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September 4, 2020

By Electronic Mail

Honorable Aida Camacho-Welch, Secretary
New Jersey Board of Public Utilities
44 South Clinton Avenue, 9th 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 its Clean Energy Future-Electric Vehicle and Energy Storage
("CEF-EVES") Program on a Regulated Basis
BPU Docket No. EO18101111**

Dear Secretary Camacho-Welch:

Please find attached the initial testimonies of **Ezra D. Hausman, Ph.D., Dante Mugrace and David E. Peterson**, being filed on behalf of the New Jersey Division of Rate Counsel, in connection with the above-referenced matter.

Consistent with the Order issued by the Board in connection with *In the Matter of the New Jersey Board of Public Utilities' Response to the COVID-19 Pandemic for a Temporary Waiver of Requirements for Certain Non-Essential Obligations*, BPU Docket No. EO20030254, Order dated March 19, 2020, this document is being electronically submitted to the parties. No paper copies will follow.

Thank you for your consideration and assistance. Please acknowledge receipt of this submission.

Very truly yours,

Stefanie A. Brand
Director, Division of Rate Counsel

By: /s/ Brian Weeks
Brian Weeks, Esq.
Deputy Rate Counsel

BW

Enclosures

c: Upendra J. Chivukula, Commissioner (via electronic mail)
Service List (via electronic mail)

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Service Electric and Gas Company for
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**STATE OF NEW JERSEY
BOARD OF PUBLIC UTILITIES**

**In the Matter of the Petition of) BPU Docket No. EO18101111
Public Service Electric and Gas Company)
for Approval of its Clean Energy Future-)
Electric Vehicle and Energy Storage)
(CEF-EVES) Program on a Regulated)
Basis)**

**DIRECT TESTIMONY OF DANTE MUGRACE
ON BEHALF OF THE
DIVISION OF RATE COUNSEL**

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Dated: September 4, 2020

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1 **I. INTRODUCTION – STATEMENT OF QUALIFICATIONS**

2 **Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

3 **A.** My name is Dante Mugrace. My business address is 22 Brooks Avenue, Gaithersburg,
4 MD 20877.

5 **Q. WHAT IS YOUR PRESENT OCCUPATION?**

6 **A.** I am a Senior Consultant with the Economic and Management Consulting Firm of PCMG
7 and Associates, LLC. (“PCMG”). In my capacity as a Senior Consultant, I am
8 responsible for evaluating and examining rate and rate- related proceedings before
9 various governmental entities, preparing expert testimony and reviewing and making
10 recommendations concerning revenue requirement proposals, as well as offering opinions
11 on economic policy and policy issues and methodologies used to set a value on a utility’s
12 rate base and cost of service components of revenue requirement.

13 **Q. PLEASE SUMMARIZE YOUR PROFESSIONAL EXPERIENCE.**

14 **A.** PCMG is an association of experts in utility regulation and policy, economics, accounting
15 and finance. PCMG’s members have over 75 years’ collective experience providing
16 assistance to counsel and expert testimony regarding the regulation of electric, gas, water
17 and wastewater utilities that operate under local, state and federal jurisdictions. PCMG
18 brings to client engagements a consultative and collaborative approach to the
19 identification of issues and the development of positions with strict adherence to client
20 procedures and deadlines. PCMG focuses on areas regarding revenue requirement, cost
21 of service, rate design, cost of capital and rate of return. We provide overall analyses on
22 various ratemaking concepts, as well as a review of public utility accounting methods

1 used by various public utilities and State Public Service Commissions. We also evaluate
2 the reasonableness of costs and investments that are used to set rates, and measure the
3 value of rate base, whether those costs are prudent in nature, used and useful and known
4 and measurable in utility operations. Prior to my association with PCMG, I was
5 employed as a Senior Consultant with the consulting firm of Snavely-King Majoros and
6 Associates (“SKM”) from 2013 to 2015, in the same capacity as PCMG. Prior to SKM, I
7 was employed by the New Jersey Board of Public Utilities (“NJBPU”) from 1983 to my
8 retirement in 2011. During my tenure at the NJBPU, I held various Accounting, Rate
9 Analyst, Supervisory and Management Positions. My last position was Bureau Chief of
10 Rates in the Agency’s Water Division (“Bureau Chief of Rates”). I held this position for
11 nearly 10 years. My CV is attached as Appendix A.

12 **Q. WHAT EXPERIENCE DO YOU HAVE IN THE AREA OF UTILITY RATE**
13 **SETTING PROCEEDINGS AND OTHER UTILITY MATTERS?**

14 **A.** In my capacity as Bureau Chief of Rates, I was responsible for managing, directing and
15 overseeing the rate process regarding the administrative, financial, and managerial
16 functions of the Rates Bureau. My primary duties were to ensure that the utilities had
17 sufficient revenues to cover their operating expenses, while insuring that those expenses
18 were reasonable in nature, provided benefits to customers and were in accordance with
19 Board policies, standards, and prior rate Orders. I also ensured that the utilities had the
20 opportunity to earn a reasonable rate of return on reasonable and prudent plant
21 investments, and that they were providing safe, adequate, and proper service at
22 reasonable rates. During my time at the NJBPU, I was involved in hundreds of rate and
23 rate-related proceedings that were resolved through settlement and litigated proceedings.

1 In my capacity as a Senior Consultant, I was involved in and am currently involved in
2 rate and rate-related proceedings before the Commissions in the Commonwealth of
3 Massachusetts and Pennsylvania the States of Maine, Hawaii, Maryland, New Jersey,
4 New York, North Dakota, and Ohio. In addition, I was involved in the Generic
5 Proceedings to Establish Parameters for the Next Generation Performance Based Rate
6 Plans before the Alberta Utilities Commission. I am also currently involved in a matter
7 before the Federal Energy Regulatory Commission (“FERC”) regarding a Transmission
8 Formula Rate Plan.

9 **Q. WHAT IS YOUR EDUCATIONAL BACKGROUND?**

10 **A.** I hold a Master of Business Administration (“MBA”) degree with a concentration in
11 Strategic Management from Pace University-Lubin School of Business in New York,
12 New York. I hold a Master of Public Administration (“MPA”) degree from Kean
13 University in Union, New Jersey. I hold a Bachelor of Science (“BS”) degree in
14 Accounting from Saint Peter’s University in Jersey City, New Jersey.

15 **Q. ON WHOSE BEHALF ARE YOU TESTIFYING?**

16 **A.** I am testifying on behalf of the New Jersey Division of Rate Counsel (“Rate Counsel”).

17 **II. SCOPE AND PURPOSE OF TESTIMONY**

18 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

19 **A.** On October 11, 2018, the Public Service Electric and Gas Company (“PSE&G” or the
20 “Company”) filed a petition (“Petition”) with the Board of Public Utilities (“BPU” or
21 “Board”) requesting approval of a Clean Energy Future-Electric Vehicle and Energy
22 Storage (“CEF-EVES”) program on a regulated basis. I have been retained by Rate

1 Counsel to review the Company’s filing and provide recommendations on issues relating
2 to the reasonableness of the proposed revenue requirements and cost recovery
3 mechanism. My focus is on the Company’s proposed overall recovery mechanism that is
4 used to set rates in this proceeding, and the impact of the Company’s proposal with
5 respect to the rates to be charged to electric and gas utility customers. Rate Counsel
6 witnesses Dr. Ezra Hausman, PhD will provide testimony on the program and policy, and
7 David E. Peterson will provide testimony on rate design.

8 III. SUMMARY AND RECOMMENDATIONS

9 Q. PLEASE SUMMARIZE THE PROPOSED CEF-EVES PROGRAM.

10 A. PSE&G’s CEF-EVES is comprised of two components, an electric vehicle (“EV”)
11 program and an energy storage (“ES”) program. The Company, in this filing, contends
12 that the CEF-EVES Program, along with two other programs the Company has filed,
13 form the basis for a clean and resilient energy future. (Petition page 2). The CEF-EVES
14 petition asserted that this program is intended to “jumpstart” (Petition, page 2, ¶ 3) the
15 adoption of electric vehicles and energy storage technology in New Jersey, and help the
16 State meet its clean transportation and clean energy objectives. (Petition, page 2).
17 According to the Company’s claims, the CEF-EVES Program will further the State’s
18 goals by reducing greenhouse gas emissions, create green jobs, launch the electric vehicle
19 industry and energy storage technology in New Jersey and make the electric grid more
20 reliable, resilient, and safe. (Petition, page 2). PSE&G claims that its CEF-EVES
21 program is its response to recent legislative and executive actions in New Jersey that
22 support electric vehicle and energy storage projects. Further, the Clean Energy Act,
23 N.J.S.A. 48:3-87.8(d), directs the Board to initiate a proceeding to establish a process and

1 mechanism for achieving the goal of 600 megawatts of energy storage by 2021 and 2,000
2 megawatts of energy storage by 2030.¹ The Clean Energy Act also directs the Board to
3 conduct an analysis that, *inter alia*, considers whether implementation of renewable
4 electric energy storage systems would promote the use of electric vehicles in the State.
5 (N.J.S.A. 48:3-87.8(a)(2); Petition, pages 2-3).

6 Another recent law, the Plug-in Vehicle Act (“PIV Act”), N.J.S.A. 48:25-1 through -11,
7 sets goals and authorizes incentives to increase the use of PIVs in New Jersey.² The
8 legislation directs the Board to undertake certain statewide tasks, including promulgating
9 rules, conducting studies and allocating \$30 million per year from the Societal Benefit
10 Charge to subsidize the purchase of certain types of EVs and electric vehicle service
11 equipment (“EVSE”) in New Jersey. N.J.S.A. 48:25-7. The PIV Act authorizes the
12 Board to use these funds to create the Plug-in Electric Vehicle Fund and distribute rebates
13 for the purchase of electric vehicles as well as incentives for in-home electric vehicle
14 equipment. Id.³

15 **Q. PLEASE PROVIDE AN OVERVIEW OF THE COMPANY’S PROPOSAL ON**
16 **THE CEF-EVES PROGRAM.**

17 **A.** The CEF-EVES includes a total of \$261 million of investment over a period of six-years
18 and approximately \$103 million of expenses for four EV subprograms to commence upon
19 Board approval. (Petition page 3). The four EV subprograms (including the Cross –
20 Subprogram Investment) are as follows:

¹ P.L. 2018, c. 17.

² P.L. 2019, c. 362.

³ The PIV Act also allows the Board to include funds appropriated by the Legislature and utilize any return on investment of moneys deposited in the fund for the Plug-In Electric Vehicle Fund. N.J.S.A. 48:25-7a.

1	Residential Smart Charging	\$93 million
2	Level 2 Mixed-Use Charging	\$39 million
3	Public DC Fast Charging	\$62 million
4	Vehicle Innovation	\$45 million
5	Cross-Subprogram Investment	<u>\$22 million</u>
6		\$261 million

7 The CEF-ES includes five energy storage related subprograms totaling \$109.4 million
8 over a period of six-years and includes approximately \$70 million of expenses. (Petition
9 page 6). The five subprograms are as follows:

10	Solar Smoothing	\$13.1 million
11	Distribution Deferral	\$38.6 million
12	Outage Management	\$20.0 million
13	Microgrids for Critical Facilities	\$25.7 million
14	Peak Reduction for Public Sector	<u>\$11.9 million</u>
15		\$109.4 million

16 **Q. HAS THE COMPANY UPDATED ITS FILING SINCE THE OCTOBER 11, 2018**
17 **ORIGINAL FILING DATE?**

18 **A.** No. In response to RCR-A-003 and RCR-A-004, the Company continues to forecast the
19 \$103.1 million in expenses and \$260.8 million in investment over the life of the program
20 for the CEF-EV and \$70 million in expenses and \$109.4 million in investments over the
21 life of the program for the CEF-ES. I believe the Company should update all CEF-EVES
22 investment costs and expenses since this petition was filed with the Board on October 11,
23 2018, nearly two years ago, and it would be appropriate for the Company to update its
24 filing with more recent data.

1 **Q. HOW IS THE COMPANY PROPOSING TO RECOVER THE COSTS OF THE**
2 **PROGRAM?**

3 **A.** The Company proposes to recover the CEF-EVES Program costs via two components of
4 a new Technology Innovation Charge (“TIC”) to its tariff for electric service, which
5 PSE&G calls the Clean Energy Future Electric Vehicle Component (“CEF-EVC”) and
6 the Clean Energy Future Electric Storage Component (“CEF- ESC”). These new charges
7 will be applicable to all electric rate schedules on an equal cents per kilowatt-hour basis
8 in the same manner as currently utilized for all electric components of the Company’s
9 existing Green Program Recovery Charge (“GPRC”). (Swetz direct testimony, page 12).
10 In other words, under PSE&G’s proposal all ratepayers - whether they own an EV or not
11 - will be subject to the new TIC CEF-EVC recovery charge. According to Company
12 witness, Mr. Stephen Swetz, the Company proposes to implement the CEF-EVES TIC
13 charges upon Board approval, based upon forecasted expenditures and usage. The
14 Company anticipated a TIC rate effective date of April 1, 2019, with the initial period to
15 end on September 30, 2020, consistent with the rate recovery period end date for similar
16 GPRC programs. (Swetz direct testimony, page 12). After the initial period, the CEF-
17 EVES TIC rates would be updated in annual filings. (Swetz direct testimony, page 12).
18 According to Mr. Swetz, for all subsequent periods, a true-up filing will be made no later
19 than July of each year, for the period October 1 of the year through September 30 of the
20 subsequent year, plus the projected over/under deferred balance as of September 30 for
21 the current year. (Swetz direct testimony, page 13). The over/under deferred balance
22 will include actual revenue requirements through March of the current year. The charges
23 proposed in the annual filings made by July 1 of each year will go into effect

1 provisionally or as final rates on October 1 of the current year, upon issuance of a Board
2 Order authorizing these provisional or final rates. (Swetz direct testimony, page 13).

3 The Company calculated its revenue requirement based upon the following formula:

4 **Figure 1: PSEG's Revenue Requirement Calculation**

5 *Revenue Requirements = (Pre-tax Cost of Capital * Net Investment) +*
6 *Amortization and / or Depreciation + Expenses - Program Investment*
7 *Repayments + Revenue Offsets + ITC Amortization w/Tax Gross Up + Tax*
8 *Associated with ITC Basis Reduction*⁴

9 The Company computed its Pre-tax Cost of Capital based upon the most recent Board
10 authorized return on equity (9.60%) and capital structure in its 2018 base rate case
11 proceeding, resulting in an overall weighted cost Rate of Return of 6.99%.⁵ (Schedule
12 SS-CEF-TIC-1).

13 **Q. WHAT WOULD BE THE IMPACT OF THE PROGRAM ON THE COMPANY'S**
14 **RATEPAYERS?**

15 **A.** As noted above, the Company proposes to establish an initial rate for the proposed new
16 rate components for its electric customers, based upon forecasted expenditures and
17 usage.⁶ The initial rate for the TIC charge would be \$0.000163 per kWh without SUT.⁷
18 The combined initial rate from the CEF-EVES components of the TIC would be an
19 increase of \$1.24 or 0.10% on an annual basis, and the maximum increase for the period

⁴ Swetz direct testimony page 7-8.

⁵ PSE&G cited the rate of return and capital structure approved in its most recent base rate case, I/M/O PSE&G, for Approval of an Increase in Electric and Gas Rates and for Changes in Tariffs for Electric and Gas Service, B.P.U. N.J. No. 16 Electric and B.P.U. N.J. No. 16 Gas, and for Changes in Depreciation Rates Pursuant to N.J.S.A. 48:2-18, N.J.S.A. 48:2-21 and N.J.S.A. 48:2-21.1, and for Other Appropriate Relief, BPU Docket Nos. ER18010029 and GR18010030, Order dated October 29, 2018.

⁶ Swetz direct testimony page 12.

⁷ Ibid., page 14.

1 from October 1, 2025 through September 30, 2026 would be \$10.60, or 0.86%, or about
2 \$0.88 per month from the initial rates in effect.⁸

3 According to Company witness Mr. Swetz, the following are the initial revenue
4 requirements for the EV and ES programs and for the sixth year of the program, 2025.

5 **Table 1: PSEG's Projected Revenue Requirement**⁹

	<u>Electric - EV</u>	<u>Electric - ES</u>	<u>Total</u>
7 Initial Period	\$ 9,710,572	\$ 697,093	\$10,407,665
8 Year 6 (2025)	\$42,335,468	\$16,190,359	\$58,525,827

11 **Q. HAVE YOU REVIEWED AND EXAMINED THE COMPANY'S TESTIMONY**
12 **AND EXHIBITS IN THIS PROCEEDING?**

13 **A.** Yes, I have reviewed the direct testimony, exhibits and schedules of Company witnesses
14 Mr. Swetz, Ms. Karen Reif, and the Company's responses to data requests propounded
15 by the parties to the proceeding. I also reviewed and analyzed the Company's electronic
16 Excel spreadsheets that I received in responses to S-PSEG-REV-0030 and -0034.

17 **Q. WHAT IS YOUR OVERALL OPINION REGARDING THE COMPANY'S**
18 **PROPOSAL?**

19 **A.** I am of the opinion that the Company's proposal does not benefit ratepayers as a whole.
20 While I understand New Jersey's efforts to incentivize the use of renewable energy and
21 electric technology alternatives and in conformance with Governor Murphy's Executive

⁸ Ibid., page 15.

⁹ Attachment 3 Schedule SS-CEF-TIC-2 and TIC-3; Attachment 3 Schedule SS-CEF-EV-2 and ES-2.

1 Order No. 28¹⁰ to achieve the goals of the use of electric vehicles and energy storage
2 projects, I believe that if the Board were to approve this filing, then these costs should not
3 be fully recovered by all ratepayers, but rather recovered from ratepayers that will benefit
4 from these programs. In other words, the cost of these programs should not be socialized
5 but, rather, targeted to certain customer classes. Not all customers will purchase and own
6 electric vehicles, and not all customers even own a car, and therefore not all customers
7 will benefit from the CEF-EVES program. Given that electric vehicles cost more than
8 typical gasoline-powered vehicles, not all customers will even be able to afford the
9 purchase or lease of an EV in order to take advantage of the Company's program.
10 Requiring all Company customers to pay for the entire program is not equitable. To ask
11 all ratepayers to subsidize the Company's proposed program is not reasonable. As noted
12 by Dr. Hausman in his testimony, the adoption of the proposed EV program will result in
13 greater kWh sales revenues and provide greater profits for the Company's shareholders.
14 In this instance, the Company should subsidize or offset some of the EV costs.

15 **Q. HAS THE COMPANY QUANTIFIED HOW MANY AND WHICH CUSTOMERS**
16 **IN THE COMPANY'S SERVICE TERRITORY WILL BE ABLE TO**
17 **PARTICIPATE IN THE COMPANY'S PROPOSED EV PROGRAM?**

18 **A.** Not really. As I understand it, in order for a homeowner to qualify and support new load
19 for an EV charger, the utility service to the home needs to be upgraded, which the
20 Company proposes to upgrade at no cost to the customer. (S-PSEG-REV-0010). The
21 Company did not explain the legal authority for this proposal. The Company has not

¹⁰ Governor Philip D. Murphy, Executive Order No. 28, May 23, 2018, available at <https://www.state.nj.us/infobank/eo/056murphy/pdf/EO-28.pdf> (viewed 8/28/20). Reif testimony page 8.

1 performed a specific analysis on how many homes and what types of homes would
2 require a new utility service connection. (S-PSEG-REV-0013).

3 **Q. WHAT ABOUT THE INSTALLATION OF CHARGING EQUIPMENT IN**
4 **MUNICIPALITIES?**

5 **A.** In S-PSEG-REV-0016, the Company stated that it would be relatively easy to obtain a
6 municipal zoning permit to install charging equipment; if the equipment does not
7 conform to the zoning standards it may require a site plan or use variance approval,
8 which would require a lengthy application process, municipal review and hearing. The
9 Company also indicated that choosing site locations is complicated. (S-PSEG-REV-
10 0020). The Company stated that it did not perform a study to determine whether there
11 may be issues with its electric distribution network related to serving EV Fast Charging
12 equipment which understandably may add to the cost of its proposed EV program. (S-
13 PSEG-REV-0021).

14 **Q. DID THE COMPANY PERFORM AN ANALYSIS OF THE OPERATIONAL**
15 **AND MAINTENANCE COSTS OF RESIDENTIAL EV CHARGING?**

16 **A.** The Company has not provided or prepared a study of the operational and maintenance
17 costs of Residential EV chargers, nor requested recovery of the operational and
18 maintenance costs of residential EV charging (S-PSEG-REV-0014). The costs to
19 maintain and operate the EV charging may not be feasible for all ratepayers in the
20 Company's service territory. The Company stated that for each EV request, direct
21 current fast charger ("DCFC") stations must be individually evaluated to determine if any
22 infrastructure upgrades would be required to meet the demand. (S-PSEG-REV-0021). In

1 response to Board Staff discovery request, S-PSEG-REV-0015, PSE&G assumes that all
2 residential charging locations would require a new utility service connection.

3 **Q. DO YOU BELIEVE THAT THE COMPANY’S PROPOSAL SHOULD BE**
4 **APPROVED AT THIS TIME?**

5 **A.** No. Given these uncertainties, and the fact that the proposed rates and benefits of this
6 filing cannot be viewed in isolation, it is important to consider the combined impact of
7 this and future programs intended to reduce greenhouse gases such as EE, renewable
8 energy and Demand Response initiatives. As future additional programs are introduced,
9 rate recoveries for these programs will become “pancaked,” and ratepayers will be paying
10 for multiple programs simultaneously. There is also the need to analyze the rate impacts
11 with respect to the EMP, which has yet to be released to the public.¹¹ Further, given the
12 economic damage caused by the COVID-19 pandemic, choices have to be made about
13 which programs ratepayers can afford to fund since many are barely getting by and are
14 already having trouble paying their bills and trying to maintain steady employment.

15 **Q. SHOULD SOME OF THE COSTS OF PSE&G’S PROPOSED EV PROGRAMS**
16 **BE ASSIGNED TO THE COMPANY’S SHAREHOLDERS?**

¹¹ The Board and its partners developed the Integrated Energy Plan for New Jersey, a critical element of the EMP, to “develop a quantitative and analytical pathway to achieve the dual goals of 100% clean energy and the [greenhouse gas] emissions reductions requirements.” EMP, p. 15. However, the costs set forth in the Integrated Energy Plan “are not indicative of rate impacts.” BPU, “New Jersey Integrated Energy Plan,” Public Webinar, November 1, 2019, p. 32, available at <https://nj.gov/emp/pdf/NJ%20IEP%20Public%20Webinar%20Nov1%20Final.pdf>.

