMINISTRATIVE COSTS  
CONTRARY TO THE BOARD'S MAY 2012 ORDER.**

**The Board's May 2012 Order says ratepayers should not bear administrative costs**

Although ratepayers have customarily borne the cost for most solar programs in New Jersey, in May 2012, the Board addressed the administrative costs of Electric Distribution Company's ("EDC") SREC programs and indicated that going forward, the administrative costs associated with these programs must be paid by solar developers and generators. See 2012 Utility Solar Extension Order, p. 27. Further, in its Order, the Board specifically referred to the reasoning of its Staff that a major objective of the utility-supported solar programs is to "...wean the solar industry from ratepayer subsidies." Id. at p. 12.

The rationale behind this decision is clearly appropriate to the S4AE. PSE&G's argues that the Board's 2012 Utility Solar Extension Order, requiring that "all administrative fees would

be paid for by the solar developer or the generation customer” did not apply to the PSE&G’s original Solar Generation Investment Program and should therefore not apply to the proposed S4AE. *P-12*, p. 33. Rate Counsel submits that this assertion is counter to the spirit and purpose of the 2012 Utility Solar Extension Order and would increase further the competitive advantage granted to utility-owned and ratepayer financed solar projects over other solar projects. While Rate Counsel acknowledges that the 2012 Utility Solar Extension Order did not specifically address PSE&G’s original Solar Generation Investment Program or the S4AE that was filed on August 1, 2012, one of the objectives of the Board in formulating the Order was to “wean the solar industry from ratepayer subsidies”. *RC-12*, p, 22-23; and *RC-13*, pp. 13-14.

The 2012 Utility Solar Extension Order implicitly recognized the significant subsidies that have been borne by ratepayers in the development of the solar industry. Likewise, that Order also recognized that given the current state of competition in this area, it was now the appropriate time to begin to reduce these subsidies and have other parties share-in the financing of solar investments in New Jersey. The Board correctly surmised that an appropriate way of achieving such sharing was to require administrative costs be recovered from parties other than the New Jersey ratepayers, and Rate Counsel fully agrees.

PSE&G’s S4AE Program places all administrative costs on ratepayers. Thus, this provision of the S4AE Program is clearly inconsistent with the intent and spirit of the Board’s 2012 Utility Solar Extension Order.

Moreover, if PSE&G is permitted to collect administrative costs from ratepayers on its S4AE Program, while requiring other solar developers or generators to absorb administrative costs associated with other SREC Financing programs, it would increase PSE&G’s unfair

competitive advantage and further skew the playing field in the development of the solar energy market. Intervenors echoed these sentiments in their testimonies:

- KDC Solar noted that both the size and duration of the S4AE will “directly and adversely” impact market competition by guaranteeing PSE&G’s solar investments with ratepayer funds giving PSE&G an unfair competitive edge. *KDC-1*, p.3, line 7; and also *RC-5*, p. 3.
- KDC Solar further noted that investment in other program segments of the S4AE, such as warehouse roofs and municipal locations “is not constrained and needs no special incentives. Allowing PSEG to enter these segments under the Extension Program, subsidized by the rate payers, would have significant adverse impacts on market competition – the exact consequence that the BPU was attempting to avoid when it approved PSE&G’s initial S4AE Program in 2009.” *KDC-1*, p.4, lines 8-14; and also *RC-5*, p. 6.
- SEIA noted that “where the state policy is to create a vibrant competitive marketplace, as is the case in New Jersey, regulators should consider as well the impact of such ownership on the competitive solar market place currently under development via the Solar Renewable Energy Credit (SREC) market. Because the Company is unresponsive to SREC prices, the negative impact of utility direct investment on the competitive market place must be seriously considered and addressed.” *SEIA-1*, p.3, lines 28-29; and p. 4, lines 1-4; and also *RC-5*, p. 4.
- MSEIA’s position is that SRECs were created to support the growth of solar power in a competitive marketplace. “Therefore, we believe that it is inappropriate for solar capacity developed and owned by a regulated monopoly to receive SRECs.” *MSEIA-1*, p. 3; See also *RC-5*, p.4.

