

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

**In the Matter of the Petition of  
Public Service Electric and Gas Company  
for Approval of the Next Phase of the Gas System  
Modernization Program and Associated Cost Recovery  
Mechanism (“GSMP II”)**

**BPU Docket No. GR17070776**

**PUBLIC SERVICE ELECTRIC AND GAS COMPANY  
REBUTTAL TESTIMONY  
OF  
STEPHEN SWETZ  
SENIOR DIRECTOR – CORPORATE RATES AND  
REVENUE REQUIREMENTS**

**February 15, 2018**

**PUBLIC SERVICE ELECTRIC AND GAS COMPANY  
REBUTTAL TESTIMONY  
OF  
STEVEN SWETZ**

1 **Q. Please state your name, affiliation and business address.**

2 A. My name is Stephen Swetz and I am the Senior Director – Corporate Rates and  
3 Revenue Requirements for PSEG Services Corporation. My principal place of business is 80  
4 Park Plaza, Newark, New Jersey 07102. My professional experience and responsibilities are  
5 described in Schedule SS-GSMPII, which was submitted in connection with my direct  
6 testimony.

7 **Q. Have you testified previously in this proceeding?**

8 A. Yes. On July 27, 2017, on behalf of Public Service Electric & Gas Company  
9 (“PSE&G” or “Company”), I submitted direct testimony in support of PSE&G’s Petition  
10 requesting that the New Jersey Board of Public Utilities (“BPU” or “Board”) approve  
11 PSE&G’s proposed Gas System Modernization Program II (“GSMP II” or “Program”).

12 **Q. What was the purpose of your direct testimony in this proceeding?**

13 A. In my direct testimony I provided the details for the calculation of GSMP II’s revenue  
14 requirements, the associated cost recovery methodology and rate design for the GSMP II  
15 Petition filed with the Board. My direct testimony also provided detailed schedules setting  
16 forth the projected revenue requirements, rates and bill impacts over the expected Program  
17 life.

1 **Q. What is the purpose of your rebuttal testimony?**

2 A. In my rebuttal testimony, I respond to certain assertions in the direct testimony of  
3 Rate Counsel witnesses' Andrea C. Crane and David E. Dismukes, dated January 19, 2018. I  
4 also provide updated Schedules incorporating the effect of the recent reduction to the federal  
5 corporate income tax rate to the projected revenue requirements, rates and bill impacts over  
6 the expected Program life.

7 **Q. Please summarize your rebuttal testimony.**

8 A. The recommendations in Ms. Crane's and Dr. Dismukes' testimony that the Board  
9 deny PSE&G's GSMP II Petition, or that it approve a significantly smaller program than that  
10 proposed, should be rejected. Contrary to the assertions of Rate Counsel's witnesses,  
11 PSE&G has demonstrated that GSMP II program, as proposed, is a reasonable and prudent  
12 continuation of the GSMP I approved by the Board in Docket No. GR15030272 on  
13 November 16, 2015. Moreover, GSMP II is consistent with the Board's recently adopted  
14 Infrastructure Investment and Recovery ("IIR") regulations (N.J.A.C. 14:3-2A), and will  
15 enable the Company to timely complete important infrastructure replacements and upgrades  
16 that are in the best interest of customers and the State.

17 Regarding Ms. Crane's testimony, I explain that Ms. Crane's recommendation that  
18 the Board not adopt GSMP II is inconsistent with the Board's recent regulation encouraging  
19 infrastructure replacement programs such as GSMP II. I further explain that Ms. Crane's  
20 assertion that the GSMP II improperly benefits shareholders by "shifting risk to ratepayers"  
21 is unfounded. Rather, GSMP II will benefit PSE&G customers while providing PSE&G *an*  
22 *opportunity* to earn its fair rate of return authorized by the Board.

1           Regarding Dr. Dismukes’ testimony, I respond to Dr. Dismukes’ recommendations to  
2 modify GSMP II and I explain that Dr. Dismukes’ net economic benefits analysis is seriously  
3 flawed because it fails to account for all of the benefits derived through the replacement of  
4 essential utility infrastructure.

5 **Q.     What is your response to Ms. Crane’s assertion that for the GSMP II program**  
6 **the Board should adopt the rate of return recommended by Rate Counsel**  
7 **Witness O’Donnell?**

8 A.     In my direct testimony, I recommended that for GSMP II, the Company’s initial cost  
9 of capital for the Program be based on the return of equity (“ROE”), long-term debt rate and  
10 capital structure approved in the Solar 4 All Extension II filing in Docket No. EO16050412,  
11 which was the most recent new program approved for the Company by the Board on  
12 November 30, 2016. I further recommend that the cost of capital be modified to match the  
13 Company’s cost of capital approved by Board in the Company’s “next base rate case.” Since  
14 the filing of GSMP II, the Company on January 12, 2018, filed a base rate case. In order to  
15 eliminate the administrative inefficiency associated with litigating the cost of capital in this  
16 matter while it is being litigated in the base rate case, I recommend that for the GSMP II  
17 case, the Board utilize the rate of return decided in the base rate case. Because the first rate  
18 roll-in for GSMP II is anticipated to be filed in December 2019, the Board will have likely  
19 decided the base rate case well in advance of the first GSMP II roll-in. If for some reason the  
20 Board determines that it will decide rate of return in this proceeding, the Board should adopt  
21 the rate of return recommended by PSE&G witness Ann Bulkley in her rebuttal testimony.

1 **Q. Ms. Crane asserts that because the GSMP II proposal does not have a “hard**  
2 **cap” on program expenditures that the Company is asking the BPU is to write a**  
3 **“blank check” for the program. Can you please comment?**

4 A. The Company is not asking the Board to authorize a “blank check” for GSMP II.  
5 Rather, GSMP II sets forth an estimated dollar amount of investment and specific types of  
6 investments that are to be included in the Program. All the investments made by PSE&G  
7 during the Program will be subject to a prudency review by the Board in a future base rate  
8 case proceeding. As a result, all the investments made in the Board approved GSMP II will  
9 be subject to careful scrutiny, examination and review by the Board and interested parties.

10 **Q. Can you please comment on the concerns expressed by Ms. Crane relating to the**  
11 **recently adopted Infrastructure Investment and Recovery (“IIR”) regulations?**

12 A. Ms. Crane notes that Rate Counsel has “concerns” about the Board’s use of  
13 accelerated infrastructure investment recovery mechanisms. (Crane Direct p. 16) Rate  
14 Counsel’s position is not surprising given Rate Counsel’s criticism of the IIR regulation  
15 when it was proposed by the Board.<sup>1</sup> However, while Ms. Crane is critical of the Board’s  
16 IIR regulation because it uses a rate recovery clause, she readily acknowledges the  
17 “proliferation” of utility commission authorized clause recovery mechanisms such as the IIR  
18 regulation. While Rate Counsel may not like the IIR regulation, it is clear from the adoption  
19 of the regulation the Board has determined the use of the IIR recovery mechanism to  
20 encourage accelerated infrastructure is appropriate. Despite the recent adoption of the IIR,  
21 Ms. Crane asserts many of the same unsuccessful arguments that were made in opposition to  
22 the IIR during the rulemaking process, such as the use of a clause cost recovery mechanism  
23 is single issue ratemaking and “the BPU should move away from single-issue ratemaking and

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<sup>1</sup> See Rate Counsel Comments filed on May 12, 2017, and October 6, 2017, in connection with the proposed IIR rule.

1 return to base rate cases as the vehicle for establishing rates for New Jersey ratepayers.”

2 (Crane Direct p. 25)

3 **Q. Do you agree with Ms. Crane’s assertion that clause rate recovery mechanisms,**  
4 **such as the mechanism authorized in the IIR, transfers risk from utility**  
5 **shareholders to ratepayers?**

6 A. No. The rate recovery mechanism in GSMP II enables shareholders to experience a  
7 more timely recovery on investment than otherwise would occur. Thus, the use of a cost  
8 recovery clause generally enables a company to realize a return that is closer to its authorized  
9 rate of return. A more timely return on prudently incurred investment that is providing  
10 service to customers does not result in the shifting of risk to ratepayers.