1 **A.** Yes. PSE&G acknowledged that it designed its EV program to foster greater EV sales.
2 As. Dr. Hausman noted in his testimony, the increased adoption of EVs will result in
3 greater kWh sales. All else equal, this will increase utility revenues and lead to greater
4 profits for PSE&G shareholders. Therefore, I find that if the Board approves PSE&G’s
5 EV program it would not be unreasonable to ask the Company’s shareholders to absorb
6 some or all of the EV program costs, either through a direct contribution, the use of a
7 competitive subsidiary, or an adjustment to the rate of return on program investment.

8

9 **Q. PLEASE SUMMARIZE YOUR RECOMMENDATIONS.**

10 **A.** As discussed in detail in the testimonies of Rate Counsel witnesses Ezra Hausman, PhD,
11 who is providing policy recommendations, and David Peterson, who is providing rate
12 design recommendations, Rate Counsel is recommending that the Board not approve this
13 proposal. However, if the Board decides to approve all or part of the Program, I
14 recommend the following:

- 15 A. The Company’s proposed budget for Capitalized IT costs Should be
- 16 Capped.
- 17 B. The Amortization Periods Should be Shortened to Ten Years.
- 18 C. The Administrative Costs should be capped and should be reviewed in
- 19 future annual filings.
- 20 D. The Rate of Return on investment should be updated upon Board approval
- 21 of rates in future base rate proceedings.

22 My recommendations are discussed in detail below.

23

24

1 **IV. PROPOSED COST RECOVERY MECHANISM RECOMMENDATIONS**

2 **A. The Company’s Proposed Budget for Capitalized Information**
3 **Technology (“IT”) Related to its CEF-EVES Costs Should Be**
4 **Capped.**

5 **Q. WHAT IS THE LEVEL OF IT CAPITAL COSTS THAT ARE INCLUDED IN**
6 **THE COMPANY’S PROPOSAL RELATED TO ITS CEF-EV PROGRAMS?**

7 **A.** The Company’s EV proposal include an estimated \$7.359 million in IT capital
8 investments, and approximately \$15.362 million of IT expenses over the life of the
9 program. (S-PSEG-REV-30). The Company’s estimated IT capital investments and IT
10 expenses over the program life are as follows:

11 **Table 2: Capitalized IT Costs / IT Expenses**

	Capital IT	Expense IT	Total
12 Initial Period (Year 1) \$	\$2,811,000	\$1,525,146	\$4,336,146
13 Year 2-6	\$4,548,000	\$12,112,221	\$16,660,221
14 Year 7 and beyond	<u>\$ 0</u>	<u>\$1,725,199</u>	<u>\$1,725,299</u>
15			
16			
17			
18 Total	\$7,359,000	\$15,362,566	\$22,721,666

19 The Company has stated that these significant investments in IT costs are necessary and
20 will be required to ensure that the prospective and current participants have easy access to
21 subprogram information and incentives. (Reif direct testimony, page 36). Ms. Reif
22 stated that these IT investments and costs will ensure that the Company is able to qualify,
23 process, and fulfill orders in an efficient and timely manner while also understanding
24 customer and owner/operator behavior and marketplace trends. (Reif direct testimony,
25 page 36). Ms. Reif stated that spending is specific to the EV subprograms and not

1 duplicative of IT spending that is related to the Company's other clean energy programs.
2 (Reif direct testimony, page 36).

3 **Q. ARE THESE CAPITALIZED ELECTRIC AND GAS IT INVESTMENT COSTS**
4 **REASONABLE?**

5 **A.** Not really. In response to S-PSEG-REV-0030, the Company provided a breakdown of
6 CEF-EV IT costs (investment and expenses) from year 1 through year 6 and beyond. The
7 IT investments show costs for External IT and Internal IT but nothing really beyond that.
8 The same holds true for the IT expenses. These expenses only show costs for External IT
9 and Internal IT. There is no breakdown or description of costs. The IT expense shown
10 on S-PSEG-REV-0030 in the amount of \$15,362,566 is about 15% of total Program
11 Expenses.¹²Based on my review of the Petition and the Company's discovery responses,
12 it appears that at this time the Company's only breakdown of these CEF-EV-IT costs is
13 shown on Ms. Reif's direct testimony at 35.

14 The sparse information that the Company provided does not justify or support these IT
15 expenditures. The Company has spent and recovered millions of dollars in IT
16 investments in prior programs. Without more detailed explanation, these IT costs are not
17 justifiable nor reasonable. However, in the event the Board approves this proposal, I am
18 recommending that these IT costs be capped, to no more than 10% of Program expenses.

19 **Q. WHAT DID THE COMPANY PROPOSE WITH RESPECT TO ITS CEF-ES IT**
20 **COSTS?**

¹² \$15,362,566 divided by total IT expenses of \$103.1 million (Reif testimony page 35).

1 A. As shown in Mr. Cardenas' direct testimony (which has now been adopted by Mr.
2 Raymond C. Alvarez, Senior Director of Asset Strategy, Technology and Systems), on
3 page 22, the Company did not propose any IT costs related to its CEF-ES program.
4 However, in response to RCR-INF-0001, the Company stated that due to its unfamiliarity
5 with running battery storage systems of the size proposed in this this filing, the Company
6 estimated the Equipment O&M line item for battery storage systems working with
7 Navigant Research as 2.2% of total hardware costs, which would be inclusive of on-
8 going IT expenses, but a detailed breakout of the IT expenses is not available. The
9 Company's lack of knowledge provides further proof that these IT expenses should not
10 be approved without sufficient quantifiable data.

11 **B. The Amortization Periods Should be Shortened To Ten Years**

12 **Q. WHAT IS THE AMORTIZATION PERIOD THE COMPANY IS USING WITH**
13 **RESPECT TO ITS INVESTMENT, AND ITS IT CAPITAL COSTS?**

14 A. As shown on page 10 of the Petition, the Company has proposed the following
15 Amortization periods for certain of its CEF-EVES Investments:

16

17 **Table 3: Amortization Period – EV Program**

18	Utility Plant Investment	40 years
19	Chargers Utility Owned	10 years
20	Battery Storage	15 years
21	Chargers Regulatory Asset (non-loan)	10 year
22	Chargers Regulatory Asset (loan)	10 years
23	IT Software Investment	4 years

24

25 **Table 4: Amortization Period – ES Program**

26

1	Batteries	15 years
2	Solar Panels (acquisition/installment)	20 years
3	Inverters/Communication equipment	10 years
4	Meters / Interconnection	20 years

5
6

7 **Q. WHAT ADJUSTMENT ARE YOU RECOMMENDING WITH RESPECT TO**
8 **THE AMORTIZATION PERIODS USED ABOVE?**

9 **A. If the Board approves PSE&G’s proposal,** I recommend that the investments be
10 amortized over a shorter period of time, or 10 years, similar to the time period used for
11 the Company’s Board-approved energy efficiency programs (Docket No. EO11010030,
12 Order dated July 14, 2011; EO14080897, Order dated April 16, 2015; and EO17030196,
13 Order dated August 23, 2017), and in the recent Board Order addressing the Clean
14 Energy Act, dated June 10, 2020, in Docket Nos. QO19010040, QO19060748 and
15 QO17091004, at 26 and at 39.

16 **Q. WHY DO YOU RECOMMEND SHORTER AMORTIZATION PERIODS?**

17 **A.** In theory, the use of a shorter amortization period for the Company’s CEF-EVES
18 investments would result in ratepayers paying less debt service costs, equity returns and
19 taxes over the long run and over the entire Program period. It is similar to a mortgage
20 payment. As the mortgage amortization period is extended, ratepayers pay more for
21 interest costs and debt service on the principal amount. Longer amortization periods
22 typically involve smaller monthly payments and higher total interest costs over the life of
23 the loan. Shorter amortization periods generally entail larger monthly payments and
24 overall lower interest costs over the life of the loan. In the event the Board approves this
25 filing, I am recommending that a shorter amortization period be implemented that will

1 allow customers to save on interest costs over the life of the loan. Interest rates are also
2 typically lower on shorter amortization periods.

3 **Q. WHY ARE SHORTER AMORTIZATION PERIODS REASONABLE?**

4 **A.** I believe that a shorter amortization period is reasonable because reducing GHG is a
5 long-term State goal, and it is probable that the Company will continue such efforts in the
6 future. Given this, rates and benefits of this filing cannot be viewed in isolation, and it is
7 important to consider the combined impact of this and future GHG reduction programs.
8 As I previously stated, as additional programs are introduced in the future, rate recoveries
9 for these programs will become “pancaked,” and ratepayers will be paying for multiple
10 programs simultaneously. While I understand some overlap is necessary, a longer
11 amortization period will intensify the effect and the costs for ratepayers.

12 **C. Administrative Costs Should be Capped.**

13 **Q. WHAT HAS THE COMPANY PROPOSED WITH RESPECT TO ITS**
14 **ADMINISTRATIVE COSTS FOR ITS ELECTRIC EV AND ES PROGRAMS?**

15 **A.** As shown on page 35 of Ms. Reif’s testimony, the Company proposed total
16 Administrative costs for CEF-EV program in year 1 of \$3.7 million (2019) and a final
17 cumulative level of \$39.3 million. The total estimated expenditures for the EV program
18 is \$103.1 million. An analysis of these Administrative Costs in relation to the total costs
19 are as follows:

20 **Table 5: Administrative Cost - EV**

	<u>Costs</u>	<u>Percent to Total</u>
21		
22	2019	\$3.7 million 9.41%

1	2020	\$5.0 million	12.72%
2	2021	\$5.2 million	13.23%
3	2022	\$5.3 million	13.48%
4	2023	\$5.5 million	14.00%
5	2024	\$5.7 million	14.50%
6	2025	\$3.5 million	5.05%
7	Beyond 2025	<u>\$5.4 million</u>	13.74%
8		\$39.3 million	38.11%
9	Average (2019-2025)		11.77%

10
11 As shown above, these Administrative Costs gradually increase over time, with a total
12 cost of \$39.3 million representing approximately 38.00% of total Program Expenses.

13 As shown on Mr. Cardenas’ (subsequently adopted by Mr. Alvarez) testimony at 22, the
14 Company proposed total Administrative Labor costs for the CEF-ES program in Year 1
15 of \$0 and a final cost of \$10.0 million in total. The breakdown is as follows:

16 **Table 6. Administrative Costs - ES**

17		<u>Costs</u>	<u>Percent to Total</u>
18	Year 1	\$0	
19	Year 2	\$0	
20	Year 3	\$.1 million	
21	Year 4	\$.1 million	
22	Year 5	\$.1 million	
23	Year 6	\$.1 million	
24	Year 7-21	<u>\$9.5 million</u>	
25	Total	\$10.0 million	14.18%

1 As shown above, these CEF-ES Administrative costs are not realized until Year 3 and
2 stay steady through Year 6. In Years 7-21, these increases total \$9.5 million. The total
3 Administrative costs of \$10 million represents about 14.18% of total ongoing ES
4 program expenses of \$70.5 million.

5 If the Board approves PSE&G's proposal, I am of the opinion that these levels of
6 Administrative costs for the CEF-EV and CEF-ES programs should be capped. The
7 Company should have already acquired a familiarity in administering these types of
8 programs, and therefore should be able to manage its Administrative Costs within a cap.
9 Further, I recommend in the event the Board approves this filing, that the Company
10 support its Administrative Costs for the CEF-EV and CEF-ES programs in future filings
11 with detailed breakdowns and descriptions of the costs required to administer these
12 programs.

13 **D. The Rate of Return on investment should be updated upon Board**
14 **approval of rates in future rate case proceedings.**

15 **Q. WHAT ARE YOUR RECOMMENDATIONS REGARDING THE COMPANY'S**
16 **USE OF A PROPOSED 6.99% PERCENT RATE OF RETURN?**

17 **A.** The Company's proposed an overall 6.99% rate of return ("WACC") after taxes, which is
18 consistent with the rate of return established in the Company's most recent base rate
19 case.¹³ However, the cost of capital can change substantially over time. Given that
20 market conditions change over time, and capital costs appear to be on the decline, and
21 may further decline in the future, the Company's rate of return should be reviewed and

¹³ I/M/O PSE&G, BPU Docket Nos. ER18010029 and GR18010030 (Order, dated October 29, 2018).

1 reset prospectively. Market conditions are typically volatile and change over time as well
2 as the associated market risks. Changing the overall rate of return in future proceedings
3 will reflect current market conditions and volatility. Therefore, I am recommending, if
4 the Company's CEF-EVES Program and rate of return proposal is approved that the
5 Board require the Company to update the rate of return, including return on equity, debt
6 costs, debt roll-ins and capital structure if and when the Company's authorized rate of
7 return is adjusted in future base rate proceedings.

8 **Q. DOES THIS CONCLUDE YOUR TESTIMONY?**

9 **A.** Yes, it does at this time. Rate Counsel reserves its right to present supplemental
10 testimony based on any updated and/or new information.

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APPENDIX A - CURRICULUM VITAE
DANTE MUGRACE

PCMG and Associates LLC

DANTE MUGRACE

Education

Master Business Administration, MBA Strategic Management, Pace University, Lubin School of Business, New York, NY, 2010

Master Public Administration, MPA, Kean University, Union, NJ, 2001

Bachelor of Science, BS. Accounting, St. Peter's University, Jersey City, NJ, 1983

Position

Senior Consultant – PCMG and Associates	2014 – present
Senior Consultant – Snavely King Majoros and Associates	2013 – 2014
Independent Consultant	2012 – 2013
Bureau Chief/Administrative Analyst/Accountant – New Jersey Board of Public Utilities	1983 – 2011

Professional Experience

Mr. Mugrace has 35 years' experience in all aspects of regulatory accounting and policy including processing, analyzing and evaluating utility rate case petitions before Public Service Commissions. Mr. Mugrace examines and evaluates rate filings, contracts, agreements and rate matters regarding utility operations and provides recommendations as to best course of action. Additionally, Mr. Mugrace analyzes and reviews utility regulatory matters and sets forth recommendations for resolution of issues, calculates total revenue requirement needed to cover operating expenses and rate of return, and researches, and evaluates regulatory utility matters to assess impact on various classes of customers, regarding rates, service, compliance and cost of service provisions, as well as annual true-up and tracking mechanisms.

Prior to undertaking consulting assignments, Mr. Mugrace was the Bureau Chief Utility Rate Manager for the New Jersey Board of Public Utilities, in which role he managed and assigned tasks to a staff of 12 professionals and supervisory personal in the daily administrative, financial and managerial functions of the Division. Mr. Mugrace's primary duties were to determine whether the utility had sufficient revenues to cover its operating expenses and earn a return on its plant investment and to ensure that the utility provided safe, reliable and continuing utility service to its customers. Mr. Mugrace set rates and charges for utility companies, which had revenues of up to \$500 million, and ensured that the revenue requirement provided for recovery of all operating expenses, return on investment and depreciation. Mr. Mugrace was also responsible for reviewing and verifying that the companies' property, plant and equipment (up to \$2.5 billion) were used and useful in providing service to its customers. Mr. Mugrace coordinated and met with the New Jersey State Department of Environmental Protection to

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determine whether water and wastewater utilities were complying with state regulations and were adhering to any regulatory agency directives or orders. Mr. Mugrace developed ways to minimize the rising costs of water utility services by investigating alternative rate structures, analyzing engineering mechanisms and techniques, looking into the feasibility of mergers and acquisitions within the water industry and reviewing financing, and rate alternatives to minimize the impact on ratepayers. Mr. Mugrace was responsible for ensuring that the rate-case process adhered the statutory timeframe for preparing, reviewing and recommending findings to the Board Commissioners on financial operations, costs, revenues and operating expenses, prior to the litigation proceedings. Mr. Mugrace also examined alternative rate recovery mechanisms and clauses, phase-ins of revenue requirements, deferral mechanisms and pass-through of rate charges. Mr. Mugrace assumed the role of Director during transition periods and Administrative changes. Finally, Mr. Mugrace conducted the recruitment and hiring of employees for placement within the Division and the Board.

Professional and Business Affiliations

- Institute of Public Utilities (IPU) Michigan State University (MSU), National Association of Regulatory Utility Commissioners (NARUC), National Association of State Utility Consumer Advocates (NASUCA)

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Regulatory Projects and Appearances

1. In Re; Public Service Electric and Gas Company for Approval of Changes in its Electric Green Programs Recovery Charge and its Gas Green Programs Recovery Charge 2020 PSE&G Green Programs Cost Recovery filing
(Appearance: Revenue Requirement on behalf of the NJ Division of Rate Counsel)
New Jersey Board of Public Utilities – Docket Nos. ER20060467 and GR20060468
2. In Re: Public Service Electric and Gas Company’s 2020/2021 Annual BGSS Commodity Charge filing for its Residential Gas Customers under its Pricing Mechanism and for Changes in its Balance Charge
(Appearance: Revenue Requirement on behalf of the NJ Division of Rate Counsel)
New Jersey Board of Public Utilities – Docket No. GR20060379
3. In Re: Public Service Electric and Gas Company’s 2020 Annual Margin Adjustment Clause (MAC)
(Appearance: Revenue Requirement on behalf of the NJ Division of Rate Counsel)
New Jersey Board of Public Utilities – Docket No. GR20060384
4. In Re: South Jersey Gas Company for Approval to Revise the Rider H Rate Associated with the Tax Cuts and Jobs Act of 2017
(Appearance: Revenue Requirement on behalf of the NJ Division of Rate Counsel)
New Jersey Board of Public Utilities – Docket No. GR20060382
5. In Re: Berkshire Gas Company -2019 Gas System Enhancement Program Reconciliation Filing
(Appearance: Revenue Requirement on behalf of the Massachusetts Office of the Attorney General)
Commonwealth of Massachusetts -Department of Public Utilities – DPU 20-GREC-02
6. In Re: Bay States Gas Company d/b/a Columbia Gas – 2019 Gas System Enhancement Program Reconciliation Filing.
(Appearance: Revenue Requirement on behalf of the Massachusetts Office of the Attorney General)
Commonwealth of Massachusetts – Department of Public Utilities – DPU 20-GREC-05
7. In Re: NSTAR Gas Company – 2019 Gas System Enhancement Program Reconciliation Filing
(Appearance: Revenue Requirement on behalf of the Massachusetts Office of the Attorney General)
Commonwealth of Massachusetts – Department of Public Utilities – DPU 20-GREC-06
8. In Re: South Jersey Gas Company for Approval of Increased Base Tariff Rates and Charges for Gas Service, Changes to Depreciation Rates and Other Tariff Revisions.
(Appearances: Revenue Requirement and Cash Working Capital) on behalf of the New Jersey Division of Rate Counsel.
New Jersey Board of Public Utilities – Docket No. GR20030243

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9. In Re: Jersey Central Power & Light Company for Review and Approval of Increased in, and Other Adjustments to Rates and Charges for Electric Services and approval of Other Proposed Tariff Revisions (Appearance: Revenue Requirement, Cash Working Capital, Consolidated Income Taxes, LED Conversion and Reliability Roll-In) on behalf of the New Jersey Division of Rate Counsel.
New Jersey Board of Public Utilities – Docket No. ER20020146
10. In Re: The Pittsburgh Water and Sewer Authority for approval of increased rates and charges for water and wastewater service and for approval of a multi-year rate plan. (Appearance: Accounting and Policy, Customer Service and Regulatory Policy) on behalf of the Pennsylvania Office of the Consumer Advocate)
Pennsylvania Public Utility Commission – Docket Nos. R-2020-3017951 and R-2020-3017970.
11. In Re: New Jersey-American Water Company, Inc. for approval of Increased Base Tariff Rates and Charges for Water and Wastewater Services and Other Tariff Revisions. (Appearance: Accounting and Revenue Requirement and Cash Working Capital / Consolidated Income Taxes) on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities – Docket No. WR19121516
12. In Re: Hawaiian Electric Company, Inc., for approval of a General Rate Increase and Revised Rate Schedules and Rules.
(Appearance: Accounting and Revenue Requirement on behalf of the Hawaiian Division of Consumer Advocacy)
Hawaii Public Utilities Commission – Docket No. 2019-0085
13. In Re: Mount Olive Villages Water Company for approval of an Increase in Rates for Water Service and Other Tariff Changes.
(Appearance: Accounting and Consulting Services on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities – Docket No. WR19060770
14. In Re: Mount Olive Villages Sewer Company for approval of an Increase in Rates for Sewer Service and Other Tariff Changes.
(Appearance: Accounting and Consulting Services on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities – Docket No. WR19060769
15. In Re: Public Service Electric and Gas Company for approval of changes in its Electric Green Programs Recovery and its Gas Green Programs Recovery Charge (2019 PSE&G Green Programs Cost Recovery Filing).
(Appearance: Accounting and Consulting Services on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities – Docket Nos. ER19070764 and GR19070765

PCMG and Associates LLC

16. In Re: Proposed Amendment to N.J.A.C. 14:9- Adoption by reference to the Uniform System of Accounts for Water Utilities and Wastewater Utilities.
(Appearance: Consulting Services on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities- Docket Nos. WX19050612 (Water) and WX19050613 (Wastewater)
17. In Re: Public Service Electric and Gas Company's 2019/2020 Annual BGSS Commodity Charge filing for its Residential Gas Customers Under its Periodic Pricing Mechanism and for Changes in its Balancing Charge.
(Appearance: Revenue Requirement and accounting/consulting services on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities – Docket No. GR190600699
18. In Re: Bay States Gas Company d/b/a Columbia Gas of Massachusetts for Approval of a 2018 Gas System Enhancement Program Reconciliation Filing
(Appearance: Revenue Requirement on behalf of the Massachusetts Office of the Attorney General)
Commonwealth of Massachusetts Department of Public Utilities – Docket No. 19-GREC-05
19. In Re: NSTAR Gas Company d/b/a Eversource Energy for Approval of a 2018 Gas System Enhancement Program Reconciliation Filing
(Appearance: Revenue Requirement on behalf of the Massachusetts Office of the Attorney General)
Commonwealth of Massachusetts Department of Public Utilities – Docket No. 19-GREC-06
20. In Re: Public Service Electric and Gas Company for Approval of Gas Rate Base Adjustments Pursuant to its Gas System Modernization Program (April 2019 GSMP)
(Appearance: Revenue Requirement on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities – Docket No. GR19040522
21. In Re: Kalaeloa Water Company, LLC for Approval of General Rate Case and Revised Rules, Regulations and Rates.
(Appearance: Revenue Requirement on behalf of the Hawaii Division of Consumer Advocacy)
Hawaii Public Utilities Commission – Docket No. 2019-0057
22. In Re: Elizabethtown Gas Company for Approval of an Increase in Rates and Charges for Gas Service, Changes to Depreciation Rates and Other Tariff Revisions.
(Appearance: Revenue Requirement and Other Accounting Issues on behalf of the New Jersey Division of Rate Counsel).
New Jersey Board of Public Utilities – Docket No. GR19040586
23. In Re: Petition of Peoples Natural Gas Company for Approval of an Increase in Rates for Natural Gas Distribution Service.