Rate Counsel further notes that under Section 13 of the RGGI Law the Board may issue orders “approving, modifying or denying” cost recovery for such programs based on, or subject to, the existence of a number of market conditions and factors:

An electric public utility or a gas public utility seeking cost recovery for any program pursuant to this section shall file a petition with the board to request cost recovery. In determining the recovery by electric public utilities and gas public utilities of program costs for any program implemented pursuant to this section, the board may take into account the potential for job creation from such programs, the effect on competition for such programs, existing market barriers, environmental benefits, and the availability of such programs in the marketplace.

N.J.S.A 48:3-98.1.b, emphasis added. See expanded discussion at *RC-5*, p. 2-4.

In connection with job creation and employment opportunities, Rate Counsel has demonstrated that while PSE&G's S4AE proposal may create solar employment opportunities, the program overall is likely to lead to a net employment loss of some 7,222 job-years over the life of program and reduce overall labor income by some \$22.48 million (NPV). *RC-3*, p.47, lines 3-14; Dismukes Schedule DED-25, and *RC-4*, p.12. Even taking into account PSE&G's proposed reallocations of program expenditures, offsetting interactions of sector-specific leakages as well as wage differentials between sectors the changes will still result in a loss of some 1,852 employment opportunities and a negligible NPV increase in labor income. *RC-5*, pp. 36-37.

Therefore, Rate Counsel submits that the directives of the Board's 2012 Utility Solar Extension Order, and Section 13 of the RGGI Law, as well as the need to encourage a level-playing field, all warrant that PSE&G undertake this program on an unregulated basis, if it wants to expand its presence in the solar energy market at this time. *RC-12*, p. 22-23.

**PSE&G is unfairly proposing that all other costs be borne by ratepayers**

PSE&G's S4AE program proposes to recover all of the costs of the program including administrative costs, through a new cost component of its RRC called the Solar Generation Investment Extension Program Component ("SGIEPC"). *P-25*, p.7, lines 15-19.) The estimated cumulative rate increase is approximately \$907 million over the next 25 years, or approximately \$268 million on a net present value ("NPV") basis. Rate Counsel notes that the average annual rate increases are estimated to be around \$36.5 million over the next 25 years. See *P-25*, Schedules SS-S4AE-2, SS-S4AE-3, and SS-S4AE-5; and detailed discussion in *RC-3*, pp. 4-5.



The program as proposed requires ratepayers to guarantee shareholders a return on investment at an overall pre-tax cost of capital of 11.852%, which includes a 10.3% cost of equity. Aside from the guarantee on investment for shareholders, specifically ratepayers would be responsible for all other costs associated with the solar generation facilities, including:

- Depreciation;
- Operating and maintenance costs, including:
  - Capital replacement costs of worn out inverters and communication equipment in the 2023-2027 timeframe, *RCR-A-7*, and
  - Costs for retirement of the facilities at the end of a twenty-year lifespan, *RCR-A-10*.
- Rental expense;
- Property taxes; and
- Insurance.

As Dr. Dismukes noted in his Direct Testimony, based on the assumptions contained in the PSE&G proposal, ratepayers would be responsible for an estimated 48.6% of the \$907 million over the life of this program. However, in fact, ratepayers would be responsible for all costs including those that are not recovered from other sources even if those costs exceed the Company's current estimates.

This is particularly troublesome given the revenue credits utilized by PSE&G in developing its rate impact estimates. PSE&G's rate impact analysis was calculated based on assumptions and forecasts from a June 2012 memo from the Rutgers University's Center for Energy, Economic & Environmental Policy ("CEEEP") as discussed by Dr. Dismukes. *RC-3*, p. 44. CEEEP specifically developed forecasts to be utilized as avoided cost assumptions by the utilities in their RGGI filings, and for an energy efficiency market potential study prepared on behalf of the New Jersey Clean Energy Program. On July 25, 2012, CEEEP issued a revised memo for comment, which resulted in the release of the "Energy Efficiency Cost-Benefit Analysis Avoided Cost Assumptions" on October 22, 2012, yet PSE&G failed to revise its rate

impact estimates based on the more current CEEEP assumptions and forecasts. Therefore, PSE&G's rate impact is inaccurate. *RC-5*, p. 18.