11 **Q. Ms. Crane states that “to the extent PSE&G accelerates investment related to**  
12 **infrastructure replacement, shareholders can expect higher earnings, even if an**  
13 **accelerated cost recovery mechanism is not adopted.” Do you agree?**

14 A. No. If it were true that every dollar spent on infrastructure was a benefit to  
15 shareholders regardless of whether it is recovered through an accelerated cost recovery  
16 mechanism or through base rates, every utility in the State would likely invest as much as it  
17 prudently could to maximize earnings. The reality is that as investment is placed into  
18 service, a utility company will incur depreciation expense and interest expense to fund the  
19 investment with zero incremental revenue. Until that investment is recognized in rates,  
20 earnings will decrease, not increase. Therefore, not only will shareholders see no financial  
21 benefit from their investment until it is recognized in rates, the investment will actually result  
22 in reduced earnings.

1 The foregoing concept is depicted in the table below that shows, regardless of the  
 2 mechanism used to roll investment into rates, until the investment is rolled into rates, the  
 3 Company will experience negative earnings on that investment. To evaluate the impact the  
 4 GSMP II Program will have on earnings, I developed an income statement and balance sheet  
 5 for the Program. The revenues are the cumulative revenue requirement for each rate  
 6 adjustment, shaped annually based on net therm sales per month. The expenses are the  
 7 depreciation expense, interest expense and income taxes incurred as plant is placed into  
 8 service. The table below shows the earnings impact on GSMP II investment being recovered  
 9 under the following four scenarios:

- 10 1. The Company’s position as filed with semi-annual roll-ins (“Scenario 1”);
- 11 2. Ms. Crane’s second recommendation that if accelerated recovery is approved,  
 12 it be done with annual rate adjustments at Rate Counsel Witness O’Donnell’s  
 13 recommended weighted average cost of capital (“Scenario 2”);
- 14 3. Same as Scenario 2 except includes the impact of \$85 million in stipulated  
 15 base as recommended by Ms. Crane (“Scenario 3”); and
- 16 4. Ms. Crane’s recommendation for recovery of Program costs through base rate  
 17 cases, assuming a 27 month lag between rates (“Scenario 4”).

	<b>Earnings (\$000)</b>					
	2019	2020	2021	2022	2023	2024
Cumulative Investment	361,275	902,574	1,444,886	1,986,831	2,540,171	2,681,899
Scenario 1: As-Filed	(2,526)	1,214	31,122	57,631	84,335	112,237
Scenario 2: Annual Roll-ins <sup>1</sup>	(2,526)	2,392	23,180	49,105	75,520	110,816
Scenario 3: Annual Roll-ins w/ Stip Base <sup>2</sup>	(3,382)	48	19,062	43,250	67,965	102,154
Scenario 4: Rate Case recovery <sup>3</sup>	(2,526)	(11,456)	17,368	26,440	62,547	91,184

<sup>1</sup> Assumes annual roll-ins based on Plant In-Service as of October 31st for rates effective February 1st.

<sup>2</sup> Same as Annual Base roll-in except factors in the lag on the proposed \$85 million in incremental Stipulated Base.

<sup>3</sup> Assumes rate case result every 27 months based on rate base as of 24 months.

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1 Under each of the scenarios, negative earnings result in the first year as interest costs are  
2 incurred to finance the capital expenditures, and as depreciation costs grow as projects are  
3 placed in service. Concurrently, no revenues are realized due to the delay of the first rate  
4 adjustment to meet the 10% of investment cap required under the IIR regulations. Earnings  
5 increase thereafter as investment is recognized in rates under the Company's filed position  
6 and the annual roll-in recommendation, but generate an even greater loss under the base rate  
7 case scenario.

8 **Q. Even in the rate case recovery scenario, the Company is generating positive**  
9 **earnings in total through 2024. Doesn't that mean the Program is beneficial to**  
10 **shareholders regardless of the recovery mechanism as Ms. Crane suggests?**

11 A. Ms. Crane is correct that once recognized in rates, shareholders will see an increase in  
12 earnings from the GSMP II investment. However, she is not considering the level of the rate  
13 of return on that investment. Regulatory lag on recovery of investment has a significant  
14 impact on the Company's actual return on equity ("ROE"). Even with semi-annual rate  
15 adjustments as proposed by the Company, the Company will not achieve its requested ROE  
16 before the conclusion of its next base rate case (proposed under GSMP II to be filed by no  
17 later than December 31, 2023) at which time all GSMP II investment will be reset as part of  
18 utility rate base.

19 **Q. What would be the impact on the Company's actual ROE if the Company were**  
20 **to recover its GSMP II investment with an average regulatory lag of 27 months?**

21 A. Ms. Crane's recommendation to only allow recovery through a base rate case (where  
22 she assumes a 27 month lag) would result in an ROE through 2024 materially below the ROE  
23 of 9% recommended by Rate Counsel's own witness, Kevin O'Donnell. Utilizing the annual



1 rate adjustments she recommends if GSMP II is approved in some form, the Company would  
 2 have a negative ROE for the first two years, followed by returns materially under any  
 3 acceptable level. And that return does not even factor in the impact of the \$85 million of  
 4 additional annual base spend Ms. Crane also recommends. The regulatory lag on the \$85  
 5 million of additional annual base spend would further reduce the ROE for the Program by  
 6 another almost 2% annually. In each case, the return of the Program does not reach the  
 7 allowed ROE during these years. The gap is most significant in the annual roll-ins and base  
 8 rate case approaches cited by Rate Counsel. This is in direct opposition of the BPU’s IIR  
 9 policy goal of creating “a rate recovery mechanism that encourages and supports necessary  
 10 accelerated construction, installation, and rehabilitation of certain utility plants and  
 11 equipment.”<sup>2</sup> The table below shows a comparison of the annual ROEs through 2024 based  
 12 upon (1) the cost recovery mechanism proposed by the Company; (2) annual rate  
 13 adjustments, (3) annual rate adjustments with stipulated base, and (4) base rate recovery as  
 14 recommended by Ms. Crane.

	<b>Return on Equity</b>					
	2019	2020	2021	2022	2023	2024
Scenario 1: As-Filed	-4.0%	0.4%	5.9%	7.5%	8.4%	9.5%
Scenario 2: Annual Roll-ins <sup>1</sup>	-4.0%	0.9%	4.4%	6.4%	7.5%	9.4%
Scenario 3: Annual Roll-ins w/ Stip Base <sup>2</sup>	-4.1%	0.0%	3.1%	4.8%	5.8%	7.5%
Scenario 4: Rate Case recovery <sup>3</sup>	-4.0%	-4.2%	3.3%	3.4%	6.2%	7.8%

<sup>1</sup> Assumes annual roll-ins based on Plant In-Service as of October 31st for rates effective February 1st.

<sup>2</sup> Same as Annual Base roll-in except factors in the lag on the proposed \$85 million in incremental Stipulated Base.

<sup>3</sup> Assumes rate case result every 27 months based on rate base as of 24 months.

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<sup>2</sup> IIR, N.J.A.C. 14:3-2A.1(b)

1 **Q. Could implementing the GSMP II Program as proposed with base rate recovery**  
2 **as Ms. Crane suggests impact the Company's credit metrics and ability to raise**  
3 **debt cost-effectively?**

4 A. Yes. Rating agencies consider both qualitative (business) risk and quantitative  
5 (financial) risk in their assessments. Overall, undertaking GSMP II absent a clause-type cost  
6 recovery mechanism would be viewed negatively. Further, Rate Counsel's proposals to  
7 further delay providing revenue for this Program, to lower the Company's ROE on Program  
8 investment, and to lower the capital structure would each exacerbate this impact. Based on a  
9 quantitative (financial) risk assessment, we would be negatively impacted due to one of the  
10 most important credit metrics, Funds From Operations ("FFO") divided by our debt. The  
11 regulatory lag associated with realizing revenues from these investments would lead to lower  
12 FFO (including increased interest expense) and higher debt (to finance the capital  
13 expenditures).

14 Based on their qualitative (business) risk assessment, this would be a negative change  
15 in the regulatory framework due to an increase in regulatory lag. Perhaps, most importantly,  
16 the rating agencies would view a decision to undertake GSMP II without a mechanism to  
17 promptly recover invested capital as an imprudent financial policy decision by management.

18 **Q. Is Mrs. Crane's proposal aligned with the IIR recently approved by the BPU?**

19 A. No. The BPU issued the IIR to provide financial incentive for utilities to work on  
20 necessary infrastructure replacement programs. Such an incentive – which is simply *an*  
21 *opportunity* (not a guarantee as Ms. Crane suggests) to commence earning a return on  
22 investment sooner than having to wait until a base rate case – is critical to long-term  
23 infrastructure replacement programs such as GSMP II. Rate Counsel's proposal flies in the

1 face of State policy. Rather than encouraging infrastructure investment programs as the IIR  
2 expressly is intended to do, Rate Counsel is seeking to harm utilities' financial condition and  
3 undermine the purpose of the IIR by, among other things, delaying revenue recognition,  
4 reducing ROEs, reducing the equity in the Company's capital structure, reducing the duration  
5 of the Program, and requiring an earlier base rate case. Rate Counsel is effectively proposing  
6 to undo the policy that the BPU just adopted.