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(Appearance: Revenue Requirement and Other Accounting Issues on behalf of the Pennsylvania Office of Consumer Advocate)

Pennsylvania Public Utility Commission – Docket No. R-2018-3006818

24. In Re: Petition of Aqua New Jersey, Inc. for Approval of an Increase in Rates for Water Service and other Tariff Changes.
(Appearance: Revenue Requirement and other Accounting Issues on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities – BPU Docket No. WR18121351
25. In Re: Petition of Public Service Electric and Gas Company for Approval of its Clean Energy Future – Energy Efficiency (CEF-EE) Program on a Regulated Basis.
(Appearance: Revenue Requirement and other Accounting Issues on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities – BPU Docket Nos. GO18101112 and EO18101113.
26. In Re: Petition of Public Service Electric and Gas Company for Approval of its Clean Energy Future – Energy Vehicle and Energy Storage (CEF-EVES) Program on a Regulated Basis. (Appearance – Revenue Requirement and other Accounting Issues on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities – BPU Docket No. EO18101111.
27. In Re: Petition of New Jersey Natural Gas Company- Request for Deferred Accounting Authority for Costs Related to New Information Technology Systems . (Appearance: Impact on Revenues, prudence of costs on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities – BPU Docket No. GR18101096
28. In Re: Petition for Approval of An Indirect Change in Control of the New Jersey Public Utilities Subsidiaries of SUEZ Water Resources, Inc. and Other Related Approvals.
(Appearance: Impact on Rates, Service, Employees, Positive Benefits on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities – BPU Docket No. WM18090982
29. In Re: The Matter of the Merger of Roxbury Water Company into New Jersey American Water Company (Appearance: Impact on Rates, Service and Employees, Positive Benefits on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities – BPU Docket No. WM18080904
30. In Re: The Matter of the Application of Maryland-American Water Company for Authorization to Adjust its Existing Schedule of Tariffs and Rates.
(Appearance: Revenue Requirement on behalf of the Maryland Office of People’s Counsel)
Maryland Public Service Commission – Case No. 9487

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31. In Re: The Matter of the Joint Petition for Approval of an Increase in Rates for Water and Wastewater Service and Other Tariff Changes for SUEZ Water NJ, Inc., Toms River, Inc., Arlington Hill, Inc., West Milford, Inc., Matchaponix, Inc., and Princeton Meadows, Inc. (Appearance: Revenue Requirement and the development of Consolidated Income Taxes on behalf of the NJ Division of Rate Counsel)
New Jersey Board of Public Utilities – BPU Docket No. WR18050593
32. In Re: The Matter of the Application of Atlantic City Electric Company to Adjust the Level of its Rider RGGI Rate Associated with its Solar Renewable Energy Certificate Financing Program 2018 (Appearance: Revenue Requirement on behalf of the NJ Division of Rate Counsel)
New Jersey Board of Public Utilities – BPU Docket No. ER18050543
33. In Re: The Matter of the Petition of New Jersey Natural Gas Company’s Approval of the Cost Recovery Associated with Energy Efficiency Programs (Appearance; Revenue Requirement on behalf of the NJ Division of Rate Counsel)
New Jersey Board of Public Utilities – BPU Docket No, GR18050585
34. In Re: The Matter of Bay States Gas Company d/b/a Columbia Gas of Massachusetts, 2017 Gas System Enhancement Reconciliation Filing (Appearance: Revenue Requirement on behalf of the Massachusetts Attorney General’s Office of Ratepayer Advocacy)
Commonwealth of Massachusetts – Department of Public Utilities – Docket No. D.P.U. 18-GREC-05.
35. In Re; The Matter of NSTAR Gas Company d/b/a Eversource Energy, Gas System Enhancement Program Reconciliation Filing (Appearance: Revenue Requirement on behalf of the Massachusetts Attorney General’s Office of Ratepayer Advocacy)
Commonwealth of Massachusetts – Department of Public Utilities – Docket No. D.P.U. 18-GREC-06.
36. In Re: The Matter of the Merger of SUEZ Water NJ, SUEZ Water Toms River, SUEZ Water Arlington Hills, SUEZ Water West Milford, SUEZ Water Princeton Meadows and SUEZ Water Matchaponix (Appearance: Positive Benefits related to the Merger on behalf of the NJ Division of Rate Counsel)
New Jersey Board of Public Utilities – BPU Docket No. WR18030266
37. In Re: The Matter of the Columbia Gas of Pennsylvania for a General Rate Increase in Distribution Gas Service (Appearance; Accounting Issues and Revenue Requirement on behalf of the Pennsylvania Office of Consumer Advocate)
Pennsylvania Public Utility Commission – Docket No. R-2018-2647577
38. In Re: The Matter of the New Jersey Board of Public Utilities Consideration of the Tax Cuts and Jobs Act of 2017 – Generic Proceeding (Appearance: Revenue Requirement on behalf of the NJ Division of Rate Counsel)
New Jersey Board of Public Utilities – BPU Docket No. AX18010001

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39. In Re: Acquisition of Elizabethtown Gas, a Division of Pivotal Utilities Holdings, Inc. by ETG Acquisition Corp., a Division of South Jersey Industries, Inc., and Related Transactions. (Appearance: Customer Service Issues/Employee and Labor Relations on behalf of the NJ Division of Rate Counsel)
New Jersey Board of Public Utilities – BPU Docket No. GM17121309.
40. In Re: Middlesex Water Company – Base Rate Case Proceeding for Water Service. (Appearance: revenue requirement on behalf of the NJ Division of Rate Counsel).
New Jersey Board of Public Utilities – BPU Docket No. WR17101049.
41. In Re: Township of East Brunswick – Sewer Rate Study – (Evaluation of the existing sewer rate structure and examining and quantify costs for future expansion).
42. In Re: Montana-Dakota Utilities – Base Rate Case Proceeding for Gas Service. (Appearance: revenue requirement on behalf of the North Dakota Public Service Commission). NDPSC Docket No. PU-17-295.
43. In Re: Andover Utility Company – Base Rate Case Proceeding for Wastewater Services. (Appearance: revenue requirement on behalf of the New Jersey Division of Rate Counsel).
New Jersey Board of Public Utilities – BPU Docket No. WR17070726.
44. In Re: Public Service Electric and Gas Company- Approval of Changes in its Electric and Gas Green Programs Recovery Charges “2017 Public Service Electric & Gas Green Programs Cost Recovery Filing. (Appearance: revenue requirement on behalf of the New Jersey Division of Rate Counsel).
New Jersey Board of Public Utilities – BPU Docket Nos. ER17070724 and GR17070725.
45. In Re: Bay States Gas Company d/b/a Columbia Gas of Massachusetts, 2016 Gas System Enhancement Program Reconciliation Filing, (Appearance: revenue requirement on behalf of the Massachusetts Attorney General’s Office of Ratepayer Advocacy).
Commonwealth of Massachusetts Department of Public Utilities – Docket No. D.P.U. 17-GREC-05.
46. In Re; NSTAR Gas Company d/b/a Eversource Energy, 2016 Gas System Enhancement Program Reconciliation Filing (Appearance: revenue requirement on behalf of the Massachusetts Attorney General’s Office of Ratepayer Advocacy).
Commonwealth of Massachusetts Department of Public Utilities – Docket No. D.P.U. 17-GREC-06.
47. In Re: Petition of Columbia Gas of Maryland – Increase in rates for Distribution Service – (Appearance: revenue requirement on behalf of the Office of People’s Counsel) Public Service Commission of Maryland – Case No. 9447
48. In Re: Petition of South Jersey Gas Company – Increase in base rates for gas services – (Appearance: revenue requirement on behalf of the NJ Division of Rate Counsel)

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New Jersey Board of Public Utilities – Docket No. GR17010071

49. In Re: Petition of UGI Penn Natural Gas – Increase in base rates for gas services – (Appearance: revenue requirement on behalf of the Pennsylvania Office of Consumer Advocate)
Pennsylvania Public Utilities Commission Docket No. R-2016-2580030
50. In Re: Petition of PJM Interconnection, LLC. – Mid-Atlantic Interstate Transmission, LLC. Formula Rate Filing. (Appearance on behalf of the Pennsylvania Office of Consumer Advocate).
FERC Docket No. ER17-211-000
51. In Re: Petition of Pivotal Utility Holdings, Inc. d/b/a Elizabethtown Gas Company for approval of Increased Base Tariff Rates and Charges for Gas Service and Other Tariff Revisions (Appearance: revenue requirement on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities Docket No. GR16090826
52. In Re: Petition of SUEZ Water New Jersey, et al – Approval of a Management and Services Agreement pursuant to N.J.S.A 48: 3-7.1 (Appearance on the reasonableness of contract agreements on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities Docket No. WO16080806
53. In Re: Petition of SUEZ Water Arlington Hills Inc. – Approval of an Increase in Rates for Wastewater Services and other Tariff Changes (Appearance: revenue requirement on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities Docket No. WR16050510
54. In Re: Petition of Public Service Electric and Gas Company – 2016 Marginal Adjustment Clause (MAC) (Appearance; reconciliation and rate setting on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities Docket No. GR16060484
55. In Re: Petition of Public Service Electric and Gas Company for Approval of Changes in its Electric Green Programs Recovery Charges and its Gas Green Program Recovery Charges 2016 PSEG Program Cost Recovery Filing (Appearance: reconciliation and rate setting on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities Docket Nos. ER16070613 and GR16070614
56. In Re: Petition of the Mount Olive Village Sewer Company, Inc., for Approval of an Increase in Rates for Service (Appearance: revenue requirement on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities Docket No. WR16050391

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57. In Re: Petition of the Mount Olive Village Water Company, Inc. for Approval of an Increase in Rates for Service (Appearance; revenue requirement on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities Docket No. WR16050390
58. In Re: Petition of Fitchburg Gas and Electric Light Company d/b/a Unitil for Approval of its 2015 Gas System Enhancement Plan Reconciliation Filing (2016) - (Analysis and Advice to Counsel: computation of the revenue requirement and rate impact on behalf of the Massachusetts Attorney General Office of Ratepayer Advocacy)
MA Department of Public Utilities Docket No. D.P.U. 16-GREC-01
59. In Re: Petition of Bay State Gas Company d/b/a Columbia Gas of Massachusetts for Approval of its 2015 Gas System Enhancement Plan Reconciliation Filing (2016) - (Appearance: computation of the revenue requirement and rate impact on behalf of the Massachusetts Attorney General Office of Ratepayer Advocacy)
MA Department of Public Utilities Docket No. D.P.U. 16-GREC-05
60. In Re: Petition for Approval of Gas Infrastructure Contract Between Public Service Company of New Hampshire d/b/a Eversource Energy and Algonquin Gas Transmission, LLC (2016) - (Analysis and Advice to Counsel: compliance with statutes and regulations, review of contract, and ratemaking on behalf of the New Hampshire Office of Consumer Advocate)
NH Public Utilities Commission Docket No. DE 16-241
61. In Re: Central Maine Power Company, Annual Compliance Filing and Price Change (2016) - (Analysis and Advice to Counsel; tax normalization regulatory asset on behalf of the Maine Office of the Public Advocate)
ME Public Service Commission Docket No. 2016-00035
62. In Re: Bulletin 2015-10 Generic Proceeding to Establish Parameters for the Next Generation PBR Plans (Appearance: productivity adjustments/performance-based ratemaking on behalf of the Alberta Utilities Consumer Advocate)
Alberta Utilities Commission Proceeding 20414
63. In Re: the Matter of Request by Emera Maine for Approval of a Rate Change (2016) - (Appearance: revenue requirement on behalf of the Maine Office of the Public Advocate)
Maine Public Utilities Commission Docket No. 15-00360)
64. In Re: the Matter of the Joint Application of the Southern Company, AGL Resources Inc., and Pivotal Holdings, Inc. d/b/a Elkton Gas (2015-2016) - (Analysis and advice to counsel: customer service impacts, employee impacts, supplier diversity on behalf of the Maryland Office of People's Counsel)
MD PSC Case No. 9404

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65. In Re: the Matter of the Merger of Southern Company and AGL Inc. (2015-2016) - (Appearance: customer service impacts and employee impacts on behalf of the NJ Division of Rate Counsel)
New Jersey BPU Docket No. GM15101196
66. In Re: the Matter of the United Water New Jersey, Inc., for Approval of an Increase in Rates for Water Service and Other Tariff Changes (2015-2016) - (Appearance: revenue requirements, rate base issues and operating income on behalf of the NJ Division of Rate Counsel)
New Jersey BPU Docket No. WR15101177
67. In Re: Petition of Boston Gas Company and Colonial Gas Company d/b/a National Grid for Approval of Precedent Agreements with Millennium Pipeline Company, LLC (2015) - (Analysis: review of contract and compliance of the Gas Supply Plan on behalf of the Massachusetts Attorney General Office of Ratepayer Advocacy)
MA D.P.U. 15-130
68. In Re: Petition of Boston Gas Company and Colonial Gas Company d/b/a National Grid for Approval of Agreements for LNG or Liquefaction Services with GDF Suez Gas NA, LLC; Northeast Energy Center, LLC; Metro LNG, L.P.; and National Grid LNG (2015) - (Analysis: review of contract and compliance of the Gas Supply Plan on behalf of the Massachusetts Attorney General Office of Ratepayer Advocacy)
MA D.P.U. 15-129
69. In Re: Columbia Gas of Massachusetts CY2014 Targeted Infrastructure Reinvestment Factor (TIRF) Compliance Filing (2015) - (Appearance: computation of the revenue requirement impact on the TIRF on behalf of the Massachusetts Attorney General Office of Ratepayer Advocacy)
MA D.P.U. 15-55
70. In Re: the Matter of the Bay State Gas Company d/b/a Columbia Gas of Massachusetts for Approval of its Targeted Infrastructure Reinvestment Factor (TIRF) for CY 2013 (2014) - (Appearance: computation of the revenue requirement impact on the TIRF)
MA D.P.U. 14-83
71. In Re: the Matter of the Merger of Exelon Corporation and Pepco Holdings, Inc. (Atlantic City Electric Company) (2014-2015) - (Appearance: customer service impacts)
New Jersey BPU Docket No. EM14060581
72. In Re; of the Public Utilities Commission of Ohio, in the Matter of the Application of Aqua Ohio, Inc. to Increase its Rates and Charges for its Waterworks Service. – Revenue and Rates (2014) - (Appearance: operating income, certain rate base issues and income taxes on behalf of the Ohio Office of Consumer Counsel)
PUCO Case No. 13-2124-WW-AIR

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73. In Re: New York Public Service Commission, as to the Rates, Charges, Rules and Regulations of Consolidated Edison Company of New York, Inc. Revenue Requirement (2013-2014) – (Appearance: revenue requirement, rate base issues and operating income on behalf of the Intervenor, the County of Westchester)
NYPSC Case Nos. 13-E-0030, 13-G-0031 and 13-S-0032, et al
74. In Re: North Dakota Public Service Commission, - Application of Northern States Power Company for Authority to Increase Rates for Electric Service in North Dakota, On-Going Revenue Requirement (2013) - (Appearance: revenue requirement and rate base, operating income, operating and maintenance expenses on behalf of the North Dakota Public Service Commission Staff)
North Dakota Case No. PU-12-813
75. In the Matter of the Petition of New Jersey American Water Company for Authorization to Implement a Distribution System Improvement Charge (DSIC) Order Denying Petition and Instituting Stakeholder Process (2008) - (Case manager on policy decision and revenue requirement impact on behalf of the Staff of the NJ Board of Public Utilities)
BPU Docket No. WO08050358
76. In the Matter of the Joint Petition of the City of Trenton, New Jersey and New Jersey-American Water Company, Inc. for Authorization of the Purchase and Sale of the Assets of the Outside Water Utility System ("OWUS") of the City of Trenton, New Jersey and for Other Relief Order Adopting Initial Decision, (2008) - (Case manager on the revenue requirement impact on behalf of the Staff of the NJ Board of Public Utilities)
BPU Docket No. WM08010063
77. In the Matter of the Petition of United Water New Jersey, United Water Toms River, United Water Lambertville, United Water Mid-Atlantic and Gaz de France for Approval as Need for a Change in Ownership and Control (2007) - (Case manager on customer impact, employee impact and impact on rates on behalf of the Staff of the NJ Board of Public Utilities)
BPU Docket No. WM06110767
78. In the Matter of the Petition of United Water Arlington Hills Sewerage, Inc. for an Increase in Rates for Waste Water Service and Other Tariff Changes (2009) - (Case manager on revenue requirement and overall rate proceeding on behalf of the Staff of the NJ Board of Public Utilities)
BPU Docket No. WR08100929
79. In the Matter of the Petition of United Water New Jersey Inc. for Approval of an Increase in Rates for Water Service and Other Tariff Changes, (2009) - (Case manager on revenue requirement and overall rate proceeding on behalf of the Staff of the NJ Board of Public Utilities)
BPU Docket No. WR08090710

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80. In the Matter of the Petition of United Water Toms River, Inc. for Approval of an Increase in Rates for Water Service and Other Tariff Changes (2008) - (Case manager on the revenue requirement and overall rate proceeding on behalf of the Staff of the NJ Board of Public Utilities)
BPU Docket No. WR08030139
81. In the Matter of the Joint Petitioners of New Jersey-American Water Company, Inc., S.J. Services, Inc., South Jersey Water Company, Inc. and Penns Grove Water Supply Company, Inc. for Among Other Things Approval of a Change in Control of South Jersey Water Supply Company, Inc. and Penns Grove Water Supply Company, Inc. (2007) - (Case manager on the overall rate proceeding on behalf of the Staff of the NJ Board of Public Utilities)
BPU Docket No. WM07020076
82. In the Matter of the Petition of Aqua, New Jersey, Inc. for Approval of an Increase in Rates for Water Service and Other Tariff Changes (2008) - (Case manager on revenue requirement and the overall rate proceeding on behalf of the Staff of the NJ Board of Public Utilities)
BPU Docket No. WR0712095
83. I/M/O the Joint Petition of Thames Water, Aqua Holdings GMBH, on Behalf of Itself and Its Parent Holdings Company, RWE Aktiengesellschaft, Thames Water Aqua US Holdings, Inc., American Water works Company Inc., Thames Water Holdings Incorporated, E'town Corporation, New Jersey-American Water Company, Inc., Elizabethtown Water Company, the Mount Holly Water Company and Applied Wastewater Management, Inc. for Confirmation that the Board of Public Utilities Does Not Have Jurisdiction Over, or, Alternatively, for Approval of a Proposed Transaction Involving, Among Other Things, the Sale by Thames Water Aqua Holdings GMBH of Up to 100% of the Shares of the Common Stock of American Waterworks Company, Inc. in One or More Public Offerings (2007) - (Case manager on revenue requirement impacts, effect on rates and effect on service on behalf of the Staff of the NJ Board of Public Utilities)
BPU Docket No. WM06050388
84. In the Matter of the Petition of Elizabethtown Water Company for Approval of an Increase in Rates for Water Service (2007) - (Case manager on revenue requirement and overall rate proceeding on behalf of the Staff of the NJ Board of Public Utilities)
BPU Docket No. WR03070510
85. In the Matter of the Petition of New Jersey American Water Company, Inc. for Approval of Increased Tariff Rates and Charges for Water and Sewer Service; Increased Depreciation Rates and Other Tariff Revisions (2008) - (Case manager on revenue requirement and overall rate proceeding on behalf of the Staff of the NJ Board of Public Utilities)
BPU Docket No. WR08010020
86. In the Matter of Middlesex Water Company for Approval of an Increase in its Rates for Water Service and Other Tariff Changes (2007) - (Case manager on overall revenue

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requirement and overall rate proceeding on behalf of the Staff of the NJ Board of Public Utilities)

BPU Docket No. WR07040275

87. In the Matter of the Joint Petition of United Water New Jersey, Inc., United Water Arlington Hills, Inc., United Water Hampton, Inc., United Water Vernon Water Hills, Inc., and United Water Lambertville, Inc. for an Increase in Rates and Charges for Water Service and Other Tariff Changes and for Approval to Merge the Operations of the Joint Petitioners into and with United Water New Jersey, Inc. (2007) - (Case manager on revenue requirement and overall rate proceeding on behalf of the Staff of the NJ Board of Public Utilities)

BPU Docket No. WR07020135

**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 ITS CLEAN ENERGY) BPU DOCKET NO.
FUTURE – ELECTRIC VEHICLE AND ENERGY) EO18101111
STORAGE (“CEF-EVES”) PROGRAM ON A)
REGULATED BASIS)**

**DIRECT TESTIMONY OF EZRA D. HAUSMAN, PH.D.
ON BEHALF OF THE
STATE OF NEW JERSEY
DIVISION OF RATE COUNSEL**

**STEFANIE A. BRAND, ESQ.
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September 4, 2020

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Attached Exhibit

EDH-1 Resume of Ezra D. Hausman, Ph.D.

1 **I. Professional Qualifications and Purpose of Testimony**

2 **Q. Please state your name, occupation, and business address.**

3 A. My name is Ezra D. Hausman, Ph.D. I am an independent consultant doing business as
4 Ezra Hausman Consulting, operating from offices at 77 Kaposia Street, Auburndale,
5 Massachusetts 02466.

6 **Q. What is your educational and professional background?**

7 A. I hold a BA in Psychology from Wesleyan University, an MS in Environmental
8 Engineering from Tufts University, an SM in Applied Physics from Harvard University,
9 and a PhD in Atmospheric Chemistry from Harvard University. I have been involved in
10 analysis of both regulated and restructured electricity markets for over 20 years. I have
11 provided a detailed resume as Attachment EDH-1.

