Danielle Lopez Assistant General Regulatory Counsel Law Department

Tel: 973.430.6479 fax: 973.645.5983

Email: Danielle.Lopez@pseg.com

80 Park Plaza, T5, Newark, New Jersey 0710241941 ROOM

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**BOARD OF PUBLIC UTILITIES** TRENTON, NJ

BOARD OF PUBLIC UTILITIES Services Corporation

February 15, 2018

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

## VIA ELECTRONIC & OVERNIGHT MAIL

Board of Public Utilities Office of the Secretary Attn: Aida Camacho 44 South Clinton Avenue Trenton, NJ 08625-0350

Dear Secretary:

Pursuant to Commissioner Fiordaliso's Order Adopting Procedural Schedule issued in the above-referenced matter, enclosed please find an original and ten (10) hard copies of the Rebuttal Testimonies of Ann E. Bulkley, Steven Swetz and Wade E. Miller being filed on behalf of Public Service Electric and Gas Company ("Public Service" or "PSE&G").

Please note that the confidential portion of Wade Miller's rebuttal testimony is being provided only to those parties that have singed the non-disclosure agreement. The confidential portion of Mr. Miller's rebuttal testimony must be treated in a manner that complies with, and abides by the terms set forth in the confidentiality agreement, including but not limited to the proper security and control protocols for the appropriate handling, filing, storage, dissemination and return of the confidential documents. Confidential treatment of this material is supported by the Affidavit of Wade E. Miller, of which 10 copies are enclosed.

Case Mant list copied

Thank you for your review and consideration of this matter.

Respectfully submitted,

C Commissioner Joseph L. Fiordaliso Service List (via e-mail only)

# Public Service Electric and Gas Company GSMP II GR17070776

#### **AARP**

Janine G. Bauer Szaferman, Lakind, Blumstein, & Blader, P.C. 101 Grovers Mill Road, Suite 200 Lawrenceville NJ 08648 (609) 275-0400 x249 jbauer@szaferman.com

#### **AARP**

Stephanie Hunsinger 101 Rockingham Row Forrestal Village Princeton NJ 08540 shunsinger@aarp.org

#### **AARP**

Evelyn Liebman AARP Forestal Village 101 Rockingham Row Princeton NJ 08540 (609) 452-3906 eliebman@aarp.org

#### BPU

William Agee Esq. Board of Public Utilities 44 South Clinton Avenue 3rd Floor, Suite 314 P.O. Box 350 Trenton NJ 08625-0350 (609) 292-1616 william.agee@bpu.nj.gov

# BPU

Joe Costa Board of Public Utilities 44 South Clinton Avenue 3rd Floor, Suite 314 P.O. Box 350 Trenton NJ 08625-0350 (609) 984-4558 joe.costa@bpu.nj.gov

#### BPU

Paul Flanagan Board of Public Utilities 44 South Clinton Avenue 3rd Floor, Suite 314 P.O. Box 350 Trenton NJ 08625-2836 paul.flanagan@bpu.nj.gov

#### <u>BPU</u>

Son Lin Lai Board of Public Utilities 44 South Clinton Avenue 3rd Floor, Suite 314 P.O. Box 350 Trenton NJ 08625-0350 (609) 292-2098 son-lin.lai@bpu.nj.gov

#### <u>BPU</u>

Christine Lin

Board of Public Utilities 44 South Clinton Avenue 3rd Floor, Suite 314 P.O. Box 350 Trenton NJ 08625-0350 (609) 292-2956 christine,lin@bpu.nj.gov

#### <u>BPU</u>

Megan Lupo Board of Public Utilities 44 South Clinton Avenue 3rd Floor, Suite 314 P.O. Box 350 Trenton NJ 08625-0350 megan.lupo@bpu.nj.gov

#### BPU

Jacqueline O'Grady Board of Public Utilities 44 South Clinton Avenue 3rd Floor, Suite 314 P.O. Box 350 Trenton NJ 08625-0350 (609) 292-2947 jackie.ogrady@bpu.nj.gov

#### <u>BPU</u>

Stacy Peterson
Board of Public Utilities
44 South Clinton Avenue
3rd Floor, Suite 314
P.O. Box 350
Trenton NJ 08625-0350
(609) 292-4517
stacy.peterson@bpu.nj.gov

#### <u>BPU</u>

Bethany Rocque-Romaine Esq. Board of Public Utilities 44 South Clinton Avenue 3rd Floor, Suite 314 P.O. Box 350 Trenton NJ 08625-0350 (609) 292-1496 bethany.romaine@bpu.nj.gov

# <u>BPU</u>

Michael Stonack
Board of Public Utilities
44 South Clinton Avenue
3rd Floor, Suite 314
P.O. Box 350
Trenton NJ 08625-0350
(609) 777-0192
míchael.stonack@bpu.nj.gov

## <u>BPU</u>

Scott Sumliner
Board of Public Utilities
44 South Clinton Avenue
3rd Floor, Suite 314
P.O. Box 350
Trenton NJ 08625-0350
(609) 292-4519
scott.sumliner@bpu.nj.gov

## **CSJV**

Kevin G Walsh Esq. Gibbons P.C. One Gateway Center Newark NJ 07102 kwalsh@gibbonslaw.com

#### <u>DAG</u>

Geoffrey Gersten
NJ Dept. of Law & Public Safety
Division of Law
124 Halsey Street, 5th Flr.
P.O. Box 45029
Newark NJ 07101
(973) 648-3510
geoffrey.gersten@dol.lps.state.nj.us

# <u>DAG</u>

Jenique Jones NJ Dept. of Law & Public Safety Division of Law 124 Halsey Street, 5th Flr. P.O. Box 45029 Newark NJ 07101 jenique.jones@dol.lps.state.nj.us