7 **Q. Ms. Crane states that "GSMP II is essentially risk-free to shareholders." Do you**  
8 **agree?**

9 A. No. The Company bears the same risks for the work conducted under the GSMP II  
10 Program as it does for work that is recovered from a base rate proceeding. Installing mains  
11 for example will have the same operational and prudence risk regardless of whether it is done  
12 through base rates or the GSMP II Program. Further, the rate design for all GSMP rate  
13 adjustments is the same as approved in the Company's last base rate case, so the recovery  
14 risk is even the same. The only difference the GSMP II accelerated recovery provides from  
15 investments recovered through a base rate case is a financial incentive to accelerate  
16 investment by reducing regulatory lag.

17 **Q. Is Ms. Crane's recommendation that if the Board adopts an accelerated**  
18 **infrastructure program, it should adopt a program that contains elements**  
19 **similar to GSMP I, consistent with the Board's IIR regulation?**

20 A. No. Ms. Crane's alternative recommendation essentially ignores the Board's  
21 adoption of the IIR regulation. For example, she contends that, despite the Board's approval  
22 of the IIR regulation, the Board should move away from the use of clause recovery  
23 mechanisms and revert to base rate proceedings. (Crane Direct, p. 26) Further, her

1 suggested revisions to GSMP II seek to impose requirements on GSMP II that go well  
2 beyond the infrastructure plan requirements carefully developed by the Board in the IIR  
3 regulation. For example, she recommends that: (i) GSMP II be limited to three years even  
4 though the IIR regulation contemplates programs of up to five (5) years; (ii) the Company be  
5 required to incur incremental annual base spending at about 39%<sup>3</sup> of the annual program  
6 spend rather than the 10% requirement in the IIR regulation; (iii) the GSMP II annual rate  
7 increase impact not be permitted to exceed 2% annually despite that the IIR regulation  
8 contains no cap requirements, and (iv) the Company be prohibited from implementing a rate  
9 roll-in if its earnings exceed the most recently authorized ROE even though the IIR  
10 regulation only prohibits such roll-ins where the ROE exceeds the authorized ROE by 50  
11 basis points.

12 **Q. Ms. Crane suggests that the Board impose an annual 2% cap on increases under**  
13 **GSMP II. Can you comment on her recommendation?**

14 A. Because natural gas bills are down approximately 50% from 2010, now is a prudent  
15 time to proceed with the accelerated replacement of aging infrastructure. It is unnecessary to  
16 impose such a cap given the decreased level of gas bills. Indeed, after the implementation of  
17 the five (5) year GSMP II program, and assuming gas supply prices remain level, the average  
18 residential customer gas bills will still be about 30% lower than the 2010 bill. In addition, a  
19 percentage cap has the inverse desired effect of reducing investment when bills are lower and  
20 increasing investments when bills are higher.

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<sup>3</sup> \$85 million stipulated base / \$217 million of annual program spend.

1 **Q. Can you please comment on Dr. Dismukes' assertion that the Company's GSMP**  
2 **II proposal does not comply with the requirements of the IIR regulation?**

3 A. While Dr. Dismukes is correct that the Company filed GSMP II prior to the Board's  
4 adoption of the IIR regulations, his claim that the Company's GSMP II filing is not  
5 consistent with the requirements of the IIR regulation is not correct. For example, he asserts  
6 that the proposed Program lacks a detailed budget, a description of project objectives, and  
7 details on in-service dates (Dismukes Direct p. 13). His claim is without basis because  
8 GSMP II addresses all of these subjects to the extent required: (i) budget information is  
9 provided in Mr. Miller's testimony, Attachment 1, Schedules WEM-GSMP II - 3 and WEM-  
10 GSMP II - 4; (ii) the project purposes and objectives are discussed at length throughout Mr.  
11 Miller's testimony (Attachment 1), and (iii) estimated in-service dates and projected roll-ins  
12 of investment are discussed in Mr. Miller's and Mr. Swetz's testimony. (See Attachment 1,  
13 Schedule WEM-GSMP II-4 and Schedule SS-GSMP II-3).

14 **Q. Can you please comment on Dr. Dismukes' contention that the Company has not**  
15 **provided a "cost benefits" analysis?**

16 A. The GSMP II Petition and supporting testimony set forth in detail the estimated costs  
17 of the Program and the resulting benefits. The benefits of the GSMP II Program, which are  
18 discussed in Mr. Miller's testimony, are substantial. The benefits discussed by Mr. Miller  
19 include: (i) improved long term safety and reliability of the gas delivery system; (ii) reduction  
20 of high cost emergency replacements; (iii) reduction of unplanned outages; (iv) outside  
21 access to service shut-off valves at meter sets; (v) greater application of service line excess  
22 flow valves; (vi) reduced greenhouse gas emissions; (vii) increased ability to use higher-  
23 efficiency and other appliances; (viii) reduced operating and maintenance ("O&M") costs,

1 and (x) avoided capital costs. (Attachment 1, Miller Direct pp. 66-74)

2 It is important to emphasize that the replacement of mains and services will enhance  
3 the safety and reliability of the system through the use of more modern materials and  
4 construction. The GSMP II program focuses on replacing outdated, aging infrastructure that  
5 requires replacement to sustain the gas delivery system. These are necessary expenditures to  
6 ensure the long-term continuation of uninterrupted, safe and adequate service to customers.

7 And, doing that now when bills are so much lower than they were earlier this decade,  
8 when the need for emission reduction is clear, financing costs are still near historic lows,  
9 corporate tax rates are at historic lows, and the potential for positive employment and  
10 economic development impacts all align to make now the right time to accelerate this needed  
11 work.

12 **Q. Can you comment on Dr. Dismukes claim that the GSMP II program will result**  
13 **in negative net economic benefits?**

14 A. In his testimony Dr. Dismukes presents the results of what he describes as a “net  
15 economic benefits analysis” based on the use of “the IMPLAN” model. (Dismukes Direct p.  
16 43). It should be noted, Dr. Dismukes has acknowledged that for every infrastructure  
17 program by a regulated public utility that he has analyzed using the IMPLAN model, he has  
18 concluded that the infrastructure program results in a negative economic benefit.<sup>4</sup> The  
19 analysis purports to compare the positive economic impacts associated with GSMP II  
20 construction expenditures and energy savings to the negative economic impacts associated  
21 with rate increases. Dr. Dismukes states that he uses the proprietary “IMPLAN economic

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<sup>4</sup> See Rate Counsel discovery response to PSE&G-RC-DD-18, appended as Attachment 1.

1 plan modeling software” to estimate “multiplier effects” of the construction spending, energy  
2 savings and the rate impacts associated with the system replacement and upgrade from  
3 GSMP II, resulting in calculated direct, indirect and induced impacts of the Program’s “costs  
4 and benefits” to the New Jersey economy (Dismukes Direct p. 43-44). Dr. Dismukes  
5 concludes that the estimated negative economic impact from the rate increase would be  
6 greater than the positive economic impact from program construction expenditures, resulting  
7 in an overall or net negative economic impact on the State.

8 **Q. Do you agree with Dr. Dismukes’ economic impact analysis?**

9 A. No. Dr. Dismukes analysis contains a fundamental flaw because it does not consider  
10 all of the benefits that are expected to be produced by the necessary replacement of aging gas  
11 supply infrastructure. While Dr. Dismukes’ appears to use IMPLAN model analysis to  
12 estimate the impact of the cost to ratepayers of the GSMP II Program the benefits he takes  
13 into account are limited to operations and maintenance reductions, capital cost reductions,  
14 and economic benefit from reduced leaks and greenhouse gas emissions.<sup>5</sup>

15 **Q. Can you further explain why you disagree with Dr. Dismukes’ analysis?**

16 A. Yes. Dr. Dismukes’ analysis fails to consider all of the positive, long-term benefits  
17 resulting from the wide-scale replacement of aging gas system infrastructure. Dr. Dismukes’  
18 analysis ignores that the overall purpose of a long-term infrastructure replacement program is  
19 to ensure that the utility system will continue to provide safe, reliable, essential services to  
20 commercial, industrial and residential customers. The utility gas delivery system is an

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<sup>5</sup> Further, as shown in the revised Schedules submitted with this testimony, the costs of the Program have been materially reduced as a result of the impacts of Federal Tax reform. Such cost reductions should be taken into account when analyzing the economic impact of the Program.