12 I have worked as an independent consultant and expert based on my expertise and
13 experience in energy economics and environmental science since 2014. From 2005 until
14 early 2014, I was employed at Synapse Energy Economics, Inc., a research and
15 consulting Company located in Cambridge, Massachusetts, where I served most recently
16 as Vice President and Chief Operating Officer. At Synapse, and continuing as an
17 independent consultant, I served as an analyst and expert in several areas related to my
18 expertise and experience in energy economics. Specific areas include:

- 19 • State and regional energy, capacity, and transmission planning, including both utility
20 resource planning and long-term (multi-decadal) climate-constrained resource
21 planning
- 22 • Electricity, generating capacity, and demand-side resource market design and analysis

Direct Testimony of Ezra D. Hausman, Ph.D.
Public Service Electric and Gas Company – CEF-EVES Program Filing
BPU Docket No. EO18101111

- 1 • Review and analysis of utility energy efficiency (“EE”) program filings
- 2 • Electric system dispatch modeling
- 3 • Economic analysis of environmental and other regulations, including greenhouse gas
- 4 regulation, in electricity markets
- 5 • Economic analysis, price forecasting, and asset valuation in electricity markets
- 6 • Quantification of the economic and environmental benefits of displaced emissions
- 7 and market price impacts associated with energy efficiency and renewable energy
- 8 • Regulation and mitigation of greenhouse gas emissions from the supply and demand
- 9 sides of the U.S. electricity sector
- 10

11 I have provided testimony or appeared before public utility commissions and/or
12 legislative committees in Arizona, Florida, Illinois, Idaho, Iowa, Kansas, Louisiana,
13 Maryland, Massachusetts, Minnesota, Mississippi, Missouri, North Carolina, New
14 Hampshire, New Jersey, Nevada, Oregon, Pennsylvania, South Carolina, South Dakota,
15 Utah, Vermont, Virginia, Washington, DC and Washington State, as well as at the federal
16 level. I have provided expert representation for stakeholders at the PJM RTO, at the
17 Midcontinent Independent System Operator, Inc. (“MISO”), and at the Federal Energy
18 Regulatory Commission (“FERC”).

19 Prior to joining Synapse, I was employed from 1998 through 2004 as a Senior
20 Associate at Tabors Caramanis and Associates (TCA) of Cambridge, Massachusetts. In
21 2004, TCA was acquired by Charles River Associates (CRA), where I remained until I
22 joined Synapse in 2005. At TCA/CRA, I performed a wide range of electricity market
23 and economic analyses and price forecast modeling studies. These included asset
24 valuation studies, market transition cost/benefit studies, market power analyses, and

1 litigation support. I have extensive experience with market simulation, production cost
2 modeling, and resource planning methodologies and software.

3 **Q. Have you previously testified before the New Jersey Board of Public Utilities**
4 **(“BPU”, or “Board”)?**

5 A. Yes. I submitted prefiled written testimony on behalf of Rate Counsel in the recent
6 energy efficiency program (“EE 2017”) filing by Public Service Electric & Gas Company
7 (“PSE&G”) (BPU Docket No. EO17030196); in PSE&G’s 2018 CEF-EE filing (BPU
8 Docket No. GO18101112 & EO18101113); and in Rockland Electric’s low
9 income/energy efficiency filing (BPU Docket No. ER17080869). I have also participated
10 in numerous Board-sponsored stakeholder processes on behalf of Rate Counsel, including
11 the ongoing BPU Electric Vehicle Infrastructure Stakeholder Work Group, and I have
12 supported Rate Counsel’s review of several utility filings that were resolved through
13 settlement prior to submittal of intervenor testimony.

14 **Q. What is the purpose of your testimony in this proceeding?**

15 A. The purpose of my testimony is to address the proposal by Public Service Electric and
16 Gas Company (“PSE&G” or “Company”) to implement four programs to support Electric
17 Vehicle (“EV”) ownership and charging infrastructure in its service territory, along with
18 five energy storage (“ES”) subprograms, on a rate-regulated basis. In my testimony I
19 review the Company’s proposal in the context of recent clean energy legislation in New

1 Jersey,¹ relevant Board orders,² the 2019 Energy Master Plan (“EMP”), the EV straw
2 proposal (“Straw Proposal”) prepared by Board Staff,³ and the Energy Storage study
3 prepared by Rutgers University⁴ pursuant to the Clean Energy Act (“CEA”).⁵ I also
4 review whether PSE&G’s programs can reasonably be deemed energy efficiency
5 programs suitable for ratepayer funding under New Jersey law. I also address issues
6 concerning equitable access and impact raised by the Company’s proposal.

7 **Q. What information have you reviewed in preparation of this testimony?**

8 A. I have reviewed the Company’s Petition, supporting testimony, workpapers, and
9 discovery responses provided pursuant to questions propounded by Rate Counsel and
10 other parties, as well as the direct testimony of Rate Counsel witnesses David E. Peterson
11 and Dante Mugrace. I have also reviewed numerous publicly available industry reports,
12 including reports provided with or referenced in the Company’s petition and its discovery
13 responses.

¹ “Clean Energy Act,” P.L. 2018, c. 17, and the “Plug-In Electric Vehicles Act (“PIV Act”),” P.L. 2019, c. 362, codified at N.J.S.A. 48:25-1 et seq.

² Among others, I/M/O Implementation of P.L. 2018, c. 17 Regarding the Establishment of Energy Efficiency and Peak Demand Reduction Programs, BPU Docket Nos. QO19010040, QO19060748 & QO17091044, Order Directing the Utilities to Establish EE and Peak Demand Reduction Programs, June 10, 2020 (“CEA Order”).

³ I/M/O Straw Proposal on Electric Vehicle Infrastructure Build Out, BPU Docket No. QO20050357, Straw Proposal, May 18, 2020 (“EV Straw Proposal”). Rate Counsel submitted comments on the Straw Proposal on June 17, 2020.

⁴ Rutgers University, New Jersey Energy Storage Analysis (“ESA”), Final Report, May 23, 2019.

⁵ P.L. 2018, c. 17; N.J.S.A. 48:3-87.

1 **II. Summary of Conclusions and Recommendations**

2 **Q. What are your conclusions and recommendations to the Board regarding the**
3 **Company’s EV proposals?**

4 A. While I am not an attorney, I do not believe that the proposals offered by PSE&G are
5 supported by its statutory obligation to provide safe, adequate, and proper service⁶ at just
6 and reasonable rates,⁷ and that there is no mandate or authority to implement the
7 Company’s EV proposals on a rate regulated basis. I find the proposals to be premature,
8 as the Board has yet to issue a ruling on Staff’s EV Straw Proposal or to establish
9 guidelines for utility involvement in the Electric Vehicle ecosystem. I further find that the
10 Company’s proposals raise significant equity and free-ridership issues that have not been
11 addressed by the Company. While there are elements of the Company’s EV proposals
12 that may be beneficial for New Jersey, I recommend that the Board not approve these
13 offerings at this time.

14 **Q. What are your conclusions and recommendations to the Board regarding the**
15 **Company’s ES proposals?**

16 A. While I am not an attorney, I believe that the proposals offered by PSE&G are not
17 supported by its statutory obligation to provide safe, adequate, and proper service at just
18 and reasonable rates, and that there is no mandate or authority to implement the
19 Company’s ES proposals on a rate regulated basis. I further find that the Company’s

⁶ N.J.S.A. 48:2-23 and N.J.A.C. 14:3-3.1.

⁷ N.J.S.A. 48:2-21.

1 proposals are speculative in nature, and not designed to resolve any actual reliability
2 needs identified by the Company. Finally, I note that if there are actual reliability
3 requirements for which energy storage represents the least-cost solution, the Company
4 can implement that solution under its current regulatory authorization.

5 I find that the Company’s Cost-Benefit analysis, provided in response to a data
6 request, is not supported by testimony and is predicated on a speculative assessment of
7 benefits that is inconsistent with other materials provided by the Company.

8 While there are elements of the Company’s proposals that may be beneficial for
9 New Jersey, I recommend that the Board not approve these offerings at this time.

10 III. Regulatory Framework for Electric Vehicles

11 Q. Please briefly describe the current regulatory framework for electric vehicles in 12 New Jersey.

13 A. The regulatory framework for EVs has evolved rapidly in the last two years. The
14 centerpiece is New Jersey’s PIV Act, enacted in January 2020, which sets forth the
15 State’s goal of 300,000 light duty EVs registered in the state by the end of 2025, as well
16 as a goal of 2 million registered light duty EVs by 2035, and that 85% of all light duty
17 vehicles sold or leased in the state be EVs by the end of 2040.⁸ The PIV Act further set
18 numerical and locational standards for installation of public chargers in the state by 2025
19 and 2030, including goals for location and quantity of DC Fast Chargers (“DCFC”) and

⁸ N.J.S.A. 48:25-3(a)(1) through –(a)(3).

1 public Level 2 chargers,⁹ and sets increasing goals over time for the percentage of multi-
2 unit dwellings and overnight lodging facilities to host EV chargers.¹⁰

3 Of relevance here, the PIV Act sets forth a mechanism for EV purchase rebates
4 and rebates for the installation of EV charging equipment. Specifically, Section 4
5 establishes an “EV Incentive Rebate Program” which “shall take the form of a one-time
6 payment to the purchaser or lessee of an eligible vehicle.”¹¹ Section 6 states that “[t]he
7 Board of Public Utilities may establish and implement a program to provide incentives
8 for the purchase and installation of in-home electric vehicle service equipment”¹² which
9 “shall not exceed \$500 per person.”¹³ Section 7 establishes a Plug-in Electric Vehicle
10 Incentive Fund, to be administered by the Board and funded from the Societal Benefits
11 Charge (“SBC”) at a level of \$30 million per anum.¹⁴ Finally, the Board is given
12 authority to develop additional incentives for EVSE, “in consultation with the
13 department.”¹⁵

14 Finally, the PIV Act gives the Board flexibility to “adopt policies and programs to
15 accomplish the goals established pursuant to this section,” subject to the PIV Act and

⁹ N.J.S.A. 48:25-3(a)(4) through –(a)(5).

¹⁰ N.J.S.A. 48:25-3(a)(6) through –(a)(7).

¹¹ N.J.S.A. 48:25-4.

¹² N.J.S.A. 48:25-6(a).

¹³ N.J.S.A. 48:25-6(c)(2).

¹⁴ N.J.S.A. 48:25-7.

¹⁵ N.J.S.A. 48:25-6(d)(2).

1 “any other existing statutory authority.”¹⁶ As noted below, the Board is in the process of
2 establishing its policies pursuant to this law.

3 Other New Jersey initiatives addressed EV policy and objectives as well, but do
4 not set forth mechanism to promote EV ownership that have the force of law. In June
5 2019, Governor Murphy established the New Jersey “Partnership to Plug In” and
6 established a goal of having no fewer than 300,000 registered Zero-Emissions Vehicles in
7 the State by 2025. This partnership was memorialized in a Memorandum of
8 Understanding among the New Jersey Department of Environmental Protection (“DEP”),
9 the New Jersey Board of Public Utilities (“Board”) and the New Jersey Economic
10 Development Authority (“EDA”).¹⁷ In January 2020, the State released its updated
11 Energy Master Plan (“EMP”)¹⁸ a policy document which includes a “strategy” to
12 “Reduce Energy Consumption and Emissions from the Transportation Sector.” This
13 strategy included a number of sub-strategies to support the expansion of EV ownership,
14 charging infrastructure, and clean transportation options, including to low-income
15 communities, vehicle fleets, NJ TRANSIT, and medium- and heavy-duty vehicles.

16 The primary policy initiative identified in the EMP to encourage purchase of
17 light-duty vehicles is cash rebates, consistent with the approach established in the PIV
18 Act. The EMP also noted the need “to create a comprehensive ‘EV Ecosystem’ that

¹⁶ N.J.S.A. 48:25-3(b).

¹⁷ <http://liberty.state.nj.us/governor/news/news/562019/approved/20190603b.shtml>.

¹⁸ State of New Jersey, “2019 New Jersey Energy Master Plan, Pathway to 2050,” available at [https://www.nj.gov/emp/docs/ \(viewed 8/31/20\)](https://www.nj.gov/emp/docs/(viewed%208/31/20)).

1 provides consumers with easy access to charging infrastructure for EVs.”¹⁹ Among the
2 policy directions identified in the EMP to promote increased charging infrastructure was
3 a “ ‘shared responsibility’ model for EV infrastructure that promotes appropriate roles for
4 both the utility and for private investors.”²⁰ The EMP also identified rate reform as an
5 important part of the State’s strategy, to address the risk that demand charges would
6 make charging at low-utilization locations prohibitively expensive, “particularly in multi-
7 family dwellings or at small-to-medium size commercial businesses.”²¹

8 The PIV Act was enacted in January 2020, shortly after the final EMP was
9 released. On May 18, 2020, Board Staff distributed a “Straw Proposal” for review and
10 comment proposing how the Board would implement the PIV Act.²² In this proposal,
11 Staff elaborated on its interpretation of the concept of a “ ‘Shared Responsibility’
12 business model for Ownership, Maintenance and Advertising of EV Infrastructure.”²³
13 Staff’s view of this model was that “EDCs invest in (and earn on) the wiring and
14 backbone infrastructure necessary to enable a robust EV Ecosystem and the private sector
15 owns, operates and advertises the EVSE.” Staff recommended that EDC ownership of
16 charging infrastructure be limited to a role as “party of last resort”, investing in EVSE
17 only where necessary when the private sector has failed to do so. The Straw Proposal

¹⁹ EMP, page 64-65.

²⁰ EMP, page 66.

²¹ *Id.*

²² I/M/O Straw Proposal on Electric Vehicle Infrastructure Build Out, BPU Docket No. QO20050357, Straw Proposal, May 18, 2020 (“EV Straw Proposal”). Rate Counsel submitted comments on the Straw Proposal on June 17, 2020.

²³ Straw Proposal, page 7.

1 does not specify how such situations are to be identified, but it is clear that the private
2 sector is to be given the first opportunity to meet public charging needs before a utility
3 would step in.²⁴ The Straw Proposal specifically limited the role of utilities in owning or
4 investing in EVSE beyond “charger-ready” infrastructure due, in part, to the risk of
5 charging technology becoming obsolete:

6 *...the portions of the EV Ecosystem that are likely to become obsolete the*
7 *fastest are the EVSE. Staff expects that as technology changes and*
8 *various standards come and fade away, there is significant risk*
9 *associated with this rapid pace of technological change, particularly*
10 *with respect to networking hardware and payment systems, and the*
11 *software tied to this equipment. Further, EDCs have no particular*
12 *expertise in siting, maintaining, marketing or operating EVSE, whereas*
13 *EVSE Infrastructure Companies specialize in providing these services.*²⁵

14 **Q. Has Staff’s Straw Proposal been accepted as policy guidance by the Board as of this**
15 **writing?**

16 A. No. The Board has not yet issued a ruling on the Straw Proposal, nor has it established
17 specific rules or roles for utilities and other entities in building out the EV ecosystem in
18 New Jersey. This process is ongoing.

²⁴ Straw Proposal V(A): “Staff proposes that charging station infrastructure, or EVSE, costs will be generally borne by private investors, with no recourse to ratepayer funds, except where the EDC acts as the party of last resort, where investment in EVSE is not occurring, or is not occurring in specific geographic areas.”

²⁵ Straw Proposal, page 8.

1 **Q. When did PSE&G file its EV program, relative to the events described above?**

2 A. PSE&G filed its program in October 2018, predating all of the developments described
3 above.

4 **Q. Has PSE&G amended its petition in response to these developments since its initial**
5 **filing?**

6 A. No.

7 **Q. What authority did PSE&G cite in its filing for utilities to offer electric vehicle and**
8 **energy storage programs such as those the company has proposed on a rate**
9 **regulated basis?**

10 A. None. The Company’s filing states only that “Recent legislative and executive action in
11 New Jersey has demonstrated a general State policy in support of electric vehicles and
12 energy storage projects.”²⁶ The Company goes on to discuss the goals set forth in the
13 CEA, the Governor’s Executive Order 28 calling for a revised EMP, and the fact that
14 New Jersey is “a partner” in the California zero emission vehicle program.²⁷

²⁶ Petition, ¶ 6.

²⁷ Petition, ¶s 6-7.

1 **Q. Is this unusual?**

2 A. Yes. In general New Jersey utilities cite specific regulatory authority supporting the relief
3 they request. For example, in the Company’s recent CEF-EE filing,²⁸ the Company
4 states:

5 “Pursuant to Section 13 of P.L. 2007, c. 340...codified in part as
6 N.J.S.A. 48:3-98.1(a)(1), an electric or gas public utility may, among
7 other things, provide and invest in energy efficiency and conservation
8 programs in its service territory on a regulated basis. An electric or gas
9 public utility’s investment in energy efficiency and conservation
10 programs is eligible for rate treatment approved by the Board, including
11 a return on equity, or other incentives or rate mechanisms. N.J.S.A. 48:3-
12 98.1(b).²⁹

13 **Q. In your opinion, are PSE&G’s proposed EV program offerings necessary and well-**
14 **designed to meet the goals set forth above?**

15 A. Only partly. PSE&G has proposed solutions to encourage off-peak charging, to address
16 the demand charge obstacle identified in the EMP, and to make EVSE ownership and
17 home-charging possible for residents of multi-unit buildings. Whether these mechanisms
18 would be effective or not is an open question, as will be discussed below. There are other
19 elements of PSE&G’s EV proposals, also discussed below, that seem only tangentially
20 related to the State’s goals and that I do not believe would be effective in promoting

²⁸ In the Matter of the Petition of Public Service Electric and Gas Company for Approval of its Clean Energy Future-Energy Efficiency (“CEF-EE”) Program on a Regulated Basis, BPU Docket Nos. GO18101112 and EO18101113 (hereinafter “CEF-EE Filing”).

²⁹ CEF-EE Filing, ¶ 5.

1 additional EV ownership. In general, it does not appear that the Company’s proposals are
2 aligned with the State’s goals, but certain of its proposed offerings contain reasonable
3 steps that could help alleviate obstacles, and might provide valuable information that will
4 support future program design.

5 Finally, I will say again that the State goals articulated above are just goals, and
6 no specific role or guidelines for utilities to invest in EV infrastructure has been issued by
7 the Board.

8 **Q. If you believe that there are elements of PSE&G’s offerings that could be beneficial**
9 **to overcoming obstacles to EV development and provide valuable information, why**
10 **are you recommending that the Board deny the Company’s petition at this time?**

11 A. A finding that an initiative could have public benefits, or that it is aligned with State
12 policy in a general sense, does not mean that it is suitable for ratepayer funding through
13 utility bills. Regulated electric utilities in New Jersey have a specific mandate to provide
14 reliable electric service at reasonable cost in their monopoly service territories, and are
15 granted the opportunity to earn a return on prudently-incurred costs of capital investment
16 to do so. On rare occasions, the Legislature has determined that certain additional
17 functions qualify for rate-regulated investments by New Jersey utilities, most notably by
18 specifically authorizing energy efficiency investments on a rate-regulated basis.³⁰ In that
19 case, the Board set forth specific regulations and Minimum Filing Requirements

³⁰ N.J.S.A. 48:3-98.1(a)(1).

1 (“MFR”),³¹ and has periodically reviewed utility petitions for program design and cost
2 recovery accordingly. The Legislature set forth additional energy efficiency program
3 requirements and cost recovery principles for utilities under the CEA, and the Board
4 issued its implementation rules and MFRs for that law in the CEA Order.

5 No such special ratepayer-funded utility function has been carved out for the
6 support of private EV ownership. While the Legislature set forth a goal of expanded EV
7 infrastructure and ownership in New Jersey, and it authorized the Board to “adopt
8 policies and programs to accomplish the goals established pursuant to this section,”³²
9 there is no specific provision authorizing ratepayer funded utility investments in this area.
10 The Board is currently in the process of defining a role for utilities in supporting EV
11 infrastructure in its consideration of Staff’s EV Straw Proposal under Docket No.
12 QO20050357. It would be premature for the Board to take the extraordinary step of
13 granting ratepayer funding for the Company’s proposals through this petition, not only in
14 the absence of specific legislative authority, but before it even completes its own
15 consideration of an appropriate role for utilities in this area.

16 Finally, it should be noted that utility ratepayers are already funding a large
17 number of New Jersey’s environmental priorities, including energy efficiency programs,

³¹ Appendix A to the May 8, 2008 Board Order in I/M/O Electric Public Utilities and Gas Public Utilities Offering Energy Efficiency and Conservation Programs, Investing in Class I Renewable Energy Resources, and Offering Class I Renewable Energy Programs in their Respective Service Territories on a Regulated Basis Pursuant to N.J.S.A. 48:3-98.13, BPU Docket No. EO08030164.

³² N.J.S.A. 48:25-3(b).

1 the Renewable Portfolio Standard (“RPS”),³³ the carbon emissions costs incorporated in
2 the cost of electric energy under the Regional Greenhouse Gas Initiative (“RGGI”), the
3 Zero Emissions Credits (“ZECs”) supporting nuclear generation plants in New Jersey,
4 the costs to support offshore-wind, and the various clean energy programs administered
5 by the State. While many of these may be appropriately embedded in electric utility rates,
6 it is a simple fact that it is a regressive way to fund state policy priorities, and these costs
7 are particularly burdensome to lower-income ratepayers for whom utility bills are already
8 a significant portion of their income. Electric utilities certainly have a role to play in
9 ensuring reliable electric service is available to support the EV ecosystem. This does not
10 mean it is appropriate for them to invest in EV charging equipment in homes and
11 businesses at ratepayer expense.

12 **IV. Proposed EV subprogram offerings**

13 **Q. What are the specific Electric Vehicle offerings proposed by PSE&G in its Petition**
14 **in this matter?**

15 A. Table 1 lists each of the proposed EV offerings, deployment goals, and budgets as
16 reported on page 4 of the direct testimony of PSE&G witness, Karen Reif.

³³ The RPS requirement has been periodically increased. The current RPS is mandated by the New Jersey Clean Energy Act, N.J.S.A. 48:3-87(d), and its implementing Board Order, BPU Docket Nos. ER18040356 and EO18111250, Decision and Order (revised Dec. 28, 2018).

1

TABLE 1. PSE&G PROPOSED EV OFFERINGS, DEPLOYMENT LEVEL, AND BUDGET

Subprogram	Description	Target Number of Charging Stations	Investment Costs (\$ million)
Residential Smart Charging	Incentives towards Level 2 networked EV Chargers at residences	37,000	\$93
Level 2 Mixed-Use Charging	Deployment of electrical infrastructure and incentives for Level 2 chargers	2,200	\$39
Public DC Fast Charging	Deployment of electrical infrastructure and incentives towards or ownership of DC Fast Chargers	450	\$62
Vehicle Innovation	- Incentives for electric school buses and charging equipment; - Open solicitation for customized electrification projects	60	\$45
Cross-Subprogram Investment	Investment that is common to all subprograms and includes investment in IT and education and outreach.		\$22
<i>Total Investment (\$ million)</i>			\$261

2

3 **Q. Did PSE&G provide a cost-benefit analysis in support of its proposed EV**
4 **subprograms?**

5 A. No.

6 **Q. Has PSE&G quantified the impact of its proposed EV subprograms on EV adoption**
7 **rates in its service territory?**

8 A. No. In Discovery Request RCR-POL-0001(a), Rate Counsel requested “all analyses
9 prepared by or for the Company of the expected impact of each of PSE&G’s Residential
10 Smart Charging Subprograms on... Number of electric vehicles (“EVs”) purchased and
11 EV miles driven by PSE&G customers.” The Company did not provide or identify any
12 such analysis.