#### <u>DAG</u>

Patricia A. Krogman DAG
NJ Dept of Law & Public Safety
Division of Law
124 Halsey Street, 5th Flr.
P.O. Box 45029
Newark NJ 07101
(973) 648-3441
patricia.krogman@dol.lps.state.nj.us

# Public Service Electric and Gas Company GSMP II GR17070776

#### DAG

Alex Moreau DAG
NJ Dept. of Law & Public Safety
Division of Law
124 Halsey Street, 5th Flr.
P.O. Box 45029
Newark NJ 07101
(973) 648-3762
Alex,Moreau@dol.lps.state.nj.us

#### EDE

Christopher D. Miller Esq. Maraziti Falcon, LLP 150 John F. Kennedy Parkway Short Hills NJ 07078 cmiller@mfhenvlaw.com

#### **Engineers Labor-Employment Cooperative**

Elizabeth K. Schlax Esq. Susanin Widman & Brennan, PC 656 East Swedesford Road Suite 330 Wayne PA 19087 (610) 710-4510 ESchlax@swbcounsellors.com

#### Local 94

Roger M. Schwarz Issues Management LLC I Benjamin Rush Lane Princeton NJ 08540 (609) 252-1300 rms@rmsga.com

#### **NJLEUC**

Paul F. Forshay Esq.
Eversheds-Sutherland, LLP
700 Sixth Street, NW, Suite 700
Washington DC 20001-3980
(202) 383-0100
paul.forshay@eversheds-sutherland.com

#### PSE&G

Michele Falcao PSEG Services Corporation 80 Park Plaza, T5 P.O. Box 570 Newark NJ 07102 (973) 430-6119 michele.falcao@pseg.com

#### DAG

Caroline Vachier DAG
NJ Dept. of Law & Public Safety
Division of Law
124 Halsey Street, 5th Flr.
P.O. Box 45029
Newark NJ 07101
(973) 648-3709
caroline.vachier@dol.lps.state.nj.us

#### EDI

Holly Pearen Esq. 2060 Broadway St. Suite 300 Boulder CO 80302 hpearen@edf.org

#### Ferreira 1 4 1

Michael Rato
McElroy, Deutsch, Mulvaney & Carpenter, LLP
1300 Mount Kemble Avenue
P.O. Box 2075
Morristown NJ 07962
mrato@mdme-law.com

#### Local 94

Kenneth Thoman IBEW Local Union 94 219 Franklin Street Highstown NJ 08520 bud@ibew94.org

#### **NJLEUC**

Steven S. Goldenberg Esq. Fox Rothschild LLP 997 Lenox Drive, Bldg. 3 Lawrenceville NJ 08648-2311 (609) 896-4586 sgoldenberg@foxrothschild.com

#### PSE&G

Danielle Lopez Esq.
Public Services Corporation
80 Park Plaza, T5
P.O. Box 570
Newark NJ 07102
973-430-6479
danielle.lopez@pseg.com

#### DAG

Emma Xiao DAG
NJ Dept of Law & Public Safety
Division of Law
124 Halsey Street, 5th Flr.
P.O. Box 45029
Newark NJ 07101
Emma.Xiao@dol.lps.state.nj.us

#### ELEC

Daniel J. Brennan Esq.
Susanin, Widman & Brennan, PC.
656 E. Swedesford Rd. Suite 330
Wayne PA 19087
dbrennan@swbcounsellors.com

### IBEW Local Union 94

Thomas C. Kelly Esq. Russo, Tumulty, Nester, Thompson & Kelly 175 Fairfield Avenue #1A West Caldwell NJ 07066 tkelly@russotumulty.com

#### NJLECET

Bradley M. Parsons Esq. KROLL HEINEMAN CARTON, LLC Metro Corporate Campus I 99 Wood Avenue South, Suite 307 Iselin NJ 08830 bparsons@krollfirm.com

#### PSE&G

Joseph F. Accardo, Jr.
PSEG Services Corporation
80 Park Plaza, T5G
P.O. Box 570
Newark NJ 07102
(973) 430-5811
joseph.accardojr@pseg.com

#### PSE&G

Bernard Smalls PSEG Services Corporation 80 Park Plaza-T5 Newark NJ 07102-4194 (973) 430-5930 bernard.smalls@pseg.com

# Public Service Electric and Gas Company GSMP II GR17070776

#### PSE&G

Matthew M. Weissman Esq. PSEG Services Corporation 80 Park Plaza, T5 P.O. Box 570 Newark NJ 07102 (973) 430-7052 matthew.weissman@pseg.com

#### Rate Counsel

Maura Caroselli Esq. Division of Rate Counsel 140 East Front Street 4th Floor Trenton NJ 08625 mcaroselli@rpa.state.nj.us

#### Rate Counsel

Brian O. Lipman
Division of Rate Counsel
140 East Front Street, 4th Flr.
P.O. Box 003
Trenton NJ 08625
(609) 984-1460
blipman@rpa.state.nj.us

#### Rate Counsel

Sarah Steindel Division of Rate Counsel 140 East Front Street, 4th Fir. P.O. Box 003 Trenton NJ 08625 (609) 984-1460 ssteinde@rpa.state.nj.us

## Rate Counsel Consultant

David Dismukes
Acadian Consulting Group
5800 One Perkins Drive
Building 5, Suite F
Baton Rouge LA 70808
(225) 578-4343
daviddismukes@acadianconsulting.com

#### Rate Counsel Consultant

Kevin O'Donnell Nova Energy Consultants, Inc. 1350 SE Maynard Road, Suite 101 Cary NC 27511 KODonnell@novaenergyconsultants.com