1 essential component of the State's economy. Dr. Dismukes' analysis is fatally flawed  
2 because it fails to recognize that the replacement of necessary infrastructure is critical to the  
3 continued provision of gas service which is crucial to State's economy and the welfare of the  
4 citizens and businesses of the State.

5 It is not surprising that Dr. Dismukes' evaluation, solely based on GSMP II  
6 construction expenditures, a few other calculated benefits, and rate impacts, without taking  
7 into account all the benefits of a replaced system, would lead the conclusion that he put forth.

8 Further, infrastructure programs that improve safety should not be evaluated based on  
9 cost benefit analyses basis. As such, it is reasonable to conclude that the IMPLAN model  
10 and the related analysis conducted by Dr. Dismukes are not appropriate means of evaluating  
11 the overall benefits of an infrastructure program, such as the Program proposed by the  
12 Company.

13 **Q. Have you been able to been able to examine the IMPLAN model analysis utilized**  
14 **by Dr. Dismukes?**

15 A. Not in a material way. While PSE&G in discovery was provided various workpapers  
16 of Dr. Dismukes, Rate Counsel did not provide a copy of the IMPLAN model. The  
17 Company requested that Rate Counsel provide the specific IMPLAN model used by Dr.  
18 Dismukes. Rate Counsel failed to provide the IMPLAN model analysis based on the  
19 assertion that the IMPLAN model is proprietary.<sup>6</sup> Our review of Dr. Dismukes' workpapers  
20 enabled us to see certain output information that Dr. Dismukes used from the IMPLAN  
21 model in connection with his analysis. However, because the parties have not been provided

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<sup>6</sup> See Rate Counsel discovery response to PSE&G-RC-DD-3, appended as Attachment 2.



1 the IMPLAN model itself, PSE&G and the Board are unable to examine the specific  
2 assumptions and formulas used in the IMPLAN model to produce its results. Had PSE&G  
3 been provided a copy of the IMPLAN model we could have examined it and provided further  
4 insight to the Board regarding the model's possible infirmities and its mis-application to  
5 GSMP II.

6 **Q. Does the recently passed the Tax Cuts and Jobs Act of 2017 ("TCJA"), Public**  
7 **Law No. 115-97, ("Tax Act") have any impact on the revenue requirements and**  
8 **rate impacts resulting from GSMP II?**

9 A. Yes. Attached to my rebuttal testimony is a revised revenue requirement schedule  
10 incorporating the 21% federal income tax rate (replacing the 35% utilized in the Company's  
11 initial filing) and eliminating bonus depreciation, which the Company included at 30% for  
12 2019 in accordance with the tax regulations at the time of the initial filing. As a result of the  
13 Tax Act, the annual average impact of the Program decreases from approximately 4% per  
14 year to 3.4% per year to the typical gas heating residential customer.

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

16 A. Yes.

1

**REVISED (R)<sup>7</sup> SCHEDULE INDEX**

2

Schedule SS-GSMPII-2(R) Weighted Average Cost of Capital

3

Schedule SS-GSMPII-3(R) Gas Revenue Requirements Calculation

4

Schedule SS-GSMPII-4(R) Proof of Revenue and Forecasted Rates

5

Schedule SS-GSMPII-5(R) Summary of Forecasted Roll-in Rates

6

Schedule SS-GSMPII-6(R) RSG Typical Annual Bill Impacts for each Forecasted Roll-in

7

**ATTACHMENTS**

8

Attachment 1 PSE&G-RC-DD-18

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Attachment 2 PSE&G-RC-DD-3

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<sup>7</sup> (R) Indicates the Schedule has been revised.

**PSE&G Gas System Modernization Program II**  
**Weighted Average Cost of Capital (WACC)**

Schedule SS-GSMPII-2 ( R )

	<u>Percent</u>	<u>Embedded Cost</u>	<u>Weighted Cost</u>	<u>Pre-Tax Weighted Cost</u>	<u>Pre-Tax Weighted Cost</u>	<u>After Tax Weighted Cost</u>
Other Capital	48.1848%	4.1439%	1.9967%	1.0000	1.9967%	
Customer Deposits	<u>0.6152%</u>	0.1100%	<u>0.0007%</u>	1.0000	<u>0.0007%</u>	
Sub-total	48.8000%		1.9974%		1.9974%	1.4359%
Preferred Stock	0.0000%	0.0000%	0.0000%	1.3910	0.0000%	0.0000%
Common Equity	51.2000%	9.7500%	<u>4.9920%</u>	1.3910	<u>6.9439%</u>	<u>4.9920%</u>
Total	100.0000%		<u>6.99%</u>		<u>8.94%</u>	6.4279%
Federal Income Tax	21.00%					
State NJ Business Incm Tax	<u>9.00%</u>					
Tax Rate	28.1100%					

**PSE&G Gas System Modernization Program II  
Gas Forecasted Annual Roll-in Calculation**

Schedule SS-GSMPII-3 ( R )

in (\$000)

<b>Roll-in Filing</b>	Roll-in 1	Roll-in 2	Roll-in 3	Roll-in 4	Roll-in 5	Roll-in 6	Roll-in 7	Roll-in 8	Final Roll-in
Rate Effective Date									
Plant In Service as of Date	2/29/2020	8/31/2020	2/28/2021	8/31/2021	2/28/2022	8/31/2022	2/28/2023	8/31/2023	6/1/2024
Rate Base Balance as of Date	5/31/2020	11/30/2020	5/31/2021	11/30/2021	5/31/2022	11/30/2022	5/31/2023	11/30/2023	9/30/2024

**RATE BASE CALCULATION**

	Roll-in 1	Roll-in 2	Roll-in 3	Roll-in 4	Roll-in 5	Roll-in 6	Roll-in 7	Roll-in 8	Final Roll-in	Total	
1 Gross Plant	\$362,153	\$253,923	\$249,533	\$254,398	\$249,934	\$254,227	\$250,334	\$259,571	\$360,093	<b>\$2,494,166</b>	= In 16
2 Accumulated Depreciation	\$23,062	\$17,238	\$16,544	\$17,271	\$16,571	\$17,259	\$16,599	\$17,622	\$22,731	<b>\$164,896</b>	= In 19
3 Net Plant	\$385,215	\$271,161	\$266,078	\$271,669	\$266,505	\$271,485	\$266,933	\$277,193	\$382,824	<b>\$2,659,063</b>	= In 1 + In 2
4 Accumulated Deferred Taxes	-\$12,974	-\$7,121	-\$9,002	-\$7,135	-\$9,017	-\$7,130	-\$9,024	-\$7,280	-\$13,192	<b>-\$81,874</b>	= See "Dep-UPCI" Wkps
5 Rate Base	\$372,241	\$264,040	\$257,076	\$264,534	\$257,488	\$264,356	\$257,908	\$269,914	\$369,632	<b>\$2,577,189</b>	= In 3 + In 4
6 Rate of Return - After Tax (Schedule WACC)	6.43%	6.43%	6.43%	6.43%	6.43%	6.43%	6.43%	6.43%	6.43%	<b>6.43%</b>	See Schedule SS-GSMPII-2
7 Return Requirement (After Tax)	\$23,927	\$16,972	\$16,525	\$17,004	\$16,551	\$16,993	\$16,578	\$17,350	\$23,760	<b>\$165,660</b>	= In 5 * In 6
8 Depreciation Exp, net	\$4,192	\$2,939	\$2,888	\$2,944	\$2,893	\$2,942	\$2,897	\$3,004	\$4,168	<b>\$28,868</b>	= In 25
9 Tax Adjustment	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	<b>\$0</b>	N/A
10 Revenue Factor	1.4087	1.4087	1.4087	1.4087	1.4087	1.4087	1.4087	1.4087	1.4087	<b>1.4087</b>	
<b>11 Total Revenue Requirement</b>	<b>\$39,611</b>	<b>\$28,049</b>	<b>\$27,347</b>	<b>\$28,102</b>	<b>\$27,391</b>	<b>\$28,083</b>	<b>\$27,435</b>	<b>\$28,673</b>	<b>\$39,341</b>	<b>\$274,032</b>	= (In 7 + In 8 + In 9) * In 10