Rate Counsel submits that PSE&G's rate impact estimates are overstated because they are based on SRECs, energy and capacity prices that are beyond most reasonable expectations of future market conditions. *RC-5*, pp.15-16. PSE&G itself has recognized that "these figures are not guarantees of future market conditions," since "the actual rate may go up or down." *P-12*, p. 23, lines 18-19; and p. 24, lines 13-14. Because there will be no regulatory or financial consequences to PSE&G at some later date if these revenue credits were incorrectly estimated, ratepayers would, in fact, bear the full responsibility for the Company's revenue credit forecasting error. *RC-5*, p.16.

If SREC prices were to fall below the \$200 per SREC assumed in the company's analysis, which is likely, or if capacity and energy prices were lower than those assumed by PSE&G, the impact on ratepayers could be significantly more than the \$907 million estimated. Moreover, under the proposed program ratepayers would be responsible for funding all costs not covered by capacity, energy, or SREC sales or by tax credits, which would guarantee shareholders their authorized rate of return with virtually no risk of under-recovery. *RC-12*, p. 14.

Rate Counsel's concerns were echoed in-part by Intervenor SEIA who noted that PSE&G has little incentive to maximize the value of the S4AE investments it makes once they are put into place since the Company will be held harmless for any revenue deficiencies associated with any prudently-incurred S4AE investments. *SEIA-1*, p. 4, lines 6-11; and p.10, lines 12-17; and *RC-5*, p. 16. Ratepayers bear the risk of both PSE&G's forecast errors, as well as any failures to maximize the value of those investments once they are put into place. As noted in Dismukes' Surrebuttal Testimony, in competitive markets if a developer's forecast regarding revenue

streams or project requirements are wrong or fail to maximize the value of its investment, the developer and its shareholders bear the risk of those decisions and actions. If PSE&G's S4AE program is approved, ratepayers will bear the risk of both forecast errors and failure to maximize the value of those investments once they are put into place. *RC-5*, p.16. Rate Counsel has grave concerns particularly given PSE&G's requested pre-tax return of 11.852% which includes an excessive return on equity of 10.3%. *RC-12*, p. 15.

In addition, as further discussed below, the program as designed makes it difficult to separately identify, track and verify the operating costs, to ensure that all costs claimed for recovery are incremental to costs that are being recovered in base rates. (Crane Direct, p.10.) More importantly, as proposed the S4AE Program saddles New Jersey ratepayers through 2037 with a significant financial obligation. The impact of this is unquantifiable, as it is dependent on a variety of factors and market forces spanning the next 25 years, where the market risk of its S4AE investments are shifted onto ratepayers without any form of compensation or reasonable risk mitigation. Rate Counsel submits that given the current and anticipated SREC oversupply, such an uncertain outcome is inequitable, inefficient, and unnecessary. *RC-12*, p.13, and *RC-5*, p. 20.

**C. PSE&G'S PROPOSAL MAKES IT DIFFICULT TO ENSURE THAT RATEPAYERS ARE NOT BEING CHARGED TWICE FOR THE COSTS S4AE BECAUSE INTERNAL LABOR CAN BE RE-ALLOCATED AMONG BASE RATE ITEMS AND VARIOUS CLAUSES.**

As briefly discussed above, in addition to administrative costs, included in the program's revenue requirement claim are significant other costs for depreciation, operation and maintenance expense, rent, and insurance. Although some costs, such as depreciation and rent,

verify by the BPU and Rate Counsel, so that such costs and surcharges are based solely on incremental costs, and do not include any costs that are also being recovered through base rates. As noted by Rate Counsel's witness Andrea Crane, in Direct Testimony, these costs include overhead costs that are allocated to the S4AE Program or costs that are shared among various programs, or through surcharge mechanisms, which are directly handled through the company's accounting system.