#### PSE&G

Caitlyn White PSEG Services Corporation 80 Park Plaza, T-5 P.O. Box 570 Newark NJ 07102 (973)-430-5659 caitlyn.white@pseg.com

#### Rate Counsel

James Glassen
Division of Rate Counsel
140 East Front Street, 4th Flr.
P.O. Box 003
Trenton NJ 08625
(609) 984-1460
jglassen@rpa.state.nj.us

#### Rate Counsel

Shelly Massey Division of Rate Counsel 140 East Front Street, 4th Flr. P.O. Box 003 Trenton NJ 08625 (609) 984-1460 smassey@rpa.state.nj.us

#### Rate Counsel

Felicia Thomas-Friel Division of Rate Counsel 140 East Front Street, 4th Flr. P.O. Box 003 Trenton NJ 08625 (609) 984-1460 fthomas@rpa.state.nj.us

# Rate Counsel Consultant Edward McGee

Acadian Consulting P.O. Box 1659 Bethany Beach DE 19930 edmcgee@acadianconsulting.com

#### Rate Counsel

Stefanie A. Brand Division of Rate Counsel 140 East Front Street, 4th Flr. P.O. Box 003 Trenton NJ 08625 (609) 984-1460 sbrand@rpa.state.nj.us

#### Rate Counsel

Kurt Lewandowski Esq. Division of Rate Counsel 140 East Front Street, 4th Flr. P.O. Box 003 Trenton NJ 08625 (609) 984-1460 klewando@rpa.state.nj.us

#### Rate Counsel

Henry M. Ogden Esq. Division of Rate Counsel 140 East Front Street, 4th Flr. P.O. Box 003 Trenton NJ 08625 (609) 984-1460 hogden@rpa.state.nj.us

#### Rate Counsel Consultant

Andrea Crane
The Columbia Group, Inc.
2805 East Oakland Park Blvd., #401
Ft. Lauderdale FL 33306
203-917-9709
ctcolumbia@aol.com

## Rate Counsel Consultant

Julie McKenna
Acadian Consulting Group
n/a
n/a n/a
juliemckenna@acadianconsulting.com

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TRENTON, NJ

# STATE OF NEW JERSEY BOARD OF PUBLIC UTILITIES BOARD OF PUBLIC UTILITIES

FEB 162018

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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
- 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.

# 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.

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# 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,
- 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
- 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
- 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.

- Regarding Dr. Dismukes' testimony, I respond to Dr. Dismukes' recommendations to modify GSMP II and I explain that Dr. Dismukes' net economic benefits analysis is seriously flawed because it fails to account for all of the benefits derived through the replacement of essential utility infrastructure.
- What is your response to Ms. Crane's assertion that for the GSMP II program the Board should adopt the rate of return recommended by Rate Counsel Witness O'Donnell?

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

- Q. Ms. Crane asserts that because the GSMP II proposal does not have a "hard cap" on program expenditures that the Company is asking the BPU is to write a "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
- 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 recently adopted Infrastructure Investment and Recovery ("IIR") regulations?

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

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

- return to base rate cases as the vehicle for establishing rates for New Jersey ratepayers."
- 2 (Crane Direct p. 25)

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- Q. Do you agree with Ms. Crane's assertion that clause rate recovery mechanisms, such as the mechanism authorized in the IIR, transfers risk from utility 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
- 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 infrastructure replacement, shareholders can expect higher earnings, even if an accelerated cost recovery mechanism is not adopted." Do you agree?
  - A. No. If it were true that every dollar spent on infrastructure was a benefit to shareholders regardless of whether it is recovered through an accelerated cost recovery mechanism or through base rates, every utility in the State would likely invest as much as it prudently could to maximize earnings. The reality is that as investment is placed into service, a utility company will incur depreciation expense and interest expense to fund the investment with zero incremental revenue. Until that investment is recognized in rates, earnings will decrease, not increase. Therefore, not only will shareholders see no financial benefit from their investment until it is recognized in rates, the investment will actually result in reduced earnings.

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 adjustment, shaped annually based on net therm sales per month. The expenses are the depreciation expense, interest expense and income taxes incurred as plant is placed into 7 service. The table below shows the earnings impact on GSMP II investment being recovered under the following four scenarios:

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- 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, it be done with annual rate adjustments at Rate Counsel Witness O'Donnell's 12 recommended weighted average cost of capital ("Scenario 2"); 13
- Same as Scenario 2 except includes the impact of \$85 million in stipulated 14 3. base as recommended by Ms. Crane ("Scenario 3"); and 15
  - 4. Ms. Crane's recommendation for recovery of Program costs through base rate cases, assuming a 27 month lag between rates ("Scenario 4").

			Earnings	s (\$000)		
	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 1	(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>&</sup>lt;sup>1</sup> Assumes annual roll-ins based on Plant In-Service as of October 31st for rates effective February 1st.

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

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

- 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.
- Q. Even in the rate case recovery scenario, the Company is generating positive earnings in total through 2024. Doesn't that mean the Program is beneficial to 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
- earnings from the GSMP II investment. However, she is not considering the level of the rate
- of return on that investment. Regulatory lag on recovery of investment has a significant
- 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
- 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.
- Q. What would be the impact on the Company's actual ROE if the Company were 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
- she assumes a 27 month lag) would result in an ROE through 2024materially below the ROE
- 23 of 9% recommended by Rate Counsel's own witness, Kevin O'Donnell. Utilizing the annual

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

_	Return on Equity							
	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 1	-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%		

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

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

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

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

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?