**SUPPORT**

**Gross Plant**

12 Plant in-service	\$362,153	\$253,923	\$249,533	\$254,398	\$249,934	\$254,227	\$250,334	\$259,571	\$360,093	<b>\$2,494,166</b>	= See "Dep-UPCI" Wkp
13 CWIP Transferred into Service	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	<b>\$0</b>	= See "Dep-UPCI" Wkp
14 AFUDC on CWIP Transferred Into Service - Debt	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	<b>\$0</b>	= See "Dep-UPCI" Wkp
15 AFUDC on CWIP Transferred Into Service - Equity	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	<b>\$0</b>	= See "Dep-UPCI" Wkp
<b>16 Total Gross Plant</b>	<b>\$362,153</b>	<b>\$253,923</b>	<b>\$249,533</b>	<b>\$254,398</b>	<b>\$249,934</b>	<b>\$254,227</b>	<b>\$250,334</b>	<b>\$259,571</b>	<b>\$360,093</b>	<b>\$2,494,166</b>	= In 12 + In 13 + In 14 + In 15

**Accumulated Depreciation**

17 Accumulated Depreciation	-\$4,197	-\$1,874	-\$2,238	-\$1,878	-\$2,242	-\$1,876	-\$2,243	-\$1,916	-\$4,373	<b>-\$22,837</b>	= See "Dep-UPCI" Wkp
18 Cost of Removal	\$27,259	\$19,112	\$18,782	\$19,148	\$18,812	\$19,135	\$18,842	\$19,538	\$27,104	<b>\$187,733</b>	= See "Dep-UPCI" Wkp
<b>19 Net Accumulated Depreciation</b>	<b>\$23,062</b>	<b>\$17,238</b>	<b>\$16,544</b>	<b>\$17,271</b>	<b>\$16,571</b>	<b>\$17,259</b>	<b>\$16,599</b>	<b>\$17,622</b>	<b>\$22,731</b>	<b>\$164,896</b>	= In 17 + In 18

**Depreciation Expense (Net of Tax)**

20 Depreciable Plant (xAFUDC-E)	\$362,153	\$253,923	\$249,533	\$254,398	\$249,934	\$254,227	\$250,334	\$259,571	\$360,093	<b>\$2,494,166</b>	= In 12 + In 13 + In 14
21 AFUDC-E	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	<b>\$0</b>	= In 15
22 Depreciation Rate	1.61%	1.61%	1.61%	1.61%	1.61%	1.61%	1.61%	1.61%	1.61%		= See "Dep-UPCI" Wkp
23 Depreciation Expense	\$5,830.67	\$4,088.16	\$4,017.49	\$4,095.81	\$4,023.94	\$4,093.05	\$4,030.37	\$4,179.10	\$5,797.49	<b>\$40,156</b>	= (In 20 + In 21) * In 22
24 Tax @40.85%	\$1,639.00	\$1,149.18	\$1,129.32	\$1,151.33	\$1,131.13	\$1,150.56	\$1,132.94	\$1,174.74	\$1,629.68	<b>\$11,288</b>	= In 20 * In 22 * Tax Rate
<b>25 Depreciation Expense (Net of Tax)</b>	<b>\$4,191.67</b>	<b>\$2,938.98</b>	<b>\$2,888.17</b>	<b>\$2,944.48</b>	<b>\$2,892.81</b>	<b>\$2,942.49</b>	<b>\$2,897.43</b>	<b>\$3,004.35</b>	<b>\$4,167.82</b>	<b>\$28,868</b>	= In 23 - In 24

**Gas Rate Design (Proof of Revenue by Rate Class)**

**Explanation of Format**

The summary provides by rate schedule the Annualized Weather Normalized (all customers assumed to be on BGSS) revenue based on current tariff rates and the proposed initial rate change. The detailed rate design by rate schedule follows the summary page. The pages presented in Schedule SS-GSMPII-4 are the 9 relevant pages from the complete rate change workpapers from the Company's 2009 Gas Base Rate Case and have been appropriately modified per my testimony to reflect this GSMPII roll-in.

**Annualized Weather Normalized (all customers assumed to be on BGSS) and the Proposed Detailed Rate Design.**

In the detailed rate design pages, all the components are separated into Delivery and Supply. In addition to the Distribution components of Delivery, also included in the schedule are lines for Balancing, Societal Benefits Charge, Realignment Adjustment Charge, Margin Adjustment Charge, Weather Normalization Charge, GPRC Recovery Charge, CIP 1 Capital Adjustment Charges (CAC), Miscellaneous items, and Unbilled Revenue.

Column (1) shows the annualized weather normalized billing units. Column (2) shows present Delivery rates (without Sales and Use Tax, SUT) effective February 1, 2018. The commodity rates in the Column (2) reflect the 2012 class-weighted averages (BGSS-RSG uses the rate as of 1/1/2018). Column (3) presents annualized revenue assuming all customers are provided service under their applicable BGSS provision. Column (4) repeats the billing units of Column (1). Column (5) shows the proposed rates without SUT that result in the proposed revenues shown in Column (6). Columns (7) and (8) show the proposed base rate revenue increase, in thousands of dollars and percent increase, respectively, for each of the billing unit blocks. The proposed tariff charges (with and without SUT) are provided on pages 1 and 2 of Schedule SS-GSMPII-5.

Annualized

	Rate Schedule	Weather Normalized		Proposed with GSMP Roll-in		Increase	
		Therms (1)	Revenue (2)	Therms (3)	Revenue (4)	Revenue (5)	Percent (6)
1	RSG	1,381,959	\$1,168,188	1,381,959	\$1,196,516	\$28,328	2.42
2	GSG	263,897	249,747	263,897	254,261	\$4,514	1.81
3	LVG	641,990	496,531	641,990	502,915	\$6,384	1.29
6	SLG	<u>682,345</u>	<u>697,051</u>	<u>682,345</u>	<u>717,367</u>	<u>\$20,316</u>	2.91
7	Subtotal	2,288,528	1,915,163	2,288,528	1,954,409	\$39,246	2.05
8							
9	TSG-F	28,062	16,192.535	28,062	16,376.535	\$184.000	1.14
10	TSG-NF	864,596	153,925	864,596	154,839	\$914	0.59
11	CIG	<u>58,147</u>	<u>25,754</u>	<u>58,147</u>	<u>25,946</u>	<u>\$192</u>	0.75
12	Subtotal	950,805	195,872	950,805	197,162	\$1,290	0.66
13							
14	Totals	<u>3,239,333</u>	<u>\$2,111,035</u>	<u>3,239,333</u>	<u>\$2,151,571</u>	<u>\$40,536</u>	1.92

Less change in MAC included above \$925

Gas Revenue Requirement \$39,611 proposed roll-in

	Increase Before Mac Adjustment	Increase Above	MAC Adjustment
RSG	\$27,777	\$28,328	\$551
GSG	4,410	4,514	104
LVG	6,127	6,384	257
SLG	<u>20,047</u>	<u>20,316</u>	<u>0,269</u>
Subtotal	\$38,334	\$39,246	\$912
TSG-F	\$173.131	\$184.000	\$10.869
TSG-NF	914	914	0
CIG	<u>192</u>	<u>192</u>	<u>0</u>
Subtotal	\$1,279	\$1,290	\$11
Totals	<u>\$39,613</u>	<u>\$40,536</u>	<u>\$923</u>

Notes: All customers assumed to be on BGSS.  
 SLG units and revenues shown to 3 decimals.  
 TSG-F revenues shown to 3 decimals.  
 Annualized Weather Normalized Revenue reflects Delivery rates in effect 1/1/2018 plus applicable BGSS charges.

