Moreover, since overhead costs are also being allocated to these programs as well as to cost centers recovered in base rates, it is difficult to ensure that ratepayers are not being charged twice due to variations in capitalization ratios that may have changed since base rates were last set in the Company's base rate case. *RC-12*, pp. 23-24.

Rider mechanisms to recover costs, including administrative and internal labor costs make it difficult to verify the costs charged to ratepayers through surcharge mechanisms, and create an opportunity for double-recovery. For example, PSE&G's Carbon Abatement Program,<sup>21</sup> includes administrative and internal costs, the Energy Efficiency Programs, Infrastructure Programs, Demand Response Programs, and the Societal Benefits Charge ("SBC"), are all riders that permit the company to recover administrative costs as well as other internal labor costs.<sup>22</sup> Likewise, the Solar Loan I, Solar Loan II, and original Solar 4 All

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<sup>21</sup> *I/M/O The Petition of Public Service Electric and Gas Company for Approval of Changes in its Electric and Gas Regional Greenhouse Gas Recovery Charge (RGGI) for the Carbon Abatement Program; for a Modification to the Carbon Abatement Program; and for Changes in the Tariff for Electric Service B.P.U.N.J. No. 14 Electric and Changes in the Tariff for Gas Service, B.P.U.N.J. No. 14 Gas, Pursuant to N.J.S.A. 48:3-98.1, BPU Docket No. ER09100824.*

<sup>22</sup> *I/M/O a Proceeding for Infrastructure Investment and a Cost Recovery Mechanism for All Gas and Electric Utilities, BPU Docket No.: EO09010049 (January 29, 2009); I/M/O The Petition of New Jersey Natural Gas Company For Approval Of Energy Efficiency Programs With An Associated Cost Recovery Mechanism, BPU Docket No.: GO09010057; I/M/O The Petition of Public Service Electric And Gas Company*

Programs also approved the recovery of administrative and labor costs. Thus, there are many opportunities for PSE&G to recover administrative costs as well as other internal labor costs and little ability to ensure ratepayers are not being charged twice. Rate Counsel submits that because such mechanisms make it difficult to verify that the costs charged to ratepayers are accurate, and to guard against the opportunity for double-recovery, the Board should not approve the cost-recovery aspects of the S4AE Program as proposed. *RC-12*, pp. 24-25.

### **III. THE PROPOSED S4AE SUFFERS FROM NUMEROUS PROGRAM DESIGN FLAWS THAT WARRANT ITS REJECTION**

As thoroughly discussed by Rate Counsel in testimony, there is no evidence that the S4AE Program is needed in order to meet the State's renewable energy goals. In fact, PSE&G's existing New Jersey solar energy programs have already jump-started the expansion of renewable energy. As noted by Rate Counsel, the dramatic fall of the SREC market price from \$688.52 in August 2009 to \$135.68 in July 2012, is proof of this expansion.<sup>23</sup> More importantly, this decline has resulted in a market recommendation that the auction of SRECs generated from new SREC financing programs be delayed until Energy Year ("EY") 2016 in the expectation that

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Company For Approval Of Energy Efficiency Programs With An Associated Cost Recovery Mechanism, BPU Docket No.: GO09010057; I/M/O The Petition of Public Service Electric And Gas Company Offering an Economic Energy Efficiency Stimulus Program in its Service Territory on a Regulated Basis and for Associated Cost Recovery Mechanism Pursuant to N.J.S.A.48:3-98.1, BPU Docket No.: EO09010058; I/M/O The Petition of South Jersey Gas Company for Approval of An Energy Efficiency Program ("EEP") with an Associated Energy Tracker ("EET") Pursuant To N.J.S.A. 48:3-98.1; and to Modify Rate Schedule EGS-LV, BPU Docket No. GO09010059; and I/M/O The Petition of Pivotal Holdings, Inc. d/b/a Elizabethtown Gas for Approval of Energy Efficiency Programs and a Regional Greenhouse Gas Initiative Cost Recovery Rider, BPU Docket No.: GO09010060. (February 19, 2009).