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

Based on their qualitative (business) risk assessment, this would be a negative change in the regulatory framework due to an increase in regulatory lag. Perhaps, most importantly, the rating agencies would view a decision to undertake GSMP II without a mechanism to 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?

A. No. The BPU issued the IIR to provide financial incentive for utilities to work on necessary infrastructure replacement programs. Such an incentive – which is simply an opportunity (not a guarantee as Ms. Crane suggests) to commence earning a return on investment sooner than having to wait until a base rate case - is critical to long-term 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
- 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 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
- for example will have the same operational and prudency risk regardless of whether it is done
- 12 through base rates or the GSMP II Program. Further, the rate design for all GSMP rate
- 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
- investment by reducing regulatory lag.
- 17 Q. Is Ms. Crane's recommendation that if the Board adopts an accelerated infrastructure program, it should adopt a program that contains elements 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 though the IIR regulation contemplates programs of up to five (5) years; (ii) the Company be 4 required to incur incremental annual base spending at about 39%<sup>3</sup> of the annual program 5 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.

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

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

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<sup>&</sup>lt;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 While Dr. Dismukes is correct that the Company filed GSMP II prior to the Board's A. 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-GSMPII-4 and Schedule SS-GSMPII-3).

# Q. Can you please comment on Dr. Dismukes' contention that the Company has not 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 of high cost emergency replacements; (iii) reduction of unplanned outages; (iv) outside 20 access to service shut-off valves at meter sets; (v) greater application of service line excess 21 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,

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

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

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

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

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

<sup>&</sup>lt;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

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.

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# 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

all of the benefits that are expected to be produced by the necessary replacement of aging gas

supply infrastructure. While Dr. Dismukes' appears to use IMPLAN model analysis to

estimate the impact of the cost to ratepayers of the GSMP II Program the benefits he takes

into account are limited to operations and maintenance reductions, capital cost reductions,

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'

analysis ignores that the overall purpose of a long-term infrastructure replacement program is

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

<sup>&</sup>lt;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.

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

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

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

A. Not in a material way. While PSE&G in discovery was provided various workpapers of Dr. Dismukes, Rate Counsel did not provide a copy of the IMPLAN model. The Company requested that Rate Counsel provide the specific IMPLAN model used by Dr. Dismukes. Rate Counsel failed to provide the IMPLAN model analysis based on the assertion that the IMPLAN model is proprietary. Our review of Dr. Dismukes' workpapers enabled us to see certain output information that Dr. Dismukes used from the IMPLAN

model in connection with his analysis. However, because the parties have not been provided

<sup>&</sup>lt;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.
- O. Does the recently passed the Tax Cuts and Jobs Act of 2017 ("TCJA"), Public Law No. 115-97, ("Tax Act") have any impact on the revenue requirements and rate impacts resulting from GSMP II?
- 9 A. Yes. Attached to my rebuttal testimony is a revised revenue requirement schedule
- incorporating the 21% federal income tax rate (replacing the 35% utilized in the Company's
- 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.

ì	<u>R</u>	REVISED (R) 7 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		<u>ATTACHMENTS</u>
8	Attachment 1 PSE&G-RC-I	DD-18
9	Attachment 2 PSE&G-RC-I	DD-3

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

Schedule SS-GSMPII-2 (R)

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

	Percent	Embedded Cost	Weighted Cost	Pre-Tax Weighted Cost	Pre-Tax Weighted Cost	After Tax Weighted Cost
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	0.0007%	
Sub-tot	al 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>	4.9920%
Total	100.0000%		6.99%		8.94%	6.4279%
Federal Income Tax	21.00%					

Federal Income Tax 21.00%
State NJ Business Incm Tax 9.00%
Tax Rate 28.1100%

# PSE&G Gas System Modernization Program II Gas Forecasted Annual Roll-in Calculation in (\$000)

Roll-in Filing	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	\$2,494,166 = In 16
2 Accumulated Depreciation	\$23,062	\$17,238	\$16,544	\$17,271	\$16,571	\$17,259	\$16,599	\$17,622	\$22,731	\$164,896 = In 19
3 Net Plant	\$385,215	\$271,161	\$266,078	\$271,669	\$266,505	\$271,485	\$266,933	\$277,193	\$382,824	\$2,659,063 = 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	-\$81,874 = 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	\$2,577,189 = 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%	6.43% 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	\$165,660 = 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	\$28,868 = In 25
9 Tax Adjustment	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 N/A
10 Revenue Factor	1.4087	1.4087	1.4087	1.4087	1.4087	1.4087	1.4087	1.4087	1.4087	1.4087
11 Total Revenue Requirement	\$39,611	\$28,049	\$27,347	\$28,102	\$27,391	\$28,083	\$27,435	\$28,673	\$39,341	\$274,032 = (ln 7 + ln 8 + ln 9) * (n 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	\$2,494,166 = See "Dep-UPCi" Wkp
13 CWIP Transferred into Service	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$D	\$0 = See "Dep-UPCI" Wkp
14 AFUDC on CWIP Transferred Into Service - Debt	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 = See "Dep-UPCI" Wkp
15 AFUDC on CWIP Transferred Into Service - Equity	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 = See "Dep-UPCI" Wkp
16 Total Gross Plant	\$362,153	\$253,923	\$249,533	\$254,398	\$249,934	\$254,227	\$250,334	\$259,571	\$360,093	\$2,494,166 = ln 12 + ln 13 + ln 14 + ln 1
Accumulated Depreciation										
17 Accumulated Depreciation	-\$4,197	-\$1,874	-\$2,238	-\$1,878	-\$2,242	-\$1,876	-\$2,243	-\$1,916	-\$4,373	-\$22,837 = 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	\$187,733 = See "Dep-UPCI" Wkp
19 Net Accumulated Depreciation	\$23,062	\$17,238	\$16,544	\$17,271	\$16,571	\$17,259	\$16,599	\$17,622	\$22,731	\$164,896 = ln 17 + ln 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	\$2,494,166 = ln 12 + ln 13 + ln 14
20 Depreciatie Frank (XAPODC-E) 21 AFUDC-E	\$302,133	\$233,923	\$243,333	\$234,338	\$245,554	\$0	\$0	\$0 \$0	\$0,002	\$0 = ln 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 Rate 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	\$40,156 = (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	\$11,288 = ln 20 * ln 22 * Tax Rate
25 Depreciation Expense (Net of Tax)	\$4,191.67	\$2,938.98	\$2,888.17	\$2,944.48	\$2,892.81	\$2,942.49	\$2,897.43	\$3,004.35	\$4,167.82	\$28,868 = ln 23 - ln 24
as supremental trapellar free or real	Q-1,2-2.01	42,000.00	P-3000.47	~~,~~~~~~	7-,0001	7-10-1-17-2	7-,007.170	40,004.00	4-1/201100	AEO1000 - 111 52 111 5-4