1 **Q. Does the Company cite any environmental benefits to its residential charging**
2 **program, other than to incentivize the purchase of home EV chargers?**

3 A. Yes. The Company cites the environmental benefits associated with its program.
4 Although the Company has provided no analysis to support its assertions, Ms. Reif
5 claims that “[t]he increased EV adoption resulting from PSE&G’s four EV subprograms
6 would remove approximately 16 million net tons of CO₂ emissions through the period
7 2035.”³⁴ However, as neither Ms. Reif nor any other witness quantifies how PSE&G’s
8 subprograms will contribute to increased adoption of EVs, these claims of environmental
9 benefits cannot be verified.

10 **Q. Should the Board accept this assertion?**

11 A. I believe it is generally true that driving EVs in New Jersey produces less CO₂ than
12 driving conventional automobiles, and if the State meets its ambitious EV goals, there
13 would be a significant reduction in CO₂ emissions from the transportation sector.
14 However, what has not been established or even projected is the benefit of PSE&G’s
15 specific proposals toward achieving those goals. As I discuss herein, I believe there
16 would be a high level of free ridership associated with the Company’s offerings, which
17 means that much of the environmental benefit could not be attributed to the programs
18 themselves. Further, as noted above, the Company’s claim of environmental benefits was
19 provided with no supporting analysis, so I would recommend that the Board assign it no
20 weight.

³⁴ Reif Direct, page 5 at 2-4.

1 **Q. Do you have any other general concerns about the Company’s proposed EV**
2 **charging subprograms?**

3 A. Yes. In general, I am concerned about a “reverse Robin Hood” effect wherein all of
4 PSE&G’s ratepayers, other than Universal Service Fund participants, would be required
5 to subsidize a small subset of higher-income customers who can afford a luxury EV.

6 **Q. Does the Company acknowledge that its EV programs will mostly serve high-income**
7 **customers?**

8 A. Not really, The Company claims that:

9 [t]he EV subprograms will support the widespread adoption of EVs in all
10 sectors of the economy, including multi-family and low-income
11 customers, as well as customers residing in communities most impacted
12 by air pollutants and GHGs. The subprograms will utilize multiple
13 approaches to engage customers and encourage customer participation.
14 These approaches include collaboration with advocacy and community
15 groups, online advertising, e-mail marketing, and direct mailings,
16 amongst other methods.³⁵

³⁵ Petition, ¶ 12.

1 **Q. Does this address your concern regarding whether the Company’s proposed**
2 **Residential Smart Charging subprogram will primarily benefit higher-income**
3 **customers?**

4 A. No. In my opinion, the inability of low- and moderate-income customers to afford a new,
5 luxury vehicle is not a function of inadequate marketing communications – it is a matter
6 of ability to pay.

7 V. Comments on specific proposed EV subprograms

8 **Q. Please briefly describe the Company’s proposed Residential Smart Charging**
9 **subprogram.**

10 A. According to Ms. Reif, the proposed Residential Smart Charging subprogram is intended
11 to “promote installation of Level 2 networked EV Chargers at residences in the PSE&G
12 territory, and provide customer incentives to encourage charging during off-peak
13 periods,”³⁶ specifically for “residential customers in the PSE&G territory that live in
14 single-family residences or multi-unit dwellings of four units or less.”³⁷ PSE&G proposes
15 to pay for both a charger and installation thereof, with a cap of \$2000 per installation. In
16 addition, PSE&G would upgrade utility service to the home, if necessary, to support the
17 additional load. Although paid for by ratepayers, the EV-driving customer would own,
18 operate, and maintain the EV charger.³⁸ In addition, the Company proposes to offer an

³⁶ Reif Direct, page 12 at 8-10.

³⁷ Reif Direct, page 12 at 14-16.

³⁸ Reif Direct, page 13 at 3-14. The Company reserves the right “to adjust the cap in response to market trends on notice to Board Staff and Division of Rate Counsel.”

1 off-bill “rebate in the amount of two cents per kWh for each kWh of EV charging that
2 occurs during off-peak periods.”³⁹ Finally, the Company proposes to initiate a voluntary,
3 vehicle-based data collection program, with unspecified financial rewards for
4 participation to “provide PSE&G with valuable vehicle data that is not available from
5 home charging stations, such as miles traveled and frequency, duration and location of
6 charging sessions that take place outside of the home vehicle location.”⁴⁰

7 **Q. In your view, is this proposed subprogram well-suited to address the barriers to EV**
8 **adoption in New Jersey?**

9 A. No. For example, I do not believe that the cost of a home charger, generally between
10 \$400 and \$1000,⁴¹ is a primary barrier for most New Jerseyans who can otherwise afford
11 electric vehicles – nor has the Company provided any evidence that it is.⁴² I believe that
12 the number one obstacle for most consumers today is the cost of the electric vehicle itself,
13 which ranges from \$37,000 to over \$100,000, and is substantially higher when compared
14 to the cost of a comparable car with an internal combustion engine. Consistent with the

³⁹ Reif Direct, page 13 at 15-16. The Company also reserves the right “to adjust these rebates in response to customer behavior, on notice to Board Staff and Division of Rate Counsel.”

⁴⁰ Reif Direct, page 13 at 20 to page 14 at 7.

⁴¹ For example, the ChargePoint Home Flex Level 2 charger retails for \$699.

<https://www.chargepoint.com/drivers/home/chargepoint-home-flex/>.

⁴² In Discovery Request RCR-POL-0001(a), Rate Counsel requested “all analyses prepared by or for the Company of the expected impact of each of PSE&G’s Residential Smart Charging Subprograms on... Number of electric vehicles (“EVs”) purchased and EV miles driven by PSE&G customers.” The Company did not provide or identify any such analysis.

1 PIV Act, the BPU has attempted to address this issue by offering vehicle rebates of up to
2 \$5000 per vehicle (scaled based on miles of range on a single charge.)⁴³

3 **Q. What are the implications of this observation?**

4 A. There is a significant and growing market for EVs in New Jersey today, with or without
5 utility incentives to support installation of home chargers.⁴⁴ This market is largely higher-
6 income consumers who can afford to be early adopters of this technology, and who can
7 afford to purchase or lease new luxury vehicles.⁴⁵ This demand exists even given
8 limitations to the current charging ecosystem. If these owners and potential owners were
9 to participate in the Company’s residential rebate programs, they would be classic “free
10 riders” – that is, they would get the benefit of ratepayer-subsidized incentives for
11 behavior that they would have done anyway, yielding no net societal benefit.

12 **Q. In your opinion, is providing customers with free at-home EV chargers, plus free**
13 **installation (subject to a cap) and free utility service upgrades consistent with the**
14 **EV ecosystem role set forth for a New Jersey utility such as PSE&G in the PIV Act**
15 **and/or the EV Straw Proposal?**

16 A. No. I do not believe the PIV Act or Board Staff’s Straw Proposal supports this role for
17 utilities under the “shared responsibility” model. This is not consistent with the “wiring

⁴³ The budget for EV rebates was reduced in the third revised budget for Fiscal Year 2020 (extended to September 30, 2020) from \$30,000,000 to \$14,000,000 to support extensions of other NJCEP programs.

⁴⁴ “Projections of Electric Vehicle Adoption in New Jersey”, prepared for ChargeVC by Gabel Associates, Inc. Available at <http://www.chargevc.org/wp-content/uploads/2019/09/ChargeVC-Updated-PEV-Projection-Sept-18-2019.pdf>, pages 11-12.

⁴⁵ *Ibid.*, pages 13-14.

1 and backbone infrastructure” role set out by Staff. Further, I believe this would be subject
2 to a high level of free ridership, as customers who would have purchased EVs in any case
3 would now get utility service upgrades, chargers, and installations with the cost
4 socialized to all ratepayers – including the many ratepayers who cannot possibly afford a
5 new luxury vehicle.

6 **Q. Regarding the off-peak rebate element of the proposed Residential Smart Charging**
7 **subprogram, is providing customers with an off-bill rebate of two cents per kWh for**
8 **off-peak charging an appropriate role for a New Jersey utility such as PSE&G?**

9 A. Innovative rate design that encourages off-peak charging is a reasonable role for New
10 Jersey utilities, and “rate reform” is identified in the EMP as an important strategy for
11 expanding EV ownership and promoting the affordability of charging. If this aspect of the
12 EV Straw Proposal is authorized by the Board under Docket No. QO20050357, this kind
13 of rate incentive may be an appropriate utility role.

14 However, I do not think the Company’s proposal is well-conceived or likely to be
15 effective. The very largest EV batteries available today have an energy capacity of under
16 90 kWh, and a typical charge is much smaller than that because the battery will very
17 rarely be fully discharged. At the same time, many EV drivers often charge at no
18 marginal cost to themselves at their workplace or through a charging network program. It
19 seems unlikely that a rebate of a few dollars a month, at most, will weigh strongly against
20 convenience to customers who are able to purchase luxury vehicles. Thus, the
21 effectiveness of this rebate toward getting customers to charge off-peak is questionable.

1 **Q. Has PSE&G explained why it believes two cents per kWh is an appropriate rebate**
2 **amount to encourage off-peak charging?**

3 A. In response to discovery, the Company identified this amount as “based on the difference
4 between PSE&G’s standard residential service distribution rate and off-peak distribution
5 time-of-use rate.”⁴⁶ In other words, the rebate level is based on the Company’s existing
6 rate structure, and is not derived from any research or data on effective incentives for off-
7 peak EV charging; nor is the rebate based on any analysis of the cost of providing electric
8 service for EV charging.

9 **Q. Please briefly describe the Company’s proposed Level 2 Mixed-Use Charging**
10 **subprogram.**

11 A. Under this proposed subprogram, PSE&G would “deploy the Make-Ready Infrastructure
12 and will also provide rebates, tiered by customer type, towards the upfront cost of the
13 Level 2 charging equipment and installation.”⁴⁷ This proposed subprogram is targeted at a
14 variety of customers that would not be eligible for the residential charging program, such
15 as larger multi-family buildings, workplaces, fleet operators, municipalities, and
16 overnight lodgings.⁴⁸ The specific rebate level would be tiered based on the type of entity
17 to receive the rebate with the highest level (initially 80%) available for multi-family
18 buildings and the lowest level (initially 20%) available for private entities. Finally,
19 PSE&G proposes to give participants the option of paying back their share of the costs of

⁴⁶ PSE&G response to Staff Discovery Request S-PSEG-REV-0011.

⁴⁷ Reif Direct, page 15 at 8-10.

⁴⁸ Reif Direct, page 16 at 20 to page 17 at 2.

1 the Level 2 charging equipment and installation through two-year, interest-free loans with
2 on-bill repayment.⁴⁹

3 **Q. Would chargers installed under this subprogram be available for use by the public?**

4 A. My understanding is that the program is generally geared toward private entities that
5 desire Level 2 charging for their own employees, patrons, or other purposes. However, it
6 is possible that the customer would be an Electric Vehicle Service Provider (“EVSP”) or
7 an establishment such as an inn that provides charging as a service to its customers.

8 **Q. In your view, is this proposed subprogram well-suited to address the barriers to EV**
9 **adoption in New Jersey, and consistent with the EV regulatory environment in the**
10 **State?**

11 A. Some elements of this subprogram are geared toward making ownership of EV charging
12 equipment more accessible and affordable to low- and moderate-income families, who
13 are more likely to reside in multi-family units, for example by reducing the up-front costs
14 through rebates and zero-interest loans for the customers’ share of the cost. I believe
15 these elements are consistent with the goal in the EMP to increase clean transportation
16 options for low- and moderate-income residents, and with the goal established in the PIV
17 Act for an increasing share of multi-unit dwellings to host EV chargers.⁵⁰ However, while
18 it may be an appropriate utility role to provide “make-ready” infrastructure for private
19 entities for their own use or commercial purposes, I do not believe that providing rebates

⁴⁹ Reif Direct, page 18 at 5-15.

⁵⁰ N.J.S.A. 48:25-3.

1 for charger and installation costs to these customers is consistent with a utility’s function
2 or with any mandate under the PIV Act.

3 **Q. Please briefly describe the Company’s proposed Public DC Fast Charging**
4 **subprogram.**

5 A. As described by Ms. Reif, PSE&G proposes to offer a DC Fast Charging (“DCFC”)
6 subprogram under which the Company will “deploy Make-Ready electrical infrastructure
7 and either own or provide financial incentives towards the upfront cost of DC Fast
8 Charging equipment. PSE&G will also provide financial incentives to defray electricity
9 costs.”⁵¹ Specifically, PSE&G proposes to provide rebates for 80% of the charger and
10 installation cost for “public entities”, and 40% for “non-public entities.”⁵² PSE&G
11 proposes to give participants the option of paying back their share of the costs through
12 two-year, interest-free loans with on-bill repayment.⁵³ PSE&G would implement the
13 utility ownership model “if the competitive market is unable to support the DC Fast
14 Charging station development using the Third-Party Ownership Model.”⁵⁴

15 **Q. Would all chargers deployed under this subprogram be available to the public?**

16 A. Yes.

⁵¹ Reif Direct, page 19 at 3-5.

⁵² Reif Direct, page 21 at 9-13. In response to discovery request EVgo-PSEG-0001, the Company defines “public entities” as local government units, and “non-public entities” as “commercial entities that will provide unrestricted public access to the charging stations, such as retail stores and malls with large parking lots.”

⁵³ Reif Direct, page 21 at 14-15.

⁵⁴ Reif Direct, page 19 at 11-12.

1 **Q. In your view, is this proposal consistent with Staff’s proposal for a “shared**
2 **responsibility model” for EV infrastructure development in the State?**

3 A. No. Under the “shared responsibility model” put forward by Staff in the Straw Proposal,
4 EDCs would “invest in, and earn on, the wiring and backbone infrastructure necessary to
5 make locations Charger Ready as well as on any Board-approved EVSE owned by the
6 EDCs.”⁵⁵ There is no support in the Straw Proposal, or in any New Jersey law or rule that
7 I am aware of, for utility rebates to defray the upfront costs of commercial DCFC
8 equipment. To the contrary, Staff proposed “that charging station infrastructure, or
9 EVSE, costs will be generally borne by private investors, with no recourse to ratepayer
10 funds, except where the EDC acts as the party of last resort, where investment in EVSE is
11 not occurring, or is not occurring in specific geographic areas.”⁵⁶ Under the Straw
12 Proposal, this last case may support PSE&G’s “utility ownership” model in certain very
13 limited cases, but only *after* the market fails to produce a competitive supplier in a
14 location identified as important for establishing adequate geographical coverage.

15 **Q. Please briefly describe the Company’s proposed Vehicle Innovation subprogram.**

16 A. Under this subprogram, PSE&G proposes to spend \$33 Million for “grants to public
17 school districts to cover the cost of purchasing electric school buses, as well as
18 deployment of the Make-Ready infrastructure and financial incentives towards charging

⁵⁵ EV Straw Proposal, page 2.

⁵⁶ EV Straw Proposal, page 7.

1 equipment.”⁵⁷ This offering would support 102 grants of \$300,000 per bus. For efficiency
2 of resources, PSE&G would “encourage participation from school districts with needs for
3 more than one bus.”⁵⁸ Further, the Company proposes to “target school districts across
4 the socioeconomic spectrum, including urban districts, to ensure the benefits of the
5 program extend to low-income school children.”⁵⁹

6 The Company also proposes to spend \$2 million per year to support “innovative,
7 customized projects that will be gathered from respondents during an open solicitation
8 process.”⁶⁰

9 **Q. With regard to the school bus subprogram, is PSE&G proposing to cover the full**
10 **cost of electric school buses and charging infrastructure?**

11 A. Essentially, yes. Citing an Electric School Bus Report prepared by consultant VEIC for
12 PSE&G, Ms. Reif states that “[c]urrently, electric school buses are estimated to cost
13 between \$300,000 and \$325,000, making them two to three times more expensive than
14 conventional diesel buses.”⁶¹

15 **Q. Is funding electric school buses an appropriate use of ratepayer funds in New**
16 **Jersey?**

17 A. No. As Rate Counsel noted in its comments on the Straw Proposal:

⁵⁷ Reif Direct, page 27 at 12-14.

⁵⁸ *Id.* at 16-18.

⁵⁹ *Id.* at 18-20.

⁶⁰ *Id.*, page 27 at 21 to page 28 at 1.

⁶¹ *Id.*, page 32 at 14-15.

1 New Jersey public utility law has developed safeguards for the respective
2 property rights and obligations of ratepayers and public utility
3 companies. An EDC may recover only the fair value of prudent
4 investments in utility property that is used and useful in providing public
5 utility service. Public utility service must be safe, adequate and proper.
6 Utility rates must be “just and reasonable.” A related principle is that
7 costs should be allocated to the party who causes the utility to incur
8 them, i.e., the “cost causation” principle. In other words, a party that
9 wants and will benefit from a public utility investment or service should
10 pay for it... The provision of electric transportation equipment is not a
11 public utility function... An EDC certainly may not use ratepayer funds
12 to purchase an electric school bus and donate it to a school district or
13 their transportation contractor, nor donate to the school or contractor the
14 incremental cost of an electric school bus. Such equipment would not be
15 used and useful in providing public utility service. The same principles
16 prohibit using ratepayer funds to purchase electrically powered motor
17 vehicles or other equipment to be owned and used by a port authority,
18 transportation agency or other entity.⁶²

19 I do not question the significant health benefits of reducing particulate pollution
20 that harms low-income children in New Jersey. However, the question before the Board
21 is whether this is an appropriate use of ratepayer funds, consistent with the standards of
22 public utility ratemaking. I reassert that it is not.

⁶² Rate Counsel Comments on EV Straw Proposal, June 17, 2020, pages 7-8.

1 **VI. Cost Recovery and Rate Design**

2 **Q. How does PSE&G propose to recover the costs of its proposed EV subprograms?**

3 A. PSE&G’s proposal for cost recovery is discussed in detail in the testimony of Rate
4 Counsel witness, Dante Mugrace. The rate design proposals and implications of the
5 Company’s EV subprograms are discussed in detail by Rate Counsel witness, David E.
6 Peterson. Briefly, PSE&G proposes to create an EV component of a new Technology
7 Innovation Charge (“TIC”) to the Company’s tariff, to be called the Clean Energy Future-
8 Electric Vehicle Component (“CEF-EVC”) that is “proposed to be applicable to all
9 electric rate schedules on an equal cents per kilowatt-hour basis in the same manner as
10 currently utilized for all electric components” of the Company’s Green Program
11 Recovery Charge, or “GPRC”.⁶³

12 **Q. Does this raise concerns for you?**

13 A. Yes. I raised earlier my general concern that funding EV infrastructure, beyond that
14 required for the provision of reliable electric service, is beyond the scope of an electric
15 utility’s franchise in New Jersey. Even if the costs of EV infrastructure were to be
16 incurred by a utility and recovered in rates, these costs should be borne by EV drivers,
17 and not socialized to other ratepayers who do not own, and cannot afford, these premium
18 products. As Rate Counsel noted in its comments on the Straw Proposal, “Requiring
19 ratepayers as a whole, many of whom may never be able to afford these luxury vehicles,

⁶³ Direct testimony of Stephen Swetz, page 11 at 17 to page 12 at 5.

1 to subsidize those who can afford them, is wholly inequitable, and is not made up for by
2 the fact that there may be system benefits several decades from now.”⁶⁴

3 The greatest benefit from EV ownership and operation accrues to the EV owner
4 through reduced fuel cost and operating expense. Because today’s EVs (and those for the
5 foreseeable future) are luxury vehicles, these benefits are likely to be overwhelmingly
6 captured by the higher-income customers who can afford such cars. It is hard to fathom
7 why the costs of the utility’s offerings should be socialized to *all* customers in a class,
8 including low- and moderate-income customers whose disposable income level prohibits
9 early-adoption of such vehicles, when the benefits will overwhelmingly accrue to higher-
10 income customers.

11 **Q. Are the Company’s proposed EV subprogram offerings “energy efficiency”**
12 **programs, in the sense envisioned in the New Jersey Law?**

13 A. I am not an attorney, but a plain reading of the N.J.S.A. 48:3-98.1(d) suggests that they
14 are not. The definition of “Energy efficiency and conservation program” is given
15 therein as:

16 ...any regulated program, including customer and community education
17 and outreach, approved by the board pursuant to this section for the
18 purpose of conserving energy or making the use of electricity or natural
19 gas more efficient by New Jersey consumers, whether residential,
20 commercial, industrial, or governmental agencies.

⁶⁴ Rate Counsel Comments on Straw Proposal, June 17, 2020, page 3.

1 The Company’s proposals certainly do not make the use of electricity or natural
2 gas more efficient by New Jersey consumers; in fact, if anything they would lead to the
3 purchase and consumption of *more* electricity by the Company’s customers.⁶⁵ In this
4 sense, the proposed programs may be viewed more as a market development initiative for
5 PSE&G, clearly an inappropriate use of ratepayer funds, than as an energy efficiency
6 program.

7 In addition, in contrast to all Board-approved energy efficiency programs that I
8 am aware of, there is no requirement that the customer selects a more efficient device (in
9 this case an energy-efficient EV or EV charger) from among those on the market to
10 qualify for an incentive – merely that it be capable of charging an electric car.

11 **Q. What are the implications of the anticipated increase in kWh sales attributable to**
12 **the EV programs?**

13 A. All else being equal, the increased adoption of EVs will lead to increases in kWh sales
14 which will undoubtedly lead to greater utility revenues and, in turn, greater profits for
15 utility shareholders. In that sense, PSE&G’s proposed EV programs may be viewed as
16 market development activities. In a competitive market, the cost of market development
17 activities is typically absorbed by shareholders in anticipation of future profits. In
18 contrast, PSE&G seeks to recover the cost of this program from its customers.

⁶⁵ The EMP estimates that fully electrifying the transportation and building industries in New Jersey will increase the use of electricity by as much as 2.3 times by 2050. EMP, p.176.