<sup>23/</sup> Response to RCR-P-3(a), I/M/O the Petition of Public Service Electric and Gas Company for Approval of a Solar Loan III Program and an Associated Cost Recovery Mechanism and for Changes in the Tariff for Electric Service, B.P.U.N.J. No. 15 Electric Pursuant to N.J.S.A. 48:2-21 and N.J.S.A. 48:2-21.1, BPU Docket No. EO12080726.

### **The Proposed Segments Are Poorly Defined**

The PSE&G program describes Segment A, which constitutes the largest program segment, simply as non-productive sites, landfills and brownfields. PSE&G defines these sites as not heretofore having been targeted for solar development in the past due to a variety of prohibitive factors that PSE&G believes it is able to overcome. The sites fall into the following categories: inactive sanitary landfill facilities, vacant or underutilized commercial, industrial sites that are contaminated, or were filled with contaminants (“brownfields”), and sites owned by governmental entities, such as the unused lands surrounding prisons. *RC-12*, p. 5.

Rate Counsel notes that this segment also includes the installation of solar capacity at brownfields, historic fill areas and underutilized sites owned by governmental entities. However, PSE&G has not provided any detailed surveys or market research surrounding this particular market segment, nor any coherent explanation of what projects would qualify. *RC-3*, p. 26. As discussed in Point I.A, supra, the Board has already initiated a specific proceeding to address the implementation of incentives for development of solar energy on landfills, historic fill and brownfields under to SEA. Therefore, the S4AE is premature.

Further, the same is true for the government segment. As stated by Dr. Dismukes in Direct Testimony, PSE&G has failed to define what would be classified as a government installation, like a school, or government office complex, much like the Board’s own offices, or what such an entity would have in common with a landfill. *RC-3*, pp. 26-27. PSE&G has also failed to explain why the government installations component has been lumped into a market segment with landfills. The only argument advanced by PSE&G for including government

installations as a target installation type is based upon its interpretation of the 2011 EMP and SEA. *RC-3*, p. 28.

However, although both documents provide support for these types of installations, neither suggests that ratepayer-supported investments should be overly (or uneconomically) preferred for this particular type of solar installation just for the sake of increasing installations. Moreover, as noted by Rate Counsel, PSE&G's rate impact analysis and revenue requirement analyses label this market segment sector as "Landfills/Brownfields/Greyfields." "Greyfields" are not defined under the program, and it is not clear which projects would be included under the "greyfields" category. *RC-3*, p. 27.

PSE&G has failed to provide sufficient specificity as to the types of investments that may be included in the overall landfill market segment. *RC-3*, p. 27. Ratepayers should not be expected to bear the costs of projects that are inadequately defined or projected.

### **The Proposed Market Segment Sizes Are Arbitrary**

Rate Counsel submits that although PSE&G states that the 2011 EMP is the basis for the market segments it selected, the market segment sizes are arbitrary and unsupported by any quantitative market analysis, and raise two serious regulatory policy concerns. *RCR-P-16(a)* and *RCR-P-17*. The first is the arbitrary assignment of capacity to very expensive market segments. As discussed by Rate Counsel in Direct Testimony, over 85 percent of the total S4AE capacity is assigned to the "landfills and brownfields," "parking lots," and "pilots and demonstrations" market segments, all of which have average installed unit costs in excess of \$5,000/kW. As stated by Rate Counsel's expert "the allocation of such a large amount of project capacity into these exceptionally costly installation categories should include some type of analysis that goes

beyond a passing reference to the EMP or the SEA or a tally of existing potential sites and acreage.” Secondly, PSE&G has failed to provide a complete roadmap linking market segment installation opportunities, to goals, and to costs. *RC-3*, p. 28.