# 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

PSE&G Gas System Modernization Program II

GAS PROOF OF REVENUE SUMMARY

GAS RATE INCREASE

12 Months Ended December 31, 2012

(Therms & Revenue - Thousands, Rate - \$/Therm)

Schedule SS-GSMPII-4(R) Page 2 of 9

#### Annualized

	Rate Schedule		Weather Nor	malized	Proposed wi	th GSMP Roll-in	Increase	
			Therms	Revenue	Therms	Revenue	Revenue	Percent
			(1)	(2)	(3)	(4)	(5)	(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		682.345	697.051	682.345	717.367	\$20.316	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		58,147	25,754	58,147	25,946	\$192	0.75
12		Subtotal	950,805	195,872	950,805	197,162	\$1,290	0.66
13								
14		Totals	3,239,333	\$2,111,035	3.239.333	\$2,151,571	\$40,536	1.92

Less change in MAC included above

\$925

Gas Revenue Requirement

\$39,611 proposed roll-in

	<u>Increase</u>		
	Before Mac		MAC
	<u>Adjustment</u>	Increase Above	Adjustment
RSG	\$27,777	\$28,328	\$551
GSG	4,410	4,514	104
LVG	6,127	6,384	257
SLG	20.047	<u>20.316</u>	0.269
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	\$39,613	\$40,536	\$923

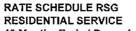
Notes: All customers assumed to be on BGSS.

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.



12 Months Ended December 31, 2012

(Therms & Revenue - Thousands, Rate - \$/Therm)

Schedule SS-GSMPII-4(R)

Page 3 of 9

# Annualized

		Weath	eather Normalized		Proposed	with GSMP R	oll-in	Increase	
		<u>Units</u>	Rate	Revenue	<u>Units</u>	Rate	Revenue	Revenue	Percent
	<u>Delivery</u>	(1)	(2)	(3=1*2)	(4)	(5)	(6=4*5)	(7=6-3)	(8=7/3)
1	Service Charge	19,018.784	5.46	\$103,843	19,018.784	5.46	\$103,843	\$0	0.00
2	Distribution Charge	1,381,894	0.321832	444,738	1,381,894	0.342358	473,102	28,364	6.38
3	Off-Peak Dist	65	0.160916	10	65	0.171179	11	1	10.00
4	Balancing Charge	840,052	0.084457	70,948	840,052	0.084457	70,948	0	0.00
5	SBC	1,381,959	0.041995	58, <b>035</b>	1,381,959	0.041995	58,035	0	0.00
6	Realignment Adjustment	1,381,959	0.000000	0	1,381,959	0.000000	0	0	0.00
7	Margin Adjustment	1,381,959	-0.006338	-8,759	1,381,959	(0.006338)	(8,759)	0	0.00
8	Weather Normalization	840,052	0.021647	18,185	840,052	0.021647	18,185	0	0.00
9	GPRC	1,381,959	0.004661	6,441	1,381,959	0.004661	6,441	0	0.00
10	Capital Adjustment Charges (CIP I)								
11	Service Charge	19,018.784	0.00	0	19,018.784	0.00	0	0	0.00
12	Distribution Charge	1,381,894	0.000000	0	1,381,894	0.000000	0	0	0.00
13	Off-Peak Use	65	0.000000	0.000	65	0.000000	0.000	0	0.00
14	Margin Adjustment Charge	1,381,959	0.000000	0	1,381,959	0.000000	0	0	0.00
15									
16	Facilities Charges			0			0	0	0.00
17	Minimum			0			0	0	0.00
18	Miscellaneous			<u>189</u>			<u>190</u>	<u>1</u>	0.53
19	Delivery Subtotal	1,381,959		693,630	1,3 <b>81,</b> 959		721,996	\$28,366	4.09
20	Unbilled Delivery			<u>5,887</u>			<u>6,128</u>	<u>241</u>	4.09
21	Delivery Subtotal w unbilled			699,517			728,124	\$28,607	4.09
22									
23	Supply								
24	BGSS-R\$G	1,381,959	0.334934	\$462,865	1,381,959	0.334934	\$462,865	\$0	0.00
25	Emergency Sales Service	0	0.000000	0	0	0.000000	0	0	0.00
26	BGSS Contrib. from TSG-F, TSG-NF & CIG	0	0.000000	0	1,381,959	(0.000200)	(276)	(276)	0.00
27	Off-Peak Comm, Charge	62	0.354247	22	62	0.354247	22	0	0.00
28	Capital Adjustment Charges	1,381,959	0.000000	0	1,381,959	0.000000	0	0	0.00
29	Miscellaneous			<u>(22)</u>			(22)	<u>0</u>	0.00
30	Supply subtotal	1,382,021		\$462,865	1,382,021		\$462,589	(\$276)	(0.06)
31	Unbilled Supply			<u>5,806</u>			<u>5,803</u>	<u>(3)</u>	(0.05)
32	Supply Subtotal w unbilled			\$468,671			\$468,392	(\$279)	(0.06)
33									
34	Total Delivery + Supply	1,381,959		<u>\$1,168,188</u>	1,381,959		\$1,196,516	<u>\$28,328</u>	2.42