PSE&G Gas System Modernization Program II  
Gas Annual Tariff Rate Summary

Schedule SS-GSMP11-5(R)

Page 1 of 2

Rate Schedule	Present		6/1/2020		12/1/2020		6/1/2021		12/1/2021		
	Charge w/o	Charge Including	Charge w/o	Charge Including	Charge w/o	Charge Including	Charge w/o	Charge Including	Charge w/o	Charge Including	
	SUT	SUT	SUT	SUT	SUT	SUT	SUT	SUT	SUT	SUT	
<b>RSG</b>	Service Charge	\$5.46	\$5.82	\$5.46	\$5.82	\$5.46	\$5.82	\$5.46	\$5.82	\$5.46	\$5.82
	Distribution Charges	\$0.321832	\$0.343153	\$0.342358	\$0.365039	\$0.356890	\$0.380534	\$0.371056	\$0.395638	\$0.385612	\$0.411159
	Balancing Charge	\$0.084457	\$0.090052	\$0.084457	\$0.090052	\$0.084457	\$0.090052	\$0.084457	\$0.090052	\$0.084457	\$0.090052
	Off-Peak Use	\$0.160916	\$0.171577	\$0.171179	\$0.182520	\$0.178445	\$0.190267	\$0.185528	\$0.197819	\$0.192806	\$0.205579
<b>GSG</b>	Service Charge	\$12.23	\$13.04	\$13.18	\$14.05	\$13.87	\$14.79	\$14.55	\$15.51	\$15.26	\$16.27
	Distribution Charge - Pre July 14, 1997	\$0.259499	\$0.276691	\$0.270641	\$0.288571	\$0.278417	\$0.296862	\$0.285951	\$0.304895	\$0.293621	\$0.313073
	Distribution Charge - All Others	\$0.259499	\$0.276691	\$0.270641	\$0.288571	\$0.278417	\$0.296862	\$0.285951	\$0.304895	\$0.293621	\$0.313073
	Balancing Charge	\$0.084457	\$0.090052	\$0.084457	\$0.090052	\$0.084457	\$0.090052	\$0.084457	\$0.090052	\$0.084457	\$0.090052
	Off-Peak Use Dist Charge - Pre July 14, 1997	\$0.129750	\$0.138346	\$0.135321	\$0.144286	\$0.139209	\$0.148432	\$0.142976	\$0.152448	\$0.146811	\$0.156537
	Off-Peak Use Dist Charge - All Others	\$0.129750	\$0.138346	\$0.135321	\$0.144286	\$0.139209	\$0.148432	\$0.142976	\$0.152448	\$0.146811	\$0.156537
<b>LVG</b>	Service Charge	\$100.12	\$106.75	\$100.12	\$106.75	\$100.12	\$106.75	\$100.12	\$106.75	\$100.12	\$106.75
	Demand Charge	\$4.0054	\$4.2708	\$4.2633	\$4.5457	\$4.4460	\$4.7405	\$4.6242	\$4.9306	\$4.8075	\$5.1260
	Distribution Charge 0-1,000 pre July 14, 1997	\$0.047350	\$0.050487	\$0.052547	\$0.056028	\$0.055855	\$0.059555	\$0.059012	\$0.062922	\$0.062130	\$0.066246
	Distribution Charge over 1,000 pre July 14, 1997	\$0.041279	\$0.044014	\$0.043288	\$0.046156	\$0.044823	\$0.047793	\$0.046343	\$0.049413	\$0.047946	\$0.051122
	Distribution Charge 0-1,000 post July 14, 1997	\$0.047350	\$0.050487	\$0.052547	\$0.056028	\$0.055855	\$0.059555	\$0.059012	\$0.062922	\$0.062130	\$0.066246
	Distribution Charge over 1,000 post July 14, 1997	\$0.041279	\$0.044014	\$0.043288	\$0.046156	\$0.044823	\$0.047793	\$0.046343	\$0.049413	\$0.047946	\$0.051122
	Balancing Charge	\$0.084457	\$0.090052	\$0.084457	\$0.090052	\$0.084457	\$0.090052	\$0.084457	\$0.090052	\$0.084457	\$0.090052
<b>SLG</b>	Single-Mantle Lamp	\$9.6316	\$10.2697	\$9.6316	\$10.2697	\$9.6316	\$10.2697	\$9.6316	\$10.2697	\$9.6316	\$10.2697
	Double-Mantle Lamp, inverted	\$9.4856	\$10.1140	\$9.4856	\$10.1140	\$9.4856	\$10.1140	\$9.4856	\$10.1140	\$9.4856	\$10.1140
	Double Mantle Lamp, upright	\$8.3906	\$8.9465	\$8.3906	\$8.9465	\$8.3906	\$8.9465	\$8.3906	\$8.9465	\$8.3906	\$8.9465
	Triple-Mantle Lamp, prior to January 1, 1993	\$9.4856	\$10.1140	\$9.4856	\$10.1140	\$9.4856	\$10.1140	\$9.4856	\$10.1140	\$9.4856	\$10.1140
	Triple-Mantle Lamp, on and after January 1, 1993	\$61.9958	\$66.1030	\$61.9958	\$66.1030	\$61.9958	\$66.1030	\$61.9958	\$66.1030	\$61.9958	\$66.1030
	Distribution Therm Charge	\$0.115157	\$0.122786	\$0.145038	\$0.154647	\$0.166181	\$0.177190	\$0.186785	\$0.199160	\$0.207948	\$0.221725
<b>TSG-F</b>	Service Charge	\$580.42	\$618.87	\$625.58	\$667.02	\$658.34	\$701.96	\$690.82	\$736.59	\$724.73	\$772.74
	Demand Charge	\$1.9555	\$2.0851	\$2.0552	\$2.1914	\$2.1255	\$2.2663	\$2.1934	\$2.3387	\$2.2633	\$2.4132
	Distribution Charges	\$0.074744	\$0.079696	\$0.078555	\$0.083759	\$0.081242	\$0.086624	\$0.083836	\$0.089390	\$0.086506	\$0.092237
<b>TSG-NF</b>	Service Charge	\$580.42	\$618.87	\$625.58	\$667.02	\$658.34	\$701.96	\$690.82	\$736.59	\$724.73	\$772.74
	Distribution Charge 0-50,000	\$0.074308	\$0.079231	\$0.077756	\$0.082907	\$0.080183	\$0.085495	\$0.082538	\$0.088006	\$0.084944	\$0.090572
	Distribution Charge over 50,000	\$0.074308	\$0.079231	\$0.077756	\$0.082907	\$0.080183	\$0.085495	\$0.082538	\$0.088006	\$0.084944	\$0.090572
	Special Provision (d)	\$1.89	\$2.02	\$1.89	\$2.02	\$1.89	\$2.02	\$1.89	\$2.02	\$1.89	\$2.02
<b>CIG</b>	Service Charge	\$147.31	\$157.07	\$154.95	\$165.22	\$160.36	\$170.98	\$165.63	\$176.60	\$171.05	\$182.38
	Distribution Charge 0-600,000	\$0.066666	\$0.071083	\$0.070005	\$0.074643	\$0.072383	\$0.077178	\$0.074673	\$0.079620	\$0.077050	\$0.082155
	Distribution Charge over 600,000	\$0.054703	\$0.058327	\$0.057443	\$0.061249	\$0.059394	\$0.063329	\$0.061273	\$0.065332	\$0.063224	\$0.067413
	Special Provision (c) 1st para	\$1.89	\$2.02	\$1.89	\$2.02	\$1.89	\$2.02	\$1.89	\$2.02	\$1.89	\$2.02
<b>BGSS RSG</b>	Commodity Charge including Losses	\$0.346015	\$0.368938	\$0.345811	\$0.368721	\$0.345667	\$0.368567	\$0.345527	\$0.368418	\$0.345383	\$0.368265
<b>CSG</b>	Service Charge	\$ 580.42	\$ 618.87	\$ 625.58	\$ 667.02	\$ 658.34	\$ 701.96	\$ 690.82	\$ 736.59	\$ 724.73	\$ 772.74

PSE&G Gas System Modernization Program II  
Gas Annual Tariff Rate Summary

Schedule SS-GSMPII-5(R)