The lack of quantitative market analysis, and the apparent arbitrary allocation of capacity to expensive market segments, warrants rejecting PSE&G’s S4AE proposal. PSE&G also failed to provide an engineering analysis in support of the number of New Jersey landfills that can support solar installations. Rate Counsel notes that the program’s proposed market segment size of 90 MW is significantly higher than the 40 MW of potential capacity at “properly closed landfills” in PSE&G’s own service territory, and represents close to the entire share of the in-state total potential capacity at properly closed landfills (i.e., 103 MW). *RC-3*, p. 28.

#### **The Proposal Assumes Excessive Unit Costs**

Rate Counsel notes that the total installed unit costs for the capital investments associated with the S4AE proposal are very large, averaging over \$5,000/kW for the overall program. *RC-3*, p. 30. Moreover, three of the four market segments proposed have installed unit costs well in excess of \$5,000/kW, namely, the landfill sector (\$5,266/kW), the parking lot sector (\$5,320/kW), and the pilot and demonstration sector (\$9,000/kW). As further noted by Rate Counsel in Testimony, the warehouse roofs segment is the only component of the overall program proposal that falls below the \$5,000/kW estimate, coming in at \$3,700/kW. *RC-3*, p. 30.

An additional concern noted by Rate Counsel is the lack of support for PSE&G’s claim that “solar installations at landfills, brownfields, and under-utilized government facilities have higher total or higher per unit costs (installed cost per kW), have longer development timelines,



have more complex permitting requirements, have greater environmental risks, or have greater financial risks.” *RCR-A-16(b)*; *RC-3*, pp. 30-31.) PSE&G has conducted no market analyses, survey work, or other analyses to support its claims. Again, the lack of quantitative market analysis is serious and problematic, and further warrants rejecting PSE&G’s S4AE proposal.

Additional concerns cited by Rate Counsel in its Testimony, are PSE&G’s capital expenditure estimates for its landfill, warehouse, parking lot, and pilot/demonstration market segments, are based on unknown, undefined and/or contingency costs (hereafter referred to as “unknown costs”) built into each estimate. These are profiled and provided in Schedule DED-13. As noted by Rate Counsel, unknown costs account for 25.3 percent of the total typical landfill segment costs of \$5,266/kW. For instance, the installed unit cost for the warehouse segment is \$3,700/kW, compared to the landfill segment estimated to be \$5,266/kW. *RC-3*, p. 31.

PSE&G itself acknowledges that its development costs “will be somewhat more expensive for the landfill segment compared to the warehouse segment.” Rate Counsel notes that there is a 42 percent cost differential between the two segments. This is particularly troubling because as previously discussed, the “landfill segment” is an unknown and undefined combination of landfills, brownfields, and government installations. Because PSE&G has failed to separate its landfill segment capital expenditure profile into the three different installation types, it becomes virtually impossible to accurately gauge the costliness of this particular market segment. As discussed by Rate Counsel, there are only two possible outcomes give the specific amount for the segment’s estimated average cost (\$5,266/kW): either (1) the unit cost of the landfills projects has to be well in excess of \$5,266/kW in order to offset what are likely the considerably lower cost per kW for the government facilities installations; or (2) the underlying

cost support for this sector is based upon landfills only and the company has overstated its capital expenditure estimates for this particular market segment. Rate Counsel submits that the second option appears more likely based on PSE&G's request that it be able to develop additional projects, without prior Board approval, taking advantage of any potential surplus unspent capital. *RC-3*, pp. 32-33.

### **The Proposal Includes Unrealistic Segment Sizes**

As addressed by Rate Counsel in the Direct Testimony of Dr. Dismukes, PSE&G's proposal is devoid of any market analyses or any other type of information to support the average number of projects or average project sizes for each S4AE segment. *RC-3*, p. 33. Rate Counsel notes that the average project size for each segment is very large, and exceptionally large relative to PSE&G's prior experience in many segment categories. For instance, PSE&G proposes:

- to develop between 10 and 20 projects in its landfill segment; and
- that its warehouse segment average project sizes to range from 2.0 MW to 3.3 MW, its parking lot project sized to range from 1.6 MW to 5.0 MW and the pilot programs to range from 100 kW to 200 kW. *RCR-P-25*.