35 36 37

38 Notes:

39 All customers assumed to be on BGSS.

40 Annualized Weather Normalized Revenue reflects Delivery rates in effect 1/1/2018

41 plus applicable BGSS charges.

PSE&G Gas System Modernization Program II

RATE SCHEDULE GSG
GENERAL SERVICE
12 Months Ended December 31, 2012
(Therms & Revenue - Thousands, Rate - \$/Therm)

Schedule SS-GSMPII-4(R) Page 4 of 9

#### Annualized

		Weath	er Normalize	d	Proposed	with GSMP R	loll-in	Increase	
		Units	Rate	Revenue	<u>Units</u>	Rate	Revenue	Revenue	Percent
	Delivery	(1)	(2)	(3=1*2)	(4)	(5)	(6=4*5)	(7=6-3)	(8=7/3)
1	Service Charge	1,683.715	12.23	\$20,592	1,683.715	13.18	\$22,191	\$1,599	7.77
2	Distribution Charge - Pre 7/14/97	2,367	0.259499	614	2,367	0.270641	641	27	4.40
3	Distribution Charge - All Others	261,497	0.259499	67,858	261,497	0.270641	70,772	2,914	4.29
4	Off-Peak Dist Charge - Pre 7/14/97	0	0.129750	0	0	0.135321	0	0	0.00
5	Off-Peak Dist Charge - All Others	33	0.129750	4	33	0.135321	4	0	0.00
6	Balancing Charge	160,049	0.084457	13,517	160,049	0.084457	13,517	0	0.00
7	SBC	263,897	0.041995	11,082	263,897	0.041995	11,082	0	0.00
8	Realignment Adjustment	263,897	0.000000	0	263,897	0.000000	Ó	0	0.00
9	Margin Adjustment	263,897	-0.006338	-1,673	263,897	(0.006338)	(1,673)	0	0.00
10	Weather Normalization	160,049	0.021647	3,465	160,049	0.021647	3,465	0	0.00
11	GPRC	263,897	0.004661	1,230	263,897	0.004661	1230	0	0.00
12	Capital Adjustment Charges (CIP I)	•		•	,				
13	Service Charge	1,683.715	0.00	0	1,683.715	0.00	0	0	0.00
14	Distribution Charge - Pre July 14, 1997	2,367	0.000000	0	2,367	0.000000	0	0	0.00
15	Distribution Charge - All Others	261,497	0.000000	0	261,497	0.000000	0	0	0.00
16	Off-Peak Use Dist Charge - Pre July 14, 1997	0	0.000000	0	. 0	0.000000	0	0	0.00
17	Off-Peak Use Dist Charge - All Others	33	0.000000	0	33	0.000000	0	0	0.00
18	Margin Adjustment Charge	263,897	0.000000	0	263,897	0.000000	0	0	0.00
19	<b>5</b> , <b>5</b>	•			•				
20	Facilities Charges			0			0	0	0.00
21	Minimum			6			6	0	0.00
22	Miscellaneous			(1,275)			(1,275)	0	0.00
23	Delivery Subtotal	263,897		\$115,420	263,897		\$119,960	\$4,540	3.93
24	Unbilled Delivery	•		69	•		72	<u>3</u>	4.35
25	Delivery Subtotal w unbilled			\$115,4 <del>89</del>			\$120,032	\$4,543	3.93
26	•			•			, ,		
27	Supply								
28	BGSS	263,897	0.510582	\$134,741	263,897	0.510582	\$134,741	\$0	0.00
29	Emergency Sales Service	0	0.000000	0	0	0.000000	0	0	0.00
30	BGSS Contrib. from TSG-F, TSG-NF & CIG	0	0.000000	0	263,897	(0.000110)	(29)	(29)	0
31	Capital Adjustment Charges	263,897	0.000000	0	263,897	0.000000	Ô	Ó	Ō
32	Miscellaneous	•		(1,705)	•		(1,705)	<u>0</u>	0.00
33	Supply subtotal	263,897		\$133,036	263,897		\$133,007	(29)	(0.02)
34	Unbilled Supply			1,222			1,222	0	0.00
35	Supply Subtotal w unbilled			\$134,258			\$134,229	(29)	(0.02)
36	<b></b> ,			•,			, ,	()	<b>(</b>
37	Total Delivery + Supply	263,897		\$249,747	263,897		\$254.261	<b>\$4.514</b>	1.81
38	· /	,_					A		
39									
40									
4.4	Matan								

41 Notes:

42 All customers assumed to be on BGSS.

43 Annualized Weather Normalized Revenue reflects Delivery rates in effect 1/1/2018

44 plus applicable BGSS charges.45

RATE SCHEDULE LVG LARGE VOLUME SERVICE 12 Months Ended December 31, 2012 (Therms & Revenue - Thousands, Rate - \$/Therm) Schedule SS-GSMPII-4(R) Page 5 of 9