1 VII. Regulatory Framework for Electric Storage

2 **Q. Turning now to the energy storage subprograms proposed by PSE&G in this**
3 **matter, please briefly describe the current regulatory framework for electric storage**
4 **investments in New Jersey.**

5 A. The Clean Energy Act mandated that the Board initiate an analysis of the need for,
6 benefits of, and costs of energy storage in New Jersey, and submit a report to the
7 Governor. The study was to “recommend ways to increase opportunities for energy
8 storage and distributed energy resources in the State, including any recommendations for
9 financial incentives to aid in the development and implementation of these technologies
10 by public and private entities in the State.”⁶⁶

11 The CEA further mandated that “No later than six months after completion of the
12 report, the Board shall initiate a proceeding to establish a process and mechanism for
13 achieving the goal of 600 megawatts of energy storage by 2021 and 2,000 megawatts of
14 energy storage by 2030.”⁶⁷

15 The energy storage analysis (“ESA”) was completed by Rutgers University in
16 May 2019⁶⁸ and concluded as follows:

17 This technical analysis of ES shows that it can play an important role in
18 New Jersey’s sustainable energy transition. New opportunities are arising

⁶⁶ N.J.S.A. 48:3-87.8(1)(c).

⁶⁷ N.J.S.A. 48:3-87.8(1)(d).

⁶⁸ Rutgers University, New Jersey Energy Storage Analysis (ESA) Final Report, May 23, 2019. Available at: <https://www.bpu.state.nj.us/bpu/pdf/commercial/New%20Jersey%20ESA%20Final%20Report%2005-23-2019.pdf>.

1 to apply mature technologies and gain experience with emerging
2 technologies in the service of a cleaner, more resilient, and more cost-
3 effective electric power system. These opportunities await at the bulk
4 power level, distribution system level, and behind-the-meter at
5 customers' sites...Electrochemical battery technologies are beginning to
6 find cost-effective applications, with Li-ion the current leader. Batteries
7 cost-effectively provide ancillary services to the bulk power system.
8 They hold near-term promise, as costs come down, to help increase
9 hosting capacity for decentralized solar PV on certain distribution
10 systems; and increase resilience in combination with solar PV on the
11 customer side of the meter for high resilience users such as hospitals,
12 hotels, and supermarkets. With further cost reductions, ES can help with
13 grid stabilization for [offshore wind] projects and EV charging stations.
14 ES can enable several of the key transformations needed to support New
15 Jersey's energy economy, and policymakers have the necessary tools to
16 encourage wider deployments. Fair and efficient policymaking will
17 encourage adoption of ES technologies in applications where they are
18 cost-effective and well suited, while incentivizing emerging, game-
19 changing applications that may soon become feasible. As with any policy
20 that has transformative aspirations, a key aim should be learning from
21 experience, and adapting both means and ends as evidence accumulates.
22 This report provides a starting point in that continuing process.⁶⁹

23 To my understanding, the Board has not yet initiated the proceeding mandated
24 under N.J.S.A. 48:3-87.8(1) (d).

25 The 2019 Energy Master Plan reiterated the quantitative goals from the CEA with
26 a particular emphasis on the need for storage for renewable energy integration

⁶⁹ ESA, page 177.

1 applications.⁷⁰ The EMP further noted that “Energy storage can provide numerous
2 services to New Jersey’s energy system, such as load balancing, frequency regulation,
3 and resiliency services. In particular, storage is one of the few resources that can provide
4 diurnal balancing as the state increases the amount of renewable energy on the grid.”⁷¹
5 With respect to battery storage in particular (the focus of PSE&G’s ES offerings in this
6 matter) the EMP states, “wholesale market revenues alone are insufficient to make
7 battery storage a reality, and New Jersey does not currently have a means of pricing the
8 benefits that batteries can provide at the distribution level. New Jersey is committed to
9 adopting changes in regulatory policy that recognize the full wholesale and distribution
10 value of batteries.”⁷²

11 Thus New Jersey policymakers have expressed a goal for rapid deployment of
12 additional energy storage, but do not yet have a clear policy or mechanisms in place for
13 incentivizing and compensating such investments.

14 **Q. Has the Board adopted changes in regulatory policy as envisaged in the Clean**
15 **Energy Act and the EMP to “recognize the full wholesale and distribution value of**
16 **batteries?”**

17 **A.** Not as of this writing.

⁷⁰ EMP, page 127, Goal 2.3.6.

⁷¹ *Id.*

⁷² *Ibid.*, page 128.

1 **Q. Does PSE&G need Board approval in this docket to implement cost-effective**
2 **distribution system solutions using battery storage?**

3 A. In my view, it does not. PSE&G has an obligation to provide low-cost, reliable service to
4 its customers using whatever technology it deems most appropriate, subject to prudence
5 review in a rate case by the Board. For example, if distribution system expansion can be
6 avoided at a cost savings using energy storage for a few peak hours, the Company has an
7 obligation to do so – it does not need special pre-approval from the Board in a generic
8 energy storage docket. What the Company does not have authority to do is to engage in
9 *non-cost-effective* pilot programs for research and development purposes at ratepayer
10 expense.

11 **VIII. Proposed ES Program Offerings**

12 **Q. What are the specific Energy Storage offerings proposed by PSE&G in its petition**
13 **in this matter?**

14 A. Table 2 lists each of the proposed ES offerings, deployment goals, and budgets as
15 reported on page 5 of the direct testimony of PSE&G witness Jorge L. Cardenas.

1 **TABLE 2. PSE&G PROPOSED ES OFFERINGS, DEPLOYMENT LEVEL, AND BUDGET**

Subprogram	Description	Installations	Storage MW	Program Cost (\$ million)
Solar Smoothing	ESS used to smooth short-term changes in voltage due to intermittent generation	5	10	\$ 13.1
Distribution Deferral	ESSs that resolve forecasted overloads on the system	7	13	\$ 38.6
Outage Management	Deploy fleet of mobile ESSs for contingency resources during substation construction	6	6	\$ 20.0
Microgrids for Critical Facilities	Provide capital to support the development of microgrids	1 to 4	2	\$ 25.7
Peak Reduction for Public Sector Facilities	ESSs sited at public sector facilities and deployed to reduce peak demand	4	4	\$ 11.9
Total		23-26	35	\$ 109.4

2

3 **Q. Did PSE&G provide a cost-benefit analysis in support of its proposed ES programs?**

4 A. The Company did not provide a cost-benefit analysis (“CBA”) with its filing; it did
 5 provide a CBA workbook in response to discovery.⁷³ However, this analysis and its
 6 underlying assumptions were not supported by testimony. In addition, the benefits
 7 enumerated in the CBA are inconsistent with those provided in other discovery
 8 responses.⁷⁴

⁷³ Provided in response to Rate Counsel Data Request RCR-POL-0014.

⁷⁴ Specifically, responses to Rate Counsel Discovery Request RCR-POL-13 and RCR-POL-19. In response to Discovery Request RCR-POL-INF-0008(b), the Company explained that “[t]he workpapers provided for responses to RCR-POL-13 and RCR-POL-14 were developed by two different consultants at different times. The CBA was prepared at a later date with refreshed market data, as well as an inclusion of greater quantities of benefits streams.”

1 **Q. Please briefly describe the Company’s proposed “Solar Smoothing” subprogram.**

2 A. Under this proposed subprogram, battery storage technology would be installed along
3 circuits impacted by a large amount of solar photovoltaic generation to help mitigate
4 power quality issues such as voltage fluctuations associated with variable solar energy
5 output.⁷⁵ The Company claims that these systems would also “allow PSE&G to gain
6 further knowledge of the operation and integration of the combination of renewables and
7 storage, and provide infrastructure that enables growth in renewable energy
8 development.”⁷⁶ Finally, Mr. Cardenas states that “[t]he ESSs may also participate in the
9 PJM frequency regulation markets or offer their energy into the wholesale energy
10 markets when favorable to help offset the overall cost of the program.”⁷⁷ PSE&G
11 proposes to implement five such projects over the 5-year program period, with a total
12 storage capacity of 10 MW and a total budget of \$13.1 million.

13 **Q. What is your recommendation to the Board regarding this proposed subprogram?**

14 A. I recommend that the Board reject this proposed subprogram. The Company has not
15 identified a specific need for this subprogram for purposes of providing reliable
16 electricity service at a reasonable cost, beyond a general indication that such technology
17 may be needed at some point in the future for power quality reasons. The Board has no
18 basis to judge whether this approach is a prudent, least-cost use of ratepayer funds in
19 furtherance of the utility’s franchise responsibility. Further, the Board has not established

⁷⁵ Cardenas Direct, page 6 at 8-12.

⁷⁶ *Id.*, page 6 at 20-22.

⁷⁷ *Id.*, page 6 at 22 to page 7 at 2.

1 standards or policies for utility investment in energy storage technology that would
2 justify or support a speculative application such as this.

3 **Q. Please briefly describe the Company’s proposed Distribution Deferral subprogram.**

4 A. Under this proposed subprogram, PSE&G proposes to use battery storage as a “non-wires
5 solution” to defer more costly solutions to potential overload situations on its 13 kV and
6 4 kV distribution systems. The Company states that these solutions “help supplement the
7 operating capacity of the substation transformer (which typically acts as the limiting
8 factor on the system), thereby ensuring that demand can be met during peak periods
9 during the deferral period.”⁷⁸ The Company projects installation of a total of 13 MW of
10 storage in 1 MW to 3 MW increments over five years, with a total cost of \$38.6 million.⁷⁹

11 **Q. What is your recommendation to the Board regarding this proposed subprogram?**

12 A. I recommend that the Board reject this proposed subprogram. The Company has not
13 identified a specific need for this subprogram for purposes of providing reliable
14 electricity service at a reasonable cost, beyond a general indication that such technology
15 may be useful in the future to defer distribution enhancements. The Board has no way to
16 judge whether this approach is a prudent, least-cost use of ratepayer funds in furtherance
17 of the utility’s franchise responsibility. Further, the Board has not established standards
18 or policies for utility investment in energy storage technology that would justify or
19 support such a speculative application.

⁷⁸ *Id.*, page 11 at 1-9.

⁷⁹ *Id.*, page 12 at 11 to page 13 at 8.

1 **Q. Please briefly describe the Company’s proposed Outage Management subprogram.**

2 A. Under this proposed subprogram, the Company would acquire and deploy a total of six
3 mobile battery storage systems to reduce the number of mobile transformers and/or
4 temporary substations necessary to maintain reliability during planned and unplanned
5 outages of its existing substations.⁸⁰ Mr. Cardenas states that “the ESSs may also be
6 mobilized to address outage management conditions ranging from emergency response,
7 to equipment failure, to temporary load relief” and that, when not being used for their
8 primary purpose, “[t]he ESSs also have the capability to participate in the PJM frequency
9 regulation market or offer their capacity into the energy markets.”⁸¹

10 Mr. Cardenas acknowledges that the savings associated with this primary outage
11 management function for the proposed storage systems would be slight;⁸² however,
12 according to Mr. Cardenas, “[t]he core benefit to utilizing storage, however, would be an
13 ability to use the mobile ESSs for many of the other purposes described in this filing
14 when not needed for those contingency situations.”⁸³ PSE&G proposes to acquire six
15 mobile energy storage systems under this subprogram over the five-year program period,
16 each with a storage capacity of 4 MW and a power output of 1 MW, at a total cost of \$20
17 million.⁸⁴

⁸⁰ *Id.*, page 13 at 9 to page 17 at 11.

⁸¹ *Id.*, page 14 at 19 to page 15 at 1.

⁸² *Id.*, page 16 at 9-11.

⁸³ *Id.*, page 16 at 11-13.

⁸⁴ *Id.*, page 17 at 1-11.

1 **Q. What is your recommendation to the Board regarding this proposed subprogram?**

2 A. I recommend that the Board reject this proposed subprogram. The Company has not
3 identified a specific need for this subprogram for purposes of providing reliable
4 electricity service at a reasonable cost, beyond a general indication that such technology
5 may be a useful approach to reducing the need for mobile transformers and temporary
6 substations for future outage management purposes, nor has it even suggested that it is a
7 lower-cost approach for its primary purpose. The Board has no way to judge whether this
8 approach is a prudent, least-cost use of ratepayer funds in furtherance of the utility's
9 franchise responsibility. Further, the Board has not established standards or policies for
10 utility investment in energy storage technology that would justify or support such a
11 speculative application.

12 **Q. Please briefly describe the Company's proposed Microgrids for Critical Facilities**
13 **subprogram.**

14 A. Under this proposed subprogram, the Company "intends to develop, install, and operate
15 microgrids with energy storage that can enable critical facilities within a community to
16 maintain a reliable supply of electricity during an unplanned outage."⁸⁵ Mr. Cardenas
17 states that microgrids, which he claims "may be a part of the next-generation energy
18 grid,"⁸⁶ "supply critical facilities with on-site or networked generation resources, are a
19 means for communities to provide electricity for essential services and shelter during an

⁸⁵ *Id.*, page 17 at 13-15.

⁸⁶ *Id.*, page 18 at 7.

1 extended outage or emergency.”⁸⁷ Although the Company has not yet identified the
2 project configuration it would implement, it based its projection on investment in four
3 microgrid projects, each with a 4 MWh battery system (0.5 MW output capacity) paired
4 with a 1 MW solar array, for a total cost of \$25.7 million.⁸⁸ The solar generation was
5 included because, according to Mr. Cardenas, “it was anticipated that many
6 municipalities would prefer their microgrid be partially supplied from a renewable
7 resource.”⁸⁹

8 **Q. What is your recommendation to the Board regarding this proposed subprogram?**

9 A. I recommend that the Board reject this proposed subprogram. This application represents
10 additional investment at certain customers’ facilities to obtain extremely high levels of
11 power quality that are not available to all ratepayers, and thus should not be funded by all
12 ratepayers. While this may be an appropriate use of energy storage to enhance reliability
13 at critical facilities, these services can be provided by the marketplace and are not an
14 appropriate role for a New Jersey utility.

15 **Q. Please briefly describe the Company’s proposed Peak Reduction for Public Sector**
16 **Facilities subprogram.**

17 A. Under this proposed subprogram, “PSE&G proposes to locate ESSs at public sector
18 facilities to both help provide energy cost management services for the customer, and to

⁸⁷ *Id.* at 3-5.

⁸⁸ *Id.*, page 18 at 10-21.

⁸⁹ *Id.*, page 18 at 19-20.

1 potentially defer traditional distribution upgrades.”⁹⁰ According to Mr. Cardenas, this
2 would bring “one of the fastest growing segments of the storage market” to public sector
3 facilities; it would also benefit the utility and its ratepayers by reducing peak load,
4 potentially facilitating distribution deferral in locations where there are no available sites
5 for utility-owned storage.⁹¹ PSE&G proposes to implement four such systems over the
6 five-year program period, each with a storage capacity of 4 MW and a power output of 1
7 MW, at a total cost of \$11.9 million.⁹²

8 **Q. What is your recommendation to the Board regarding this proposed subprogram?**

9 A. I recommend that the Board reject this proposed subprogram. As Mr. Cardenas
10 acknowledges, this is a growing, cost effective use of storage that is actively being served
11 by the private market.⁹³ Further, the Company has not identified a specific need for this
12 subprogram for purposes of providing reliable electricity service at a reasonable cost,
13 beyond the general idea that reducing peak loads at public sector facilities could,
14 hypothetically, provide distribution deferral benefits to the utility and its ratepayers. The
15 Board has no way to judge whether this approach is a prudent, least-cost use of ratepayer
16 funds in furtherance of the utility’s franchise responsibility. Further, the Board has not
17 established standards or policies for utility investment in storage technology that would
18 justify or support such a speculative application.

⁹⁰ *Id.*, page 19 at 8-10.

⁹¹ *Id.*, page 19 at 7 to page 20 at 21.

⁹² *Id.*, page 21 at 1-12.

⁹³ *Id.*, page 19 at 13-14.

1 **Q. Do you have any final comments on the Company’s proposed ES programs?**

2 A. Yes. I want to be clear that I believe energy storage may well be an invaluable part of a
3 clean energy future, and the applications the Company has identified may well provide
4 benefits to New Jersey. However, as noted above with respect to the Company’s EV
5 proposals, a finding that an initiative could have public benefits, or that it is aligned with
6 State policy in a general sense, does not mean that it is suitable for ratepayer funding
7 through utility bills. Regulated electric utilities in New Jersey have a specific mandate to
8 provide reliable electric service at reasonable cost in their monopoly service territories,
9 and are granted an opportunity to earn a return on prudently-incurred costs of capital
10 investment to do so. Unless the Legislature has determined that certain additional
11 functions qualify for rate-regulated investments by New Jersey utilities, as in the case of
12 certain Board-approved energy efficiency investments, it is not appropriate or reasonable
13 for the utility to go beyond its statutory obligation on a rate regulated basis as the
14 Company has proposed.

15 Unless tied to a specific reliability need, there is no legislative or regulatory
16 provision for a utility to invest in energy storage technology that “may” solve certain
17 operational or reliability purposes in the future. If the investment is tied to a specific
18 need, there is no requirement for special regulatory authorization such as the Company is
19 seeking in this matter. If an investment is prudent and in the service of providing reliable,
20 least-cost service, the utility can and should make that investment in the normal course of
21 its operations.

1 **IX. Recommendations**

2 **Q. What are your recommendations for the Board regarding PSE&G’s proposed EV**
3 **subprogram offerings?**

4 A. I believe that the proposals offered by PSE&G are not consistent with its obligation to
5 provide reliable electric service at the lowest reasonable cost, and that there is no
6 provision in the PIV Act or any Board Order that supports the Company’s EV proposals.
7 I find the EV proposals to be premature as the Board has yet to issue a ruling on Staff’s
8 Straw Proposal or to establish guidelines for utility involvement in the Electric Vehicle
9 ecosystem. I further find that the Company’s proposals raise significant equity and free-
10 ridership issues that have not been addressed by the Company. While there are elements
11 of the Company’s proposals that may be beneficial for New Jersey, I recommend that the
12 Board not approve these offerings at this time.

13 **Q. What are your recommendations for the Board regarding PSE&G’s proposed ES**
14 **subprogram offerings?**

15 A. I believe that the ES proposals offered by PSE&G are not supported by its statutory
16 obligation to provide reliable electric service at the lowest reasonable cost, and that there
17 is no mandate or authority for the Company’s proposals. I further find that the
18 Company’s ES proposals are speculative in nature, and not designed to resolve any actual
19 reliability needs identified by the Company. Finally, I find that if there are actual
20 reliability requirements for which energy storage represents the least-cost solution, the
21 Company can implement that solution under its current regulatory authorization.

*Direct Testimony of Ezra D. Hausman, Ph.D.
Public Service Electric and Gas Company – CEF-EVES Program Filing
BPU Docket No. EO18101111*

1 While there are elements of the Company’s ES proposals that may be beneficial
2 for New Jersey, I recommend that the Board not approve these offerings at this time as
3 premature.

4 **Q. Does this conclude your testimony?**

5 A. Yes, it does at this time. Rate Counsel reserves its right to present supplemental
6 testimony based on any updated and/or new information.

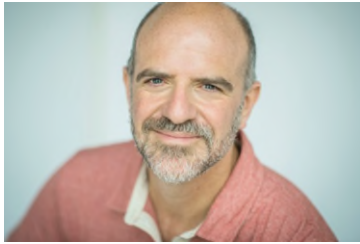
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Attached Exhibit

Exhibit EDH-1 Resume of Ezra D. Hausman, Ph.D.

Ezra D. Hausman, Ph.D.

Curriculum Vitae



I am an independent consultant in energy and environmental economics.

I have worked for over two decades as an energy market expert with a focus on market design and market restructuring, planning and ratemaking, energy efficiency programs, environmental regulation, and pricing of energy, capacity, transmission, losses and other electricity-related services. I have performed market analysis, provided expert testimony, led workshops and working groups, and provided other support in both regulated and restructured electricity markets for clients including federal and state agencies, offices of consumer advocate, legislative bodies, cities and towns, non-governmental organizations, foundations, industry associations, and resource developers.

I hold a Ph.D. in atmospheric science from Harvard University, an S.M. in applied physics from Harvard University, an M.S. in water resource engineering from Tufts University, and a B.A. in psychology from Wesleyan University.

PROFESSIONAL EXPERIENCE

Ezra Hausman Consulting, Newton, MA. President, March 2014 – Present.

I provide research, analysis, expert testimony, and policy support services in regulatory, litigation, and stakeholder processes covering a wide range of electric sector and electricity market issues. The focus of my consulting work includes:

- Ratemaking and regulatory proceedings
- Wholesale market design and analysis for electricity, generating capacity, and related services
- Demand-side management/energy efficiency program design and cost/benefit analysis
- Utility role in developing electric vehicles infrastructure
- Interaction of air quality and environmental regulations with electricity markets
- Analysis and implementation of greenhouse gas rules
- Clean Air Act enforcement support
- Long-term electric power system planning
- Consumer and environmental protection
- Market power and market concentration analysis in electricity markets.

Synapse Energy Economics Inc., Cambridge, MA.

Chief Operating Officer, March 2011 – February 2014;

Vice President, July 2009 – February 2014;

Senior Associate, 2005-2009.

- Conducted research, wrote reports, and presented expert testimony pertaining to consumer, environmental, and public policy implications of electricity industry regulation. Provided expert support and representation in planning, greenhouse gas mitigation, and other stakeholder processes.
- As Vice President and Chief Operating Officer, I was also responsible for day-to-day operations of the company, quality assurance, client service, and professional development of staff.

Charles River Associates (CRA), Cambridge, MA. Senior Associate, 2004-2005

CRA acquired Tabors Caramanis & Associates in October 2004.

Tabors Caramanis & Associates, Cambridge, MA. Senior Associate, 1998-2004

As a member of the modeling group, developed and maintained dispatch modeling capability in support of electricity market consulting practice.

Performed modeling and analysis of electricity and natural gas markets, generation and transmission systems.

Global Risk Prediction Network, Inc., Greenland, NH. Vice President, 1997-1998

Developed private sector applications of climate forecast science in partnership with researchers at Columbia University.

Hub Data, Inc., Cambridge, MA. Financial Software Consultant, 1986-1987, 1993-1997

Responsible for design, implementation and support of analytic and communications modules for bond portfolio management software.

Abt Associates, Inc., Cambridge, MA. Environmental Policy Analyst, 1990-1991

Quantitative risk analysis to support federal environmental policy-making.

Massachusetts Water Resources Authority, Charlestown, MA. Analyst, 1988-1990

Applied and evaluated demand forecasting techniques for the Eastern Massachusetts service area; assessed yield/reliability relationship for the eastern Massachusetts water supply system.

Somerville High School, Somerville, MA. Math Teacher, 1986-1987

Courses included trigonometry, computer programming, and basic math.