Page 2 of 2

Rate Schedule	6/1/2022		12/1/2022		6/1/2023		12/1/2023		10/1/2024		
	Charge w/o	Charge Including	Charge w/o	Charge Including	Charge w/o	Charge Including	Charge w/o	Charge Including	Charge w/o	Charge Including	
	SUT	SUT	SUT	SUT	SUT	SUT	SUT	SUT	SUT	SUT	
<b>RSG</b>											
Service Charge	\$5.46	\$5.82	\$5.46	\$5.82	\$5.46	\$5.82	\$5.46	\$5.82	\$5.46	\$5.82	
Distribution Charges	\$0.399798	\$0.426285	\$0.414341	\$0.441791	\$0.428553	\$0.456945	\$0.443405	\$0.472781	\$0.463779	\$0.494504	
Balancing Charge	\$0.084457	\$0.090052	\$0.084457	\$0.090052	\$0.084457	\$0.090052	\$0.084457	\$0.090052	\$0.084457	\$0.090052	
Off-Peak Use	\$0.199899	\$0.213142	\$0.207171	\$0.220896	\$0.214277	\$0.228473	\$0.221703	\$0.236391	\$0.231890	\$0.247253	
<b>GSG</b>											
Service Charge	\$15.97	\$17.03	\$16.71	\$17.82	\$17.44	\$18.60	\$18.21	\$19.42	\$19.29	\$20.57	
Distribution Charge - Pre July 14, 1997	\$0.300976	\$0.320916	\$0.308445	\$0.328879	\$0.315698	\$0.336613	\$0.323232	\$0.344646	\$0.333411	\$0.355499	
Distribution Charge - All Others	\$0.300976	\$0.320916	\$0.308445	\$0.328879	\$0.315698	\$0.336613	\$0.323232	\$0.344646	\$0.333411	\$0.355499	
Balancing Charge	\$0.084457	\$0.090052	\$0.084457	\$0.090052	\$0.084457	\$0.090052	\$0.084457	\$0.090052	\$0.084457	\$0.090052	
Off-Peak Use Dist Charge - Pre July 14, 1997	\$0.150488	\$0.160458	\$0.154223	\$0.164440	\$0.157849	\$0.168306	\$0.161616	\$0.172323	\$0.166706	\$0.177750	
Off-Peak Use Dist Charge - All Others	\$0.150488	\$0.160458	\$0.154223	\$0.164440	\$0.157849	\$0.168306	\$0.161616	\$0.172323	\$0.166706	\$0.177750	
<b>LVG</b>											
Service Charge	\$100.12	\$106.75	\$100.12	\$106.75	\$100.12	\$106.75	\$100.12	\$106.75	\$100.12	\$106.75	
Demand Charge	\$4.9862	\$5.3165	\$5.1696	\$5.5121	\$5.3489	\$5.7033	\$5.5363	\$5.9031	\$5.7936	\$6.1774	
Distribution Charge 0-1,000 pre July 14, 1997	\$0.064998	\$0.069304	\$0.067810	\$0.072302	\$0.070476	\$0.075145	\$0.073201	\$0.078051	\$0.076684	\$0.081764	
Distribution Charge over 1,000 pre July 14, 1997	\$0.049561	\$0.052844	\$0.051251	\$0.054646	\$0.052934	\$0.056441	\$0.054710	\$0.058335	\$0.057229	\$0.061020	
Distribution Charge 0-1,000 post July 14, 1997	\$0.064998	\$0.069304	\$0.067810	\$0.072302	\$0.070476	\$0.075145	\$0.073201	\$0.078051	\$0.076684	\$0.081764	
Distribution Charge over 1,000 post July 14, 1997	\$0.049561	\$0.052844	\$0.051251	\$0.054646	\$0.052934	\$0.056441	\$0.054710	\$0.058335	\$0.057229	\$0.061020	
Balancing Charge	\$0.084457	\$0.090052	\$0.084457	\$0.090052	\$0.084457	\$0.090052	\$0.084457	\$0.090052	\$0.084457	\$0.090052	
<b>SLG</b>											
Single-Mantle Lamp	\$9.6316	\$10.2697	\$9.6316	\$10.2697	\$9.6316	\$10.2697	\$9.6316	\$10.2697	\$9.6316	\$10.2697	
Double-Mantle Lamp, inverted	\$9.4856	\$10.1140	\$9.4856	\$10.1140	\$9.4856	\$10.1140	\$9.4856	\$10.1140	\$9.4856	\$10.1140	
Double Mantle Lamp, upright	\$8.3906	\$8.9465	\$8.3906	\$8.9465	\$8.3906	\$8.9465	\$8.3906	\$8.9465	\$8.3906	\$8.9465	
Triple-Mantle Lamp, prior to January 1, 1993	\$9.4856	\$10.1140	\$9.4856	\$10.1140	\$9.4856	\$10.1140	\$9.4856	\$10.1140	\$9.4856	\$10.1140	
Triple-Mantle Lamp, on and after January 1, 1993	\$61.9958	\$66.1030	\$61.9958	\$66.1030	\$61.9958	\$66.1030	\$61.9958	\$66.1030	\$61.9958	\$66.1030	
Distribution Therm Charge	\$0.228565	\$0.243707	\$0.249695	\$0.266237	\$0.257081	\$0.274113	\$0.264803	\$0.282346	\$0.275402	\$0.293647	
<b>TSG-F</b>											
Service Charge	\$758.31	\$808.55	\$793.25	\$845.80	\$827.89	\$882.74	\$864.61	\$921.89	\$915.71	\$976.38	
Demand Charge	\$2.3307	\$2.4851	\$2.4002	\$2.5592	\$2.4679	\$2.6314	\$2.5386	\$2.7068	\$2.6354	\$2.8100	
Distribution Charges	\$0.089084	\$0.094986	\$0.091739	\$0.097817	\$0.094325	\$0.100574	\$0.097026	\$0.103454	\$0.100725	\$0.107398	
<b>TSG-NF</b>											
Service Charge	\$758.31	\$808.55	\$793.25	\$845.80	\$827.89	\$882.74	\$864.61	\$921.89	\$915.71	\$976.38	
Distribution Charge 0-50,000	\$0.087282	\$0.093064	\$0.089666	\$0.095606	\$0.091987	\$0.098081	\$0.094401	\$0.100655	\$0.097700	\$0.104173	
Distribution Charge over 50,000	\$0.087282	\$0.093064	\$0.089666	\$0.095606	\$0.091987	\$0.098081	\$0.094401	\$0.100655	\$0.097700	\$0.104173	
Special Provision (d)	\$1.89	\$2.02	\$1.89	\$2.02	\$1.89	\$2.02	\$1.89	\$2.02	\$1.89	\$2.02	
<b>CIG</b>											
Service Charge	\$176.33	\$188.01	\$181.75	\$193.79	\$187.04	\$199.43	\$192.57	\$205.33	\$200.16	\$213.42	
Distribution Charge 0-600,000	\$0.079358	\$0.084615	\$0.081718	\$0.087132	\$0.084026	\$0.089593	\$0.086439	\$0.092166	\$0.089743	\$0.095688	
Distribution Charge over 600,000	\$0.065118	\$0.069432	\$0.067054	\$0.071496	\$0.068948	\$0.073516	\$0.070928	\$0.075627	\$0.073639	\$0.078518	
Special Provision (c) 1st para	\$1.89	\$2.02	\$1.89	\$2.02	\$1.89	\$2.02	\$1.89	\$2.02	\$1.89	\$2.02	
<b>BGSS RSG</b>											
Commodity Charge including Losses	\$0.345243	\$0.368115	\$0.345100	\$0.367963	\$0.344959	\$0.367813	\$0.344812	\$0.367656	\$0.344610	\$0.367440	
<b>CSG</b>											
Service Charge	\$758.31	\$808.55	\$793.25	\$845.80	\$827.89	\$882.74	\$864.61	\$921.89	\$915.71	\$976.38	

**PSE&G Gas System Modernization Program II  
Gas Annual Bill Impact Summary**

Incremental Typical Annual Bill Impacts By Rate Class												
Rate Class	If Your Annual Therm Use Is:	Current Bill (\$)	Roll-In Date									End of Program Customer Bill (\$)
			6/1/2020	12/1/2020	6/1/2021	12/1/2021	6/1/2022	12/1/2022	6/1/2023	12/1/2023	10/1/2024	
RSG	1,010	902.54	21.86	15.50	15.18	15.44	15.22	15.42	15.18	15.82	21.78	1,053.94
GSG	1,882	1,916.58	31.85	21.92	21.20	21.97	21.32	21.89	21.36	22.38	31.59	2,132.06
LVG	34,846	29,538.24	336.42	223.41	216.50	223.27	215.53	221.59	215.46	226.54	326.27	31,743.23
TSG-F	541,882	368,731.51	3,987.99	2,823.21	2,737.60	2,823.53	2,736.83	2,823.49	2,758.01	2,887.63	3,964.43	396,274.23
TSG-NF	1,118,999	668,833.18	4,691.23	3,315.25	3,225.37	3,305.14	3,218.27	3,291.50	3,212.79	3,350.12	4,590.51	701,033.36
CIG	2,907,364	1,287,962.30	9,799.35	6,978.65	6,721.12	6,975.83	6,773.57	6,926.40	6,773.69	7,081.82	9,697.01	1,355,689.74