#### Annualized

		Weather Normalized			Proposed w	ith GSMP Roll-	īn	Increase	
		<u>Units</u>	Rate	Revenue	<u>Units</u>	<u>Rate</u>	Revenue	Revenue	Percent
	Delivery	(1)	(2)	(3=1*2)	(4)	(5)	(6=4*5)	(7=6-3)	(8=7/3)
1	Service Charge	221.074	100.12	\$22,134	221.074	100.12	\$22,134	\$0	0.00
2	Demand Charge	17,876	4.0054	71,601	17,876	4.2633	76,211	4,610	6.44
3	Distribution Charge 0-1,000 pre 7/14/97	10,437	0,047350	494	10,437	0.052547	548	54	10.93
4	Distribution Charge over 1,000 pre 7/14/97	57,522	0.041279	2,374	57,522	0.043288	2,490	116	4.89
5	Distribution Charge 0-1,000 post 7/14/97	138,521	0.047350	6,559	138,521	0.052547	7,279	720	10.98
6	Distribution Charge over 1,000 post 7/14/97	435,510	0.041279	17,977	435,510	0.043288	18,852	875	4.87
7	Balancing Charge	321,889	0.084457	27,186	321,889	0,084457	27,186	0	0.00
8	SBC	641,990	0.041995	26,960	641,990	0.041995	26,960	0	0.00
9	Realignment Adjustment	641,990	0.000000	0	641,990	0.000000	0	0	0,00
10	Margin Adjustment	641,990	(0.006338)	-4,069	641,990	(0.006338)	(4069)	0	0.00
11	Weather Normalization	321,889	0.021647	6,968	321,889	0.021647	6,968	0	0.00
12	GPRC	641,990	0.004661	2,992	641,990	0,004661	2,992	0	0,00
13	Capital Adjustment Charges (CIP I)	•		,	•		•		
14	Service Charge	221.074	0.00	0	221.074	0.00	0	0	0.00
15	Demand Charge	17,876	0.0000	Ō	17,876	0.0000	ō	ō	0.00
16	Distribution Charge 0-1,000 pre July 14, 1997	10,437	0.000000	٥	10,437	0.000000	0	Ô	0.00
17	Distribution Charge over 1,000 pre July 14, 1997	57,522	0.000000	0	57,522	0.000000	ō	ō	0.00
18	Distribution Charge 0-1,000 post July 14, 1997	138,521	0.000000	0	138,521	0.000000	ō	ō	0.00
19	Distribution Charge over 1,000 post July 14, 1997	435,510	0.000000	ō	435,510	0.000000	ō	Õ	0.00
20	Margin Adjustment Charge	641,990	0.000000	Ö	641,990	0.000000	ō	ā	0.00
21	g	+ · · · · · ·	-,		- 1114	********	•	_	
22	Facilities Charges			0			0	0	0.00
23	Minimum			227			227	ō	0.00
24	Miscellaneous			(764)			(764)	0	0.00
25	Delivery Subtotal	641,990		180,639	641,990		187,014	\$6,375	3.53
26	Unbilled Delivery	,		2,119	5 ( ) [ 5 2 2		2,196	77	3.63
27	Delivery Subtotal w unbilled			\$182,758			\$189,210	\$6,452	3.53
28				,			V.00,2.0	40,112	
29									
30	Supply								
31	BGSS	641,990	0.510109	\$327,485	641,990	0,510109	\$327,485	\$0	0.00
32	Emergency Sales Service	0	0.000000	0	0	0.000000	0	0	0.00
33	BGSS Contrib. from TSG-F, TSG-NF & CIG	0	0.000000	Ö	641,990	(0.000110)	(71)	(71)	0.00
34	Capital Adjustment Charges	641,990	0.000000	ŏ	641,990	0.000000	0	(, ,	0.00
35	Miscellaneous	041,000	0.00000	2,184	541,500	0.00000	2,184	Q	0.00
36	Supply Subtotal	641,990		\$329,669	641,990		\$329,598	(71)	(0.02)
37	Unbilled Supply	071,000		(15,896)	0-1,000		(15,893)	3	(0.02)
38	Supply Subtotal w unbilled			\$313,773			\$313,705	(68)	(0.02)
39	outply outloter withhilled			4010,770			Ψ010,700	(00)	(0.02)
40	Total Delivery + Supply	641,990		\$496.531	641,990		\$502,915	\$6,384	1,29
41	Total Delivery - Supply	041,000		9-100.001	U-7 1,00U		#004.313	<u>\$0.004</u>	1,29
41									

44 Notes:

42 43

45 All customers assumed to be on BGSS.

46 Annualized Weather Normalized Revenue reflects Delivery rates in effect 1/1/2018 plus applicable BGSS charges.



(Therms & Revenue - Thousands, Rate - \$/Therm)