EDUCATION

Ph.D., Earth and Planetary Sciences. Harvard University, Cambridge, MA, 1997

S.M., Applied Physics. Harvard University, Cambridge, MA, 1993

M.S., Civil Engineering. Tufts University, Medford, MA, 1990

B.A., Wesleyan University, Psychology. Middletown, CT, 1985

FELLOWSHIPS, AWARDS AND AFFILIATIONS

UCAR Visiting Scientist Postdoctoral Fellowship, 1997

Postdoctoral Research Fellowship, Harvard University, 1997

Certificate of Distinction in Teaching, Harvard University, 1997

Graduate Research Fellowship, Harvard University, 1991-1997

Invited Participant, UCAR Global Change Institute, 1993

House Tutor, Leverett House, Harvard University, 1991-1993

Graduate Research Fellowship, Massachusetts Water Resources Authority, 1989-1990

Teaching Fellowships:

Harvard University: *Principles of Measurement and Modeling in Atmospheric Chemistry; Hydrology; Introduction to Environmental Science and Public Policy; The Atmosphere.*

Wesleyan University: *Introduction to Computer Programming; Psychological Statistics; Playwriting and Production.*

Community Service

Vice President of Finance, Congregation Dorshei Tzedek, 2018 - Ongoing

Academic Mentor and Athletic Coach, SquashBusters Boston, 2014 - Ongoing

Judge, Cleantech Open innovation competitions, 2015-2016

President, Burr Elementary School Parent Teacher Organization, 2005-2007

EXPERT TESTIMONY AND SERVICES

Before the Public Utility Commission of Oregon (Case No. UE 374) – 2020-Ongoing

Expert witness on behalf of the Sierra Club in Pacific Power General Rate Case.

Before the Pennsylvania Public Utility Commission (Docket No. R-2020-3017206) – 2020-ongoing

Expert witness on behalf of the Clean Energy Council regarding Philadelphia Gas Works' general rate increase request.

Before the Public Service Commission of the District of Columbia (Formal Case No. 1154) – 2020

Expert witness on behalf of the Sierra Club regarding Washington Gas Light's PROJECTpipes II filing.

Before the New Jersey Board of Public Utilities (Docket No. EO18020190) – 2018-ongoing

Expert witness on behalf of the New Jersey Division of rate Counsel regarding the Atlantic City Electric's proposed Voluntary Program for Plug-In Vehicle Charging.

Before the New Jersey Board of Public Utilities (Docket. Nos. ER18070688 and GR18070689) – 2019

Expert witness on behalf of the New Jersey Division of rate Counsel regarding the Public Service Electric & Gas' 2018 PSE&G Green Programs Cost Recovery Filing. Settled prior to filing of intervenor testimony.

Before the New Jersey Board of Public Utilities (Docket No. G018030350) – 2018

Expert witness on behalf of the New Jersey Division of rate Counsel regarding the South Jersey Gas' Energy Efficiency Programs IV filing. Settled prior to filing of intervenor testimony.

Before the New Jersey Board of Public Utilities (Docket No. G018030355) – 2018

Expert witness on behalf of the New Jersey Division of rate Counsel regarding the New Jersey Natural Gas Company's SAVEGREEN energy efficiency and renewable energy programs. Case was settled prior to filing of intervenor testimony.

Before the New Jersey Board of Public Utilities (Docket No. EO18101111) – 2018-ongoing

Expert witness on behalf of the New Jersey Division of rate Counsel regarding the Public Service Electric & Gas' proposed *Clean Energy Future - Electric Vehicle and Energy Storage* program.

Before the New Jersey Board of Public Utilities (Docket Nos. G018101112 and EO16101113) – 2018-ongoing

Expert witness on behalf of the New Jersey Division of rate Counsel regarding the Public Service Electric & Gas' proposed *Clean Energy Future - Energy Efficiency* program.

New Jersey Board of Public Utilities – 2020-Ongoing

Expert participation in stakeholder process regarding conversion to high-efficiency street lights on behalf of Rate Counsel.

New Jersey Board of Public Utilities – 2019-Ongoing

Expert participation in stakeholder process regarding transportation electrification policies on behalf of Rate Counsel.

New Jersey Division of Rate Counsel – 2016-Ongoing

General policy and stakeholder participation support on matters related to energy efficiency, renewable energy, and electrification of transportation in New Jersey.

Before the Washington Utilities and Transportation Commission – 2020-Ongoing

Expert witness on behalf of the Sierra Club regarding potential sale of ownership in Colstrip generating unit.

Before the Utah Public Service Commission (Docket No. 18-035-36) – 2020

Expert witness on behalf of the Sierra Club in Rocky Mountain Power depreciation case.

PacifiCorp Multi-State Protocols Stakeholder Process – 2019-Ongoing

Participation on behalf of Sierra Club in stakeholder process to establish protocols for allocation of resource costs and benefits among PacifiCorp states.

Advisory Consulting for Natural Resources Defense Council – 2019-2020

Provide advisory and technical support to analysis team.

Memphis Light, Gas and Water – Power Supply Alternatives Study (2019-Ongoing)

Expert support for Sierra Club participation in Power Supply Advisory Team.

Before the Washington Utilities and Transportation Commission (Dockets UE-190334 and UG-190335) – 2019

Expert witness on behalf of the Sierra Club in Avista Energy rate case.

Before the Public Service Commission of South Carolina (Docket No. 2018-319-E) – 2019

Expert witness on behalf of the Sierra Club in Duke Energy Carolinas rate case.

Before the Public Service Commission of South Carolina (Docket No. 2018-318-E) – 2019

Expert witness on behalf of the Sierra Club in Duke Energy Progress rate case.

Before the Virginia State Corporation Commission (Case No. PUR-2018-00065) – 2018

Expert witness on behalf of the Sierra Club in Dominion Power IRP proceeding.

Before the Missouri Public Service Commission (Case No. EO-2018-0038) – 2018

Expert services in support of Sierra Club's participation in integrated resource planning process.

Before the Florida Public Service Commission (Docket No. 20170225-EI) – 2017-2018

Expert witness on behalf of the Sierra Club in FPL Determination of Need proceeding.

Before the North Carolina Utilities Commission (Docket No. E-7, SUB 1146) – 2017-2018

Expert witness on behalf of the Sierra Club in Duke Energy Carolinas rate case.

Before the New Jersey Board of Public Utilities (Docket No. ER17080869) – 2017

Expert witness on behalf of the New Jersey Division of rate Counsel regarding Public Service Electric and Gas Company's proposed Energy Efficiency 2017 Program.

Before the New Jersey Board of Public Utilities (Docket No. EO17030196) – 2017

Expert witness on behalf of the New Jersey Division of rate Counsel regarding Rockland Electric Company's proposed Low Income Audit and Install Energy Efficiency Program.

Before the New Jersey Board of Public Utilities (Docket No. GO15050504) – 2017

Expert witness on behalf of the New Jersey Division of rate Counsel regarding Elizabethtown Gas Company's Petition to Extend the Term of Energy Efficiency Programs. Settled prior to filing of intervener testimony.

Before the North Carolina Utilities Commission (Docket No. E-2, SUB 1142) – 2017

Expert witness on behalf of the Sierra Club in Duke Energy Progress rate case.

Before the Idaho Public Utilities Commission (Case No. AVU-E-17-01) – 2017

Expert witness on behalf of the Sierra Club in Avista Corporation rate case.

Before the Iowa Utilities Board (Docket No. RPU-2017-0002) – 2017

Expert witness on behalf of the Sierra Club for Interstate Power and Light petition for ratemaking principles for proposed 500 MW wind project.

Before the Washington Utilities and Transportation Commission (Dockets UE-170033 and UG-170034) – 2017

Expert witness on behalf of the Sierra Club in Puget Sound Energy (PSE) rate case.

Clean Power Plan Modeling in PJM and MISO – 2016-2017

Participation on behalf of the Sustainable FERC Project in ISO initiative to model scenarios for state compliance with federal greenhouse gas mitigation rules.

California ISO/PacifiCorp Market Integration – 2015-2017

Technical support to Sierra Club in stakeholder review and participation in all relevant proceedings in California.

Before the New Jersey Board of Public Utilities (Docket No. GO14121412) – 2015

Expert witness on behalf of the New Jersey Division of rate Counsel regarding the New Jersey Natural Gas Company's petition for approval of its Extension of Energy - Efficiency Programs. Case was settled prior to filing of intervenor testimony.

Before the New Jersey Board of Public Utilities (Docket No. GR15010090) – 2015

Expert witness on behalf of the New Jersey Division of rate Counsel regarding South Jersey Gas Company's petition for for Approval to Continue its Energy Efficiency Programs and Energy Efficiency Tracker. Case was settled prior to filing of intervenor testimony.

United States Department of Justice – US District Court for the Eastern District of Missouri (Civil Action No. 4:11-CV-00077) – 2013-2019

Expert witness on behalf of the United States Department of Justice on successful prosecution of clean air act case.

Before the Missouri Public Service Commission (Case No. EO-2015-0084) – 2014-2015

Expert services in support of Sierra Club's participation in integrated resource planning process.

Before the Missouri Public Service Commission (File No. ER-2014-0258) – 2014-2015

Expert witness on behalf of the Sierra Club in Ameren Missouri rate case.

Before the Arizona Corporation Commission (Docket No. E-01345A-11-0224) – 2014

Expert witness on behalf of the Sierra Club regarding Arizona Public Service petition for rate treatment for acquisition of an additional ownership share of the Four Corners generating units.

Before the Missouri Public Service Commission (Docket No. ET-2014-0085) – 2013

Testimony on behalf of the Missouri Solar Energy Industries Association regarding Union Electric (d/b/a Ameren Missouri) motion to suspend payment of solar rebates.

Before the Missouri Public Service Commission (Docket No. ET-2014-0059 and ET-2014-0071) – 2013

Testimony on behalf of the Missouri Solar Energy Industries Association regarding Kansas City Power and Light Company's motions to suspend payment of solar rebates.

Eastern Interconnect Planning Collaborative (EIPC) – 2012-2013

Expert support on behalf of coalition of NGO stakeholders in transmission and resource planning process, including development and review of modeling assumptions and interim results, and development of comments.

Puget Sound Energy (PSE) – 2012-2013

Expert participant in PSE's 2013 IRP stakeholder process on behalf of the Sierra Club.

Before the Washington Utilities and Transportation Commission (Docket Nos. UE-111048 and UG-111049) – 2011

Testimony on behalf of the Sierra Club regarding the cost of operating the Colstrip power plant and other power procurement issues.

Before the Kansas Corporation Commission (Docket No. 11-KCPE-581-PRE) - 2011

Presented written and live testimony on behalf of the Sierra Club regarding Kansas City Power and Light request for predetermination of ratemaking principles.

Vermont Department of Public Service - 2011

Provided scenario analysis of the costs and benefits of various electric energy resource scenarios in support of the state Comprehensive Energy Plan.

Massachusetts Department of Energy Resources – 2009-2011

Served as expert analyst and modeling coordinator for analysis related to implementation of the Massachusetts Global Warming Solutions Act.

Iowa Office of Consumer Advocate – 2010-2011

Assisted Consumer Advocate in evaluating a proposed power purchase agreement for the output of the Duane Arnold nuclear power station.

Before the Missouri Public Service Commission (Docket No. EW-2010-0187) – 2010

Expert participant on behalf of the Sierra Club in stakeholder process to develop a “demand side investment mechanism” in Missouri.

Before the Louisiana Public Service Commission (Docket No. R-28271 Subdocket B) – 2009-2010

Expert participant on behalf of the Sierra Club in Renewable Portfolio Standard Task Force considering RPS for Louisiana.

Joint Fiscal Committee of the Vermont Legislature – 2008-2010

Serving as lead expert advising the Legislature on economic issues related to the possible recertification of the Vermont Yankee nuclear power plant.

Town of Littleton, NH – 2006-2010

Serving as expert witness on the value of the Moore hydroelectric facility.

Before the Nevada Public Service Commission (Docket No. 08-05014) – August 2008

Presented prefiled and live testimony on behalf of Nevadans for Clean Affordable Reliable Energy regarding the proposed Ely Energy Center and resource planning practices in Nevada.

Before the Mississippi Public Service Commission (Docket No. 2008-AD-158) – July 2008

Presented written and live testimony on behalf of the Sierra Club regarding the resource plans filed by Entergy Mississippi and Mississippi Power Company.

Kansas House of Representatives - Committee on Energy and Utilities – February 2008

Presented testimony on behalf of the Climate and Energy Project of the Land Institute of Kansas on a proposed bill regarding permitting of power plants. Focus was on the risks and costs associated with new coal plants and on their contribute to global climate change.

Before the Vermont Public Service Board (Docket No. 7250) – 2006-2008

Prepared report and testimony in support of the application of Deerfield Wind, LLC. For a Certificate of Public Good for a proposed wind power facility.

Before the Iowa Utilities Board (Docket No. GCU-07-1) – October, 2007 – January 2008

Presented written and live testimony on behalf of the Iowa Office of Consumer Advocate regarding the science of global climate change and the contribution of new coal plants to atmospheric CO₂.

Before the Nevada Public Service Commission (Docket No. 07-06049) – October 2007

Presented prefiled direct testimony on behalf of Nevadans for Clean Affordable Reliable Energy regarding treatment of carbon emissions costs and coal plant capital costs in utility resource planning.

Before the Massachusetts General Court, Joint Committee on Economic Development and Emerging Technologies – July 2007

Presented written and live testimony on climate change science and the potential benefits of a revenue-neutral carbon tax in Massachusetts.

Town of Rockingham, VT – 2006-2007

Served as expert witness on the value of the Bellows Falls hydroelectric facility.

Before the South Dakota Public Utilities Commission (Case No EL05-22) – June 2006

Minnesota Public Utilities Commission (Docket TR-05-1275) – December 2006

Submitted prefiled and live testimony on the contribution of the proposed Big Stone II coal-fired generator to atmospheric CO₂, global climate change and the environment of South Dakota and Minnesota, respectively.

Before the Arkansas Public Service Commission (Docket No. 06-070-U) – October 2006

Submitted prefiled direct testimony on inclusion of new wind and gas-fired generation resources in utility rate base.

Federal Energy Regulatory Commission (Docket Nos. ER055-1410-000 and EL05-148-000) – May-Sept 2006

- Participant in settlement hearings on proposed capacity market structure (the Reliability Pricing Model, or RPM) on behalf of State Consumer Advocates in Pennsylvania, Ohio and the District of Columbia
- Invited participant on technical conference panel on PJM's proposed Variable Resource Requirement (VRR) curve
- Filed Pre- and post-conference comments and affidavits with FERC
- Participated in numerous training and design conferences at PJM on RPM implementation.

Before the Illinois Pollution Control Board (Docket No. R2006-025) – June-Aug 2006

Prefile and live testimony presented on behalf of the Illinois EPA regarding the costs and benefits of proposed mercury emissions rule for Illinois power plants.

Long Island Sound LNG Task Force – January 2006

Presentation of study on the need for and alternatives to the proposed Broadwater LNG storage and regasification facility in Long Island Sound.

Before the Iowa Utilities Board (Docket No. SPU-05-15) – November 2005

Presented written and live testimony on whether Interstate Power and Light's should be permitted to sell the Duane Arnold Energy Center nuclear facility to FP&L Duane Arnold, Inc., a subsidiary of Florida Power and Light.

PUBLICATIONS AND REPORTS

Hausman, E., Review of AltaGas' Climate Business Plan and Renewable Natural Gas Study. Technical report prepared on behalf of the Sierra Club, June 2020.

Hausman, E., The Worst of Both Worlds: Why the Ohio Legislature's OVEC Bailout Bill would Harm Consumers, Impede Competition, Increase Pollution, and Impair the Health and Welfare of Ohioans for Decades. White paper produced on behalf of The Sierra Club, June 2017.

Hausman, E., Risks and Opportunities for PacifiCorp - State Level Findings: Utah, Produced on behalf of the Sierra Club, October 2014.

Hausman, E., Risks and Opportunities for PacifiCorp - State Level Findings: Oregon, Produced on behalf of the Sierra Club, October 2014.

Hausman, E., Risks and Opportunities for PacifiCorp in a Carbon Constrained Economy, Produced on behalf of the Sierra Club, October 2014.

Luckow, P., E. Stanton, B. Biewald, J. Fisher, F. Ackerman, E. Hausman, 2013 Carbon Dioxide Price Forecast, Synapse Energy Economics, November 2013.

Stanton, E., T. Comings, K. Takahashi, P. Knight, T. Vitolo, E. Hausman, Economic Impacts of the NRDC Carbon Standard: Background Report prepared for the Natural Resources Defense Council, Synapse Energy Economics for NRDC, June 2013

Comings T., P. Knight, E. Hausman, Midwest Generation's Illinois Coal Plants: Too Expensive to Compete? (Report Update) Synapse Energy Economics for Sierra Club, April 2013

Stanton E., F. Ackerman, T. Comings, P. Knight, T. Vitolo, E. Hausman, Will LNG Exports Benefit the United States Economy? Synapse Energy Economics for Sierra Club, January 2013

Chang M., D. White, E. Hausman, Risks to Ratepayers: An Examination of the Proposed William States Lee III Nuclear Generation Station, and the Implications of "Early Cost Recovery" Legislation, Synapse Energy Economics for Consumers Against Rate Hikes, December 2012

Wilson R., P. Luckow, B. Biewald, F. Ackerman, and E.D. Hausman, 2012 Carbon Dioxide Price Forecast, Synapse Energy Economics, October 2012.

Fagan B., M. Chang, P. Knight, M. Schultz, T. Comings, E.D. Hausman, and R. Wilson, The Potential Rate Effects of Wind Energy and Transmission in the Midwest ISO Region. Synapse Energy Economics for Energy Future Coalition, May 2012.

Hausman, E.D., T. Comings, "Midwest Generation's Illinois Coal Plants: Too Expensive to Compete? Synapse Energy Economics for Sierra Club, April 2012.

Hausman, E.D., T. Comings, and G. Keith, Maximizing Benefits: Recommendations for Meeting Long-Term Demand for Standard Offer Service in Maryland. Synapse Energy Economics for Sierra Club, January 2012.

Keith G., B. Biewald, E.D. Hausman, K. Takahashi, T. Vitolo, T. Comings, and P. Knight, Toward a Sustainable Future for the U.S. Power Sector: Beyond Business as Usual 2011 Synapse Energy Economics for Civil Society Institute, November 2011.

Chang M., D. White, E.D. Hausman, N. Hughes, and B. Biewald, Big Risks, Better Alternatives: An Examination of Two Nuclear Energy Projects in the U.S. Synapse Energy Economics for Union of Concerned Scientists, October 2011.

Hausman E.D., T. Comings, K. Takahashi, R. Wilson, and W. Steinhurst, Electricity Scenario Analysis for the Vermont Comprehensive Energy Plan 2011. Synapse Energy Economics for Vermont Department of Public Service, September 2011.

Wittenstein M., E.D. Hausman, Incenting the Old, Preventing the New: Flaws in Capacity Market Design, and Recommendations for Improvement. Synapse Energy Economics for American Public Power Association, June 2011.

Johnston L., E.D. Hausman, B. Biewald, R. Wilson, and D. White. 2011 Carbon Dioxide Price Forecast. Synapse Energy Economics White Paper, February 2011.

Hausman E.D., V. Sabodash, N. Hughes, and J. I. Fisher, Economic Impact Analysis of New Mexico's Greenhouse Gas Emissions Rule. Synapse Energy Economics for New Energy Economy, February 2011.

Hausman E.D., J. Fisher, L. Mancinelli, and B. Biewald. Productive and Unproductive Costs of CO2 Cap-and-Trade: Impacts on Electricity Consumers and Producers. Synapse Energy Economics for National Association of Regulatory Utility Commissioners, National Association of State Utility Consumer Advocates, National Rural Electric Cooperative Association, and American Public Power Association, July 2009.

Peterson P., E. Hausman, R. Fagan, and V. Sabodash, Report to the Ohio Office of Consumer Counsel, on the value of continued participation in RTOs. Filed under Ohio PUC Case No. 09-90-EL-COI, May 2009.

Schlissel D., L. Johnston, B. Biewald, D. White, E. Hausman, C. James, and J. Fisher, Synapse 2008 CO2 Price Forecasts. July 2008.

Hausman E.D., J. Fisher and B. Biewald, Analysis of Indirect Emissions Benefits of Wind, Landfill Gas, and Municipal Solid Waste Generation. Synapse Energy Economics Report to the Air Pollution Prevention and Control Division, National Risk Management Research Laboratory, U.S. Environmental Protection Agency, July 2008.

Hausman E.D. and C. James, Cap and Trade CO2 Regulation: Efficient Mitigation or a Give-away? Synapse Energy Economics presentation to the ELCON Spring Workshop, June 2008.

Hausman E.D., R. Hornby and A. Smith, Bilateral Contracting in Deregulated Electricity Markets. Synapse Energy Economics for the American Public Power Association, April 2008.

Hausman E.D., R. Fagan, D. White, K. Takahashi and A. Napoleon, LMP Electricity Markets: Market Operations, Market Power and Value for Consumers. Synapse Energy Economics for the American Public Power Association's Electricity Market Reform Initiative (EMRI) symposium, "Assessing Restructured Electricity Markets" in Washington, DC, February 2007.

Hausman E.D. and K. Takahashi, The Proposed Broadwater LNG Import Terminal Response to Draft Environmental Impact Statement and Update of Synapse Analysis. Synapse Energy Economics for the Connecticut Fund for the Environment and Save The Sound, January 2007.

Hausman E.D., K. Takahashi, D. Schlissel and B. Biewald, The Proposed Broadwater LNG Import Terminal: An Analysis and Assessment of Alternatives. Synapse Energy Economics for the Connecticut Fund for the Environment and Save The Sound, March 2006.

Hausman E.D., P. Peterson, D. White and B. Biewald, RPM 2006: Windfall Profits for Existing Base Load Units in PJM: An Update of Two Case Studies. Synapse Energy Economics for the Pennsylvania Office of Consumer Advocate and the Illinois Citizens Utility Board, February 2006.

Hausman E.D., K. Takahashi, and B. Biewald, The Glebe Mountain Wind Energy Project: Assessment of Project Benefits for Vermont and the New England Region. Synapse Energy Economics for Glebe Mountain Wind Energy, LLC., February 2006.

Hausman E.D., K. Takahashi, and B. Biewald, The Deerfield Wind Project: Assessment of the Need for Power and the Economic and Environmental Attributes of the Project. Synapse Energy Economics for Deerfield Wind, LLC., January 2006.

Hausman E.D., P. Peterson, D. White and B. Biewald, An RPM Case Study: Higher Costs for Consumers, Windfall Profits for Exelon. Synapse Energy Economics for the Illinois Citizens Utility Board, October 2005.

Hausman E.D. and G. Keith, Calculating Displaced Emissions from Energy Efficiency and Renewable Energy Initiatives. Synapse Energy Economics for EPA website 2005

Rudkevich A., E.D. Hausman, R.D. Tabors, J. Bagnal and C Kopel, Loss Hedging Rights: A Final Piece in the LMP Puzzle. Hawaii International Conference on System Sciences, Hawaii, January, 2005 (accepted).