As pointed out by Rate Counsel, average project sizes under PSE&G's proposal will range from 4.5 MW to as large as 9.0 MW. However, as detailed in Schedule DED-14, PSE&G's prior landfill projects, show considerably lower landfill market segment installation sizes, ranging only from 1 MW to 3 MW, than those proposed under the S4AE Extension Program. *RC-3*, pp. 33-34.

As addressed by Dr. Dismukes, the number of projects, and average project sizes vary considerably, by as much as:

- 100 percent for the landfill segment;
- 66 percent for the warehouse segment;
- 200 percent for the parking lot segment; and
- 500 percent for the pilot and demonstrations segment.

Rate Counsel submits that the large range in PSE&G's estimates of both the number of projects and the average project sizes per S4AE segment coupled with the lack of any meaningful market analysis, suggest a very low degree of confidence in the accuracy of the number of projects and average project sizes for each S4AE market segment. RC-3, p. 34.

This large range of variation, coupled with the lack of quantitative market analysis further supports rejecting PSE&G's S4AE proposal.

## CONCLUSION

As discussed above and as demonstrated in the testimony, Rate Counsel respectfully requests that the Board deny PSE&G's request for approval of its S4AE program. Essentially, the Petition seeks Board approval to invest up to \$729.4 million in such solar projects, which have nothing to do with PSE&G's core obligation to provide safe, adequate and proper electric and gas service. Yet the Company is proposing to recover all of the costs of the program - including a return on equity of 10.3 percent (the same return on equity that was used to set rates in the Company's last base rate case), depreciation, and operations and maintenance costs including administrative costs - through a rate "pass through" clause that would be trued up annually. Significantly, the Company's proposed return on equity and WACC is dated and excessive relative to current market conditions and gives no weight to the fact that the clause-type recovery mechanism proposed by PSE&G for its S4AE program poses substantially less risk than recovery of costs through base rates.

PSE&G estimates that its proposed S4AE program will require the collection of over \$900 million from its electric ratepayers over a 25-year period, and, as explained above, Rate Counsel believes this amount is understated. Furthermore, the economic and job creation benefits claimed by PSE&G are overstated, and are offset by the program's detrimental effect on the State's economy. The environmental and other benefits claimed by the Company are likewise unsubstantiated.

Additionally, as the record amply demonstrates, there is simply no need for the proposed S4AE program. There is currently an oversupply of SRECs, where more SRECs are available than are needed to meet the RPS solar generation obligations of electric generation service providers. This oversupply is expected to continue over at least the next couple of years and possibly much longer. The current oversupply has resulted in lower SREC prices and raised concerns regarding the viability of the solar industry in New Jersey. Adding 136 MW of additional capacity, as proposed by PSE&G, will only intensify the oversupply and further destabilize the SREC market. In sum, instead of enhancing solar development, PSE&G's proposal is more likely to destabilize the market, and discourage investment by non-utility participants.

In the progression toward reliance on market-based mechanisms to foster solar generation, PSE&G's S4AE proposal represents a step backward. The Company's parent corporation, PSEG, has the ability to participate in the solar market through one of its non-utility affiliates on the same footing as any other entrant, and, in fact has done so in other states through its affiliate PSEG Energy Holdings. Meanwhile, other market participants would be compelled to compete against a price-insensitive entity insulated from the normal costs and risks of doing


business by means of costly ratepayer-funded subsidies. Moreover, under PSE&G's S4AE proposal, its utility customers would bear virtually all the costs and risks of the program.

Finally, the design of the proposed S4AE suffers from numerous flaws. The proposed rate recovery mechanism requires ratepayers to pay for administrative costs. The Company's proposal would add another "pass through" rate recovery mechanism to an already excessive number of such mechanisms. In addition to improperly transferring risks from shareholders to ratepayers, the proliferation of such mechanisms makes it difficult or impossible to assure that ratepayers are not paying twice for costs already reflected in base rates or other clauses. PSE&G's proposed S4AE is a significant departure from its core business to provide safe, adequate and proper utility service and should be denied.

Respectfully submitted,

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