Incremental Annual Percent Change From Current Typical Annual Bill By Rate Class <sup>1</sup>												
Rate Class	If Your Annual Therm Use Is:	Current Bill (\$)	Roll-In Date									Total Percent Change from Current Bill
			6/1/2020	12/1/2020	6/1/2021	12/1/2021	6/1/2022	12/1/2022	6/1/2023	12/1/2023	10/1/2024	
RSG	1,010	902.54	2.42%	1.72%	1.68%	1.71%	1.69%	1.71%	1.68%	1.75%	2.41%	16.77%
GSG	1,882	1,916.58	1.66%	1.14%	1.11%	1.15%	1.11%	1.14%	1.11%	1.17%	1.65%	11.24%
LVG	34,846	29,538.24	1.14%	0.76%	0.73%	0.76%	0.73%	0.75%	0.73%	0.77%	1.10%	7.47%
TSG-F	541,882	368,731.51	1.08%	0.77%	0.74%	0.77%	0.74%	0.77%	0.75%	0.78%	1.08%	7.48%
TSG-NF	1,118,999	668,833.18	0.70%	0.50%	0.48%	0.49%	0.48%	0.49%	0.48%	0.50%	0.69%	4.81%
CIG	2,907,364	1,287,962.30	0.76%	0.54%	0.52%	0.54%	0.53%	0.54%	0.53%	0.55%	0.75%	5.26%



**PSE&G Gas System Modernization Program II  
Gas Annual Bill Impact Summary**

Cumulative Typical Annual Bill Impacts											
By Rate Class											
Rate Class	If Your Annual Therm Use Is:	Current Bill (\$)	Roll-In Date								
			6/1/2020	12/1/2020	6/1/2021	12/1/2021	6/1/2022	12/1/2022	6/1/2023	12/1/2023	10/1/2024
RSG	1,010	902.54	21.86	37.36	52.54	67.98	83.20	98.62	113.80	129.62	151.40
GSG	1,882	1,916.58	31.85	53.77	74.97	96.94	118.26	140.15	161.51	183.89	215.48
LVG	34,846	29,538.24	336.42	559.83	776.33	999.60	1,215.13	1,436.72	1,652.18	1,878.72	2,204.99
TSG-F	541,882	368,731.51	3,987.99	6,811.20	9,548.80	12,372.33	15,109.16	17,932.65	20,690.66	23,578.29	27,542.72
TSG-NF	1,118,999	668,833.18	4,691.23	8,006.48	11,231.85	14,536.99	17,755.26	21,046.76	24,259.55	27,609.67	32,200.18
CIG	2,907,364	1,287,962.30	9,799.35	16,778.00	23,499.12	30,474.95	37,248.52	44,174.92	50,948.61	58,030.43	67,727.44

Cumulative Percent Changes From Current Typical Annual Bill											
By Rate Class											
Rate Class	If Your Annual Therm Use Is:	Current Bill (\$)	Roll-In Date								
			6/1/2020	12/1/2020	6/1/2021	12/1/2021	6/1/2022	12/1/2022	6/1/2023	12/1/2023	10/1/2024
RSG	1,010	902.54	2.42%	4.14%	5.82%	7.53%	9.22%	10.93%	12.61%	14.36%	16.77%
GSG	1,882	1,916.58	1.66%	2.81%	3.91%	5.06%	6.17%	7.31%	8.43%	9.59%	11.24%
LVG	34,846	29,538.24	1.14%	1.90%	2.63%	3.38%	4.11%	4.86%	5.59%	6.36%	7.46%
TSG-F	541,882	368,731.51	1.08%	1.85%	2.59%	3.36%	4.10%	4.86%	5.61%	6.39%	7.47%
TSG-NF	1,118,999	668,833.18	0.70%	1.20%	1.68%	2.17%	2.65%	3.15%	3.63%	4.13%	4.81%
CIG	2,907,364	1,287,962.30	0.76%	1.30%	1.82%	2.37%	2.89%	3.43%	3.96%	4.51%	5.26%

<sup>1</sup>Total percent change may not tie to the cumulative percent due to rounding

**IN THE MATTER OF THE PETITION OF PUBLIC SERVICE ELECTRIC AND GAS  
COMPANY FOR APPROVAL OF THE NEXT PHASE OF THE GAS SYSTEM  
MODERNIZATION PROGRAM AND ASSOCIATED COST RECOVERY MECHANISM  
("GSMP II")**

**BPU DOCKET NO.: GR17070776**

**DIVISION OF RATE COUNSEL RESPONSES TO  
PSE&G DISCOVERY REQUESTS**

Witness: David E. Dismukes, Ph.D.

**PSE&G- RC- DD-18**

- a. Identify and provide copies of all testimony by Dr. Dismukes in which he conducted a net economic benefits analysis using the IMPLAN model for a utility infrastructure program and the analysis resulted in a net positive economic benefit.
- b. Identify and provide copies of all testimony provided by Dr. Dismukes in which he conducted a net economic benefits analysis using the IMPLAN model analysis.

**RESPONSE:**

- a. Dr. Dismukes cannot identify any prior testimony addressing the economic impacts of energy infrastructure development that would lead to positive net economic benefits since all of his prior expert positions on these matters were usually conditioned on faulty utility program design proposals. Yet, even in these proceedings, Dr. Dismukes typically made alternative recommendations in his expert testimony that would correct many of the faulty program design components much like he has done in his alternative recommendations in this proceeding. Dr. Dismukes also notes that he has conducted a number of energy infrastructure economic impact studies that have shown positive net economic benefits for energy infrastructure proposals made by non-regulated energy companies that were not seeking a guaranteed return of their project costs from their customers. For example, see Dr. Dismukes most recent economic impact analysis of the Bayou Bridge pipeline that was provided as an attachment in response to PSE&G-RC-DD-26, Attachment "The Potential Economic Impacts of the Bayou Bridge Pipeline\_FINAL\_02-07-2017.pdf". See also, "Analysis of the Economic Impacts Associated with Oil and Gas Activities on State Leases.pdf" and "Economic Impact of the Proposed Lake Charles Gasification Project (2007).pdf" provided in response to PSE&G-RC-DD-26.
- b. Please see the attached files. Please note the attachments are being provided in CD format only.

Attachments

BPU Docket EO11050314V-Direct.pdf

**IN THE MATTER OF THE PETITION OF PUBLIC SERVICE ELECTRIC AND GAS  
COMPANY FOR APPROVAL OF THE NEXT PHASE OF THE GAS SYSTEM  
MODERNIZATION PROGRAM AND ASSOCIATED COST RECOVERY MECHANISM  
("GSMP II")**

**BPU DOCKET NO.: GR17070776**

**DIVISION OF RATE COUNSEL RESPONSES TO**  
**PSE&G DISCOVERY REQUESTS**

Witness: David E. Dismukes, Ph.D.

**PSE&G- RC- DD-18 (cont'd)**

BPU Docket EO12080721-Direct.pdf

BPU Dockets EO13020155 and GO13020156-Direct.pdf

Docket 2017-AD-0112-Direct.pdf

Docket 7970-Direct.pdf

BPU Docket EO12080721-Rebuttal.pdf

Docket 7970-Rebuttal.pdf

Docket 7970-Supplemental.pdf

**IN THE MATTER OF THE PETITION OF PUBLIC SERVICE ELECTRIC AND  
GASCOMPANY FOR APPROVAL OF THE NEXT PHASE OF THE GAS SYSTEM  
MODERNIZATION PROGRAM AND ASSOCIATED COST RECOVERY MECHANISM  
("GSMP II")**

**BPU DOCKET NO.: GR17070776**

**DIVISION OF RATE COUNSEL RESPONSES TO**

**PSE&G DISCOVERY REQUESTS**

Witness: David E. Dismukes, PH.D

**PSE&G- RC- DD-3**

- a) Provide an electronic, executable copy of the IMPLAN model referenced on page 44 of the Direct Testimony.

**RESPONSE:**

The economic impact analysis created using IMPLAN data referenced in the Direct Testimony of Dr. Dismukes is provided in response to **PSE&G- RC- DD-1** and includes data for all sectors used to calculate economic impacts. IMPLAN is proprietary software available for purchase from [www.implan.com](http://www.implan.com).

- b) Provide a copy of the user manual, or instructions, for the IMPLAN model.

**RESPONSE:**

The IMPLAN user guide and knowledge base are available at <https://implanhelp.zendesk.com/hc/en-us>.

- c) Provide an electronic copy of the source code for the IMPLAN model.

**RESPONSE:**

IMPLAN is proprietary software available for purchase from [www.implan.com](http://www.implan.com). As such, the source code is not available. Source data and methodology is available at <https://implanhelp.zendesk.com/hc/en-us/categories/115001500888-Data-Sources-and-Methodology>.