Hausman E.D. and R.D. Tabors, The Role of Demand Underscheduling in the California Energy Crisis. Hawaii International Conference on System Sciences, Hawaii, January 2004.

Hausman E.D. and M.B. McElroy, The reorganization of the global carbon cycle at the last glacial termination. *Global Biogeochemical Cycles*, 13(2), 371-381, 1999.

Norton F.L., E.D. Hausman and M.B. McElroy, Hydrospheric transports, the oxygen isotope record, and tropical sea surface temperatures during the last glacial maximum. *Paleoceanography*, 12, 15-22, 1997.

Hausman E.D. and M.B. McElroy, Variations in the oceanic carbon cycle over glacial transitions: a time-dependent box model simulation. Presented at the spring meeting of the American Geophysical Union, San Francisco, 1996.

PRESENTATIONS AND WORKSHOPS

American Public Power Association: Invited expert participant in APPA's roundtable discussion of the current state of the RTO-operated electricity markets. October 2013.

California Long-Term Resource Adequacy Summit (Sponsored by the California ISO and the California Public Utility Commission): Panelist on "Applying Alternative Models to the California Market Construct." February 26, 2013.

ELCON 2011 Fall Workshop: "Do RTOs Need a Capacity Market?" October 2011.

Harvard Electricity Policy Group: Presentation on state action to ensure reliability in the face of capacity market failure. February 2011.

NASUCA 2010 Annual Conference: "Addressing Climate Change while Protecting Consumers." November 2010.

NASUCA Consumer Protection Committee: Briefing on the Synapse report entitled, "Productive and Unproductive Costs of CO₂ Cap-and-Trade." September 2009.

NARUC 2009 Summer Meeting: Invited speaker on topic: "Productive and Unproductive Costs of CO₂ Cap-and-Trade." July, 2009.

NASUCA 2008 Mid-Year Meeting: Invited speaker on the topic, "Protecting Consumers in a Warming World, Part II: Deregulated Markets." June 2008.

Center for Climate Strategies: Facilitator and expert analyst on state-level policy options for mitigating greenhouse gas emissions. Serve as facilitator/expert for the Electricity Supply (ES) and Residential, Commercial and Industrial (RCI) Policy Working Groups in the states of Colorado and South Carolina. 2007-2008.

NASUCA 2007 Mid-Year Meeting: Invited speaker on the topic, "Protecting Consumers in a Warming World" June 2007.

ASHRAE Workshop on estimating greenhouse gas emissions from buildings in the design phase: Participant expert on estimating displaced emissions associated with energy efficiency in building design. Also hired by ASHRAE to document and produce a report on the workshop. April, 2007.

Assessing Restructured Electricity Markets An American Public Power Association Symposium: Invited speaker on the history and effectiveness of Locational Marginal Pricing (LMP) in northeastern United States electricity markets, February, 2007.

ASPO-USA 2006 National Conference: Invited speaker and panelist on the future role of LNG in the U.S. natural gas market, October, 2006.

Market Design Working Group: Participant in FERC-sponsored settlement process for designing capacity market structure for PJM on behalf of coalition of state utility consumer advocates, July-August 2006.

NASUCA 2006 Mid-Year Meeting: Invited speaker on the topic, "How Can Consumer Advocates Deal with Soaring Energy Prices?" June 2006.

Soundwaters Forum, Stamford, CT: Participated in a debate on the need for proposed Broadwater LNG terminal in Long Island Sound, June 2006.

Energy Modeling Forum: Participant in coordinated academic exercise focused on modeling US and world natural gas markets, December 2004.

Massachusetts Institute of Technology (MIT): Guest lecturer in Technology and Policy Program on electricity market structure, the LMP pricing system and risk hedging with FTRs. 2002-2005.

LMP: The Ultimate Hands-On Seminar. Two-day seminar held at various sites to explore concepts of LMP pricing and congestion risk hedging, including lecture and market simulation exercises. Custom seminars held for FERC staff, ERCOT staff, and various industry groups. 2003-2004.

Learning to Live with Locational Marginal Pricing: Fundamentals and Hands-On Simulation. Day-long seminar including on-line mock electricity market and congestion rights auction, December 2002.

LMP in California. Led a series of seminars on the introduction of LMP in the California electricity market, including on-line market simulation exercise. 2002.

Resume updated September 2020

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

**IN THE MATTER OF THE PETITION OF)
PUBLIC SERVICE ELECTRIC AND GAS)
COMPANY FOR APPROVAL OF ITS CLEAN) BPU DOCKET NO. EO1810111
ENERGY FUTURE- ELECTRIC VEHICLE AND)
ENERGY STORAGE PROGRAMS ON A)
REGULATED BASIS)**

**DIRECT TESTIMONY OF DAVID E. PETERSON
ON BEHALF OF THE
NEW JERSEY DIVISION OF RATE COUNSEL**

**STEFANIE A. BRAND, ESQ.
DIRECTOR, DIVISION OF RATE COUNSEL**

**DIVISION OF RATE COUNSEL
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I. INTRODUCTION

1
2 **Q. PLEASE STATE YOUR NAME, OCCUPATION AND BUSINESS**
3 **ADDRESS.**

4 A. My name is David E. Peterson. I am the President of and a Senior Consultant
5 with Chesapeake Regulatory Consultants, Inc. ("CRC"). My business address is
6 10351 Southern Maryland Blvd., Suite 202, Dunkirk, Maryland 20754.

7
8 **Q. WHAT IS YOUR EDUCATIONAL BACKGROUND AND EXPERIENCE**
9 **IN THE PUBLIC UTILITY FIELD?**

10 A. I graduated with a Bachelor of Science degree in Economics from South Dakota
11 State University in May of 1977. In 1983, I received a master's degree in
12 Business Administration from the University of South Dakota. My graduate
13 program included accounting and public utility courses at the University of
14 Maryland.

15
16 In September 1977, I joined the Staff of the Fixed Utilities Division of the South
17 Dakota Public Utilities Commission as a rate analyst. My responsibilities at the
18 South Dakota Commission included analyzing and testifying on ratemaking
19 matters arising in rate proceedings involving electric, gas and telephone utilities.

20
21 Since leaving the South Dakota Commission in 1980, I have continued
22 performing cost of service and revenue requirement analyses as a consultant. In
23 December 1980, I joined the public utility consulting firm of Hess & Lim, Inc. I
24 remained with that firm until August 1991, when I joined CRC. Over the years, I
25 have analyzed filings by electric, natural gas, propane, telephone, water,
26 wastewater, and steam utilities in connection with utility rate and certificate

1 proceedings before federal and state regulatory commissions. A copy of my
2 curriculum vitae is provided in Appendix A attached to my testimony.

3
4 **Q. HAVE YOU PREVIOUSLY PRESENTED TESTIMONY IN PUBLIC**
5 **UTILITY RATE PROCEEDINGS?**

6 A. Yes. I have presented testimony in 175 other proceedings before the state
7 regulatory commissions in Alabama, Arkansas, California, Colorado,
8 Connecticut, Delaware, Indiana, Kansas, Maine, Maryland, Montana, Nevada,
9 New Jersey, New Mexico, New York, Pennsylvania, South Dakota, West
10 Virginia, and Wyoming, and before the Federal Energy Regulatory Commission.
11 Collectively, my testimonies have addressed the following topics: the appropriate
12 test year, rate base, revenues, expenses, depreciation, taxes, capital structure,
13 capital costs, rate of return, cost allocation, rate design, life-cycle analyses,
14 affiliate transactions, mergers, acquisitions, and cost-tracking procedures.

15
16 In addition, I testified twice before the Energy Subcommittee of the Delaware
17 House of Representatives on the issues of consolidated tax savings and tax
18 normalization. Also, I have presented seminars on public utility regulation,
19 revenues requirements, cost allocation, rate design, consolidated tax savings,
20 income tax normalization and other ratemaking issues to the Delaware Public
21 Service Commission, to the Commissioners and Staff of the Washington Utilities
22 and Transportation Commission, and to the Colorado Office of Consumer
23 Counsel.

24 **II. SUMMARY**

25 **Q. HAVE YOU TESTIFIED IN OTHER PROCEEDINGS BEFORE THE**
26 **NEW JERSEY BOARD OF PUBLIC UTILITIES (“BOARD”)?**

27 A. Yes, I have. I have submitted testimony in the following proceedings before the
28 Board:

	<u>Utility</u>	<u>Docket No.</u>
1		
2		
3	South Jersey Gas Company	GR8704329
4		GR03050413
5		GR03080683
6		GR10010035
7		
8	New Jersey-American Water Company	WR88070639
9		WR91081399J
10		WR92090906J
11		WR94030059
12		WR95040165
13		WR98010015
14		WR03070511
15		WR06030257
16		WR17090985
17		WR1912516
18		
19	ACE/Delmarva Merger	EM97020103
20	Atlantic City Electric Company	ER03020110
21		ER11080469
22		ER17030308
23		ER18020196
24		
25		
26	FirstEnergy/GPU Merger (JCP&L)	EM00110870
27	Jersey Central Power & Light	ER02080506
28		ER05121018
29		ER12111052
30		EM14060581
31		EM15060733
32		ER18070728
33		
34	Rockland Electric Company	ER02100724
35		ER06060483
36		ER09080668
37		ER19050552
38		
39	Public Service Electric and Gas	EM00040253
40		GR09050422
41		GO12030188
42		EO18101115

1	Exelon/PSE&G Merger	EM05020106
2	Exelon/Pepco Holdings Merger	EM14060581
3		
4	Conectiv/Pepco Merger (ACE)	EM01050308
5		
6	Elizabethtown Gas Company	GR02040245
7		GR09030195
8	The Southern Company/AGL Resources	GM15101196
9		
10	United Water New Jersey, Inc.	WR07020135
11	United Water Toms River	WR15020269
12		
13	New Jersey Natural Gas Company	GR07110889
14		

15
16 **Q. ON WHOSE BEHALF ARE YOU APPEARING IN THIS PROCEEDING?**

17 A. My appearance in this proceeding is on behalf of the Division of Rate Counsel
18 (“Rate Counsel”).
19

20

21

III. PSE&G’s PROPOSED EVES PROGRAMS

22 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS**
23 **PROCEEDING?**

24 A. The purpose of my testimony is to present Rate Counsel’s cost allocation and rate
25 design concerns with Public Service Electric and Gas Company’s (“PSE&G” or
26 “the Company”) proposed Clean Energy Future – Electric Vehicle (“EV”) and
27 Energy Storage (“ES”) (combined “CEF-EVES”) program offerings. As part of
28 my analysis, I reviewed, PSE&G’s October 11, 2018 Verified Petition
29 (“Petition”), Direct Testimonies, and Schedules relating to cost allocation and rate
30 design. In addition, I also reviewed PSE&G’s response to discovery requests of
31 Rate Counsel, the Board Staff and other parties, again relating to cost allocation
32 and rate design.

1 **Q. BEFORE YOU DISCUSS YOUR FINDINGS AND**
2 **RECOMMENDATIONS, PLEASE PROVIDE A VERY BRIEF**
3 **OVERVIEW ON PSE&G’S PROPOSAL IN THIS PROCEEDING.**

4 A. PSE&G’s Petition seeks Board approval for the Company’s CEF-EVES Program.
5 PSE&G’s proposed CEF-EVES Program is a six-year, \$543 million initiative
6 consisting of four subprograms under PSE&G’s EV proposal and five
7 subprograms under the Company’s ES proposal.

8
9 PSE&G proposes to accumulate capital-related costs and expenses, using a
10 standardized annual revenue requirement formula approach, for costs incurred in
11 connection with its CEF-EVES Program. The accumulated annual revenue
12 requirement amounts will be booked into a deferred account to be recovered on an
13 annual basis in one of two separate components of a new charge in the
14 Company’s Tariff called the Technology Innovation Charge (“TIC”). The two
15 TIC components are the CEF-EV component and the CEF-ES component.
16 PSE&G’s proposed revenue requirement formula includes a carrying charge
17 based on PSE&G’s currently authorized weighted average cost of capital.

18
19 The proposed TIC rates will be stated on a dollars per kWh basis for all
20 distribution kWh sales for the year. That is, the annual revenue requirement
21 associated the EVES Programs will be recovered from all rate classes based on
22 relative kWh sales within each rate class. Over- and under-recoveries will be
23 trued-up in the following year’s TIC determination. Approximately 33 percent of
24 total kWh sales are in the residential class.¹ Consequently, 33 percent of
25 PSE&G’s EVES costs will be paid for by residential customers.

26

¹ PSE&G’s response to S-PSEG-REV-0057, page 645.

1 **Q. WHAT IS YOUR OVERALL IMPRESSION OF THE COMPANY'S**
2 **PROPOSED EVES PROGRAMS?**

3 A. From a cost allocation and rate design standpoint, my overall impression is not
4 favorable. PSE&G's Programs, and in particular the proposed cost recovery
5 mechanism, are inconsistent with cost-based ratemaking principles in that the
6 proposed cost recovery mechanism is intentionally designed to require PSE&G's
7 general body of customers to subsidize the Company's costs of providing EVES
8 services to relatively few EV and ES customers.

9
10 **Q. WHAT IS YOUR OBJECTION TO PSE&G'S PROPOSED COST**
11 **RECOVERY PLAN FOR RECOVERING EVES RELATED COSTS?**

12 A. I reviewed the Company's proposed cost recovery plan outlined in the Direct
13 Testimony of PSE&G witness, Stephen Swetz. My objection to Mr. Swetz's
14 proposed cost recovery plan is that it is inconsistent with proper cost allocation
15 and rate design principles, which dictate that customers receiving service benefits
16 pay the related costs. The rate design principle of matching rates with service
17 beneficiaries has been inherent in PSE&G's base rate proceedings and has been
18 the guiding principle in class cost of service studies previously filed by PSE&G in
19 base rate proceedings. Mr. Swetz's proposed cost recovery procedures in this
20 proceeding, however, do not meet this basic objective. The proposed TIC rates
21 impose charges on PSE&G customers who do not receive direct benefits from the
22 EVES Program. Therefore, the general body of PSE&G customers should not be
23 required to pay for EVES related costs. Rather, the costs of the EVES Program
24 should be assessed directly to those customers that request the EVES offerings.

25
26 **Q. DO YOU HAVE ANOTHER CONCERN WITH THE PROPOSED TIC**
27 **CALCULATIONS?**

1 A. Yes, I do. The proposed TIC calculations include all EVES related costs but do
2 not include any revenues that PSE&G expects to receive from certain EVES
3 projects. For example, even though Rate Counsel opposes Company-owned EV
4 charging stations, PSE&G expects to receive revenues from Company-owned EV
5 charging stations, from its participation in the PJM frequency market, and from
6 sales of ancillary services and energy in the PJM wholesale markets.² Mr. Swetz
7 proposes that revenues received from EV and ES projects be credited to the
8 distribution cost of service in PSE&G's next base rate case. The problem with
9 this approach is that PSE&G's customers will not receive any cost of service
10 credit for EVES revenues until the next base rate case. All EVES revenues
11 received prior to a base rate proceeding will go straight to the Company's profit
12 margin.

13
14 **Q. IF PSE&G'S TIC COST RECOVERY PROCEDURE IS ADOPTED,**
15 **AGAINST RATE COUNSEL'S RECOMMENDATION, HOW SHOULD**
16 **REVENUES FROM EV AND ES SERVICES BE ACCOUNTED FOR?**

17 A. I recommend that all EV and ES revenues received be tracked and included as a
18 credit in the annual TIC and related true-up calculations. There is no reason why
19 ratepayers should not receive credit for EV and ES revenue on a concurrent basis
20 with EVES cost recovery. Nor is there any justification for PSE&G's retaining
21 the benefit for itself of EVES revenues until its next base rate proceeding.

22
23 **Q. GIVEN THE CONCERNS THAT YOU HAVE EXPRESSED, WHAT IS**
24 **YOUR CONCLUSION AND RECOMMENDATION TO THE BOARD IN**
25 **THIS PROCEEDING?**

26 A. My primary conclusion is that PSE&G's proposed EVES Program and related
27 cost recovery proposal fail the fundamental and long-standing cost allocation and

² Direct Testimony of Stephen Swetz, page 5.

1 ratemaking principle that customers receiving service benefits from the utility
2 should pay the associated costs necessary to provide that service. In this
3 proceeding, however, PSE&G has intentionally designed a cost recovery system
4 that results in the general body of non-EVES customers subsidizing the cost of
5 EVES services for relatively few EVES customers. This subsidization is
6 unreasonable, discriminatory, and egregious, especially for those residential
7 customers who do not own any vehicle, let alone an electric vehicle, and must rely
8 on public transportation.

9
10 Rather, as explained in more detail in Dr. Hausman's Direct Testimony, if any of
11 PSE&G's EV programs are approved by the Board, Rate Counsel supports pricing
12 those programs on a cost of service basis though a separate EV rate schedule. In
13 that way, EV loads and associated costs can be identified separately in a class cost
14 of service study and rates for EV services can be appropriately priced based on a
15 cost of service basis.

16
17 The decision to purchase an electric vehicle is a matter of economics. As with
18 any purchase, the expected benefits must outweigh the costs, including
19 consideration of alternative costs. For example, the purchase of an electric or a
20 hybrid vehicle will reduce or eliminate trips to a gasoline filling station. But that
21 saving must be netted against the cost of electric vehicle charging. A false
22 economic savings will result if the prospective buyer relies on a subsidized costs
23 of electric vehicle charging, as will occur under PSE&G's EVES Program. The
24 false economic savings occur because PSE&G's general body of non-electric
25 vehicle customers have been forced to subsidize the EVES Program, conferring a
26 non-cost-based benefit on a select few customers that are able to purchase an
27 electric vehicle. This subsidy is contrary to long-standing cost allocation and rate
28 design principles and should be rejected by the Board. If the Board approves an

1 EV program, rates for EV service should be set on a cost of service basis and
2 priced through a separate EV tariff. The same is true for ES service, i.e., the
3 general body of PSE&G's customers should not be required to subsidize ES
4 service requested by a limited number of customers.

5
6 **Q. HAS THE COMPANY TIED THE CEF-ES COMPONENT OF ITS**
7 **PROPOSED TIC RATE TO SYSTEM BENEFITS, CONSISTENT WITH**
8 **THE COST CAUSATION RATEMAKING PRINCIPLE?**

9 A. No, it has not. While some participants in the Company's proposed Energy
10 Storage programs may benefit from them, PSE&G has failed to show that ES
11 deployment will bring system-wide benefits to all customers. Accordingly, the
12 proposed TIC-ES rate should be rejected since it would charge all PSE&G
13 customers for benefits that would accrue to only a limited number of them. If the
14 Board approves an ES program, rates for ES services should be set on a cost of
15 service basis and prices through a separate ES tariff.

16
17 **Q. DOES THIS COMPLETE YOUR TESTIMONY AT THIS TIME?**

18 A. Yes, it does; however, I reserve the right to supplement my testimony if additional
19 or updated information becomes available.

20
21
22
23
24
25
26
27
28

APPENDIX A - CURRICULUM VITAE

DAVID E. PETERSON

**STATEMENT OF EDUCATION AND EXPERIENCE
FOR
DAVID E. PETERSON**

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410.286.0503

Email: davep@chesapeake.net

Mr. Peterson is employed as a public utility rate consultant by Chesapeake Regulatory Consultants, Inc. Mr. Peterson has over forty-two years of experience analyzing regulated public utility ratemaking and service matters including three years as a member of a state regulatory commission staff and thirty-nine years as a consultant. Mr. Peterson specializes in utility revenue requirement and cost of service analyses. He has presented testimony in more than 170 proceedings before twenty state regulatory commissions, the Delaware House Energy Subcommittee, and the Federal Energy Regulatory Commission. Utilities addressed in Mr. Peterson's analyses and testimonies have included electric, natural gas, propane, telephone, water, steam and sewer companies.

EMPLOYMENT

1991 - Present	Senior Consultant Chesapeake Regulatory Consultants, Inc. Annapolis, Maryland
1980 - 1991	Consultant Hess & Lim, Inc. Greenbelt, Maryland
1977 - 1980	Rate Analyst South Dakota Public Utilities Commission Pierre, South Dakota
1977	Research Assistant Economics Department South Dakota State University Brookings, South Dakota

As a rate analyst and consultant, Mr. Peterson has served a diverse group of public utility consumers and governmental agencies on utility ratemaking and service-related issues. Clients have included state regulatory commissions and their staffs, consumer advocate agencies of state governments, federal agencies, municipalities, privately owned, municipally owned and cooperatively owned utilities, civic organizations, and industrial consumers.

EDUCATION

December 1983 Master of Business Administration
University of South Dakota
Vermillion, South Dakota

May 1977 Bachelor of Science Degree in Economics
South Dakota State University
Brookings, South Dakota

EXPERT TESTIMONY

Among the issues that Mr. Peterson has addressed in testimony are the appropriate test year, construction work in progress, cash working capital lead/lag studies, rate base, excess capacity, revenues, expenses, depreciation, income taxes, capital structure, rate of return, cost allocation, rate design, customer service charges, flexible rates, life-cycle analyses, cost tracking procedures, affiliate transactions, mergers, acquisitions and the consequences of industry restructuring. Mr. Peterson has presented testimony to the following regulatory bodies.

Alabama Public Service Commission
Arkansas Public Service Commission
California Public Utilities Commission
Colorado Public Utilities Commission
Connecticut Public Utilities Control Authority

Delaware Public Service Commission
Indiana Public Service Commission
Kansas State Corporation Commission
Maine Public Utilities Commission
Maryland Public Service Commission

Montana Public Service Commission
Nevada Public Service Commission
New Jersey Board of Public Utilities
New Mexico Public Service Commission
New York Dept. of Environmental Protection

New York Public Service Commission
Pennsylvania Public Utility Commission
South Dakota Public Utilities Commission
West Virginia Public Service Commission
Wyoming Public Service Commission

Delaware House of Representatives (Energy Subcommittee)
Federal Energy Regulatory Commission

In addition, Mr. Peterson has presented several utility training seminars, including the following:

Consolidated Tax Savings and Income Tax Normalization
Presented to Delaware Public Service Commission 2006

Public Utility Ratemaking Principles
Presented to Washington Utilities and Transportation Commission 2011

Electric Cost Allocation and Rate Design
Presented to Colorado Office of Consumer Counsel 2012

Public Utility Revenue Requirements
Presented to Delaware Public Service Commission 2012

Electric Cost Allocation and Rate Design
Presented to Delaware Public Service Commission 2013