#### Annualized

	_	Weather Normalized		d	Proposed	with GSMP R	Roll-in	Increas	e
		<u>Units</u>	Rate	Revenue	<u>Units</u>	Rate	Revenue	Revenue	Percent
	Delivery	(1)	(2)	(3=1*2)	(4)	(5)	(6=4*5)	(7=6-3)	(8=7/3)
1	Single	10.392	9.6316	\$100.092	10.392	9.6316	\$100.092	\$0.000	0.00
2	Double Inverted	0.108	9.4856	1.024	0.108	9.4856	1.024	0.000	0.00
3	Double Upright	0.588	8.3906	4.934	0.588	8.3906	4.934	0.000	0.00
4	Triple prior to 1/1/93	18.156	9.4856	172.221	18.156	9.4856	172.221	0.000	0.00
5	Triple on and after 1/1/93	0.432	61.9958	26.782	0.432	61.9958	26.782	0.000	0.00
6	Distribution Therm Charge	682.345	0.115157	78.577	682.345	0.145038	98.966	20.389	25.95
7	· ·								
8	SBC	682.345	0.041995	28.655	682.345	0.041995	28.655	0.000	0.00
9	Realignment Adjustment	682.345	0.000000	0.000	682.345	0.000000	0.000	0.000	0.00
10	Margin Adjustment	682.345	(0.006338)	(4.325)	682.345	(0.006338)	(4.325)	0.000	0.00
11	Asserting Charles and Francisco Contraction		,				,		
12	GPRC	682.345	0.004661	3.180	682.345	0.004661	3.180	0.000	0.00
13	Capital Adjustment Charges (CIP I)								
14	Single-Mantle Lamp	10.392	0.0000	0.000	10.392	0.0000	0.000	0.000	0.00
15	Double-Mantle Lamp, inverted	0.108	0.0000	0.000	0.108	0.0000	0.000	0.000	0.00
16	Double Mantle Lamp, upright	0.588	0.0000	0.000	0.588	0.0000	0.000	0.000	0.00
17	Triple-Mantle Lamp, prior to January 1, 19933	18.156	0.0000	0.000	18.156	0.000000	0	0	0.00
18	Triple-Mantle Lamp, on and after January 1, 1993	0.432	0.0000	0.000	0.432	0.0000	0.000	0.000	0.00
19	Distribution Therm Charge	682.345	0.000000	0.000	682.345	0.000000	0.000	0.000	0.00
20	Margin Adjustment Charge	682.345	0.000000	0.000	682.345	0.000000	0.000	0.000	0.00
21									
22	Facilities Charges			0.000			0.000	0.000	0.00
23	Minimum			0.000			0.000	0.000	0.00
24	Miscellaneous			15.746			15.748	0.002	0.01
25	Delivery Subtotal	682.345		\$426.886	682.345		\$447.277	\$20.391	4.78
26	Unbilled Delivery			0.000			0.000	0.000	0.00
27	Delivery Subtotal w unbilled			\$426.886			\$447.277	\$20.391	4.78
28	•								
29	Supply								
30	BGSS	682.063	0.507368	\$346.057	682.063	0.507368	\$346.057	\$0.000	0.00
31	Emergency Sales Service	0.000	0.000000	0.000	0.000	0.000000	0.000	0.000	0.00
32	BGSS Contrib. from TSG-F, TSG-NF & CIG	0.000	0.000000	0.000	682.345	(0.000110)	(0.075)	(0.075)	0.00
33	Capital Adjustment Charges	682.345	0.000000	0.000	682.345	0.000000	0.000	0.000	0.00
34	Miscellaneous			(75.892)			(75.892)	0.000	0.00
35	Supply Subtotal	682.063		\$270.165	682.063		\$270.090	(\$0.075)	(0.03)
36	Unbilled Supply			0.000			0.000	0.000	0.00
37	Supply Subtotal w unbilled			\$270.165			\$270.090	(\$0.075)	(0.03)
38							*****************	(,	()
39	Total Delivery + Supply	682.345		\$697.051	682,345		\$717.367	\$20.316	2.91
40				THE RESERVE OF THE PARTY OF THE					

42 43 Notes:

44 All customers assumed to be on BGSS.

45 SLG units and revenues shown to 3 decimals.

46 Annualized Weather Normalized Revenue reflects Delivery rates in effect 1/1/2018

7 plus applicable BGSS charges.

47 48

PSE&G Gas System Modernization Program II

RATE SCHEDULE TSG-F FIRM TRANSPORTATION GAS SERVICE 12 Months Ended December 31, 2012 (Therms & Revenue - Thousands, Rate - \$/Therm)

Schedule SS-GSMPII-4(R) Page 7 of 9

#### Annualized

		Weatl	ner Normalize	ed	Proposed	with GSMP I	Roll-in	Increa	ase
		Units	Rate	Revenue	Units	Rate	Revenue	Revenue	Percent
	Delivery	(1)	(2)	(3=1*2)	(4)	(5)	(6=4*5)	(7=6-3)	(8=7/3)
1	Service Charge	0.622	580.42	\$361,021	0,622	625.58	\$389.111	\$28.090	7.78
2	Demand Charge	575	1.9555	1,124.413	575	2.0552	1,181.740	57.327	5,10
3	Demand Charge, Agreements	16	1,6563	26.501	16	1.6563	26,501	0.000	0.00
4	Distribution Charge	27,094	0.074744	2,025.114	27,094	0.078555	2,128,369	103.255	5.10
5	Distribution Charge, Agreements	968	0.031380	30,376	968	0.031380	30.376	0.000	0.00
6	SBC	27,094	0.041995	1,137.813	27,094	0.041995	1,137,813	0.000	0.00
7	SBC, Agreements	968	0.050438	48.824	968	0.050438	48.824	0.000	0.00
8	Margin Adjustment	27,094	(0.006338)	(171.722)	27,094	(0.006338)	(171.722)	0.000	0.00
9	Margin Adjustment, Agreements	968	(0.006338)	(6.135)	968	(0.006338)	(6.135)	0.000	0.00
10			, ,	` '			• •		
11	GPRC	27,094	0.004661	126,285	27,094	0.004661	126	0	0.00
12	GPRC, Agreements	968	0.003908	3.783	968	0.003908	3.783	0.000	0.00
13	Capital Adjustment Charges (CIP I)								
14	Service Charge	0.622	0.00	0.000	0.622	0.00	0.000	0.000	0,00
15	Demand Charge	575	0.0000	0.000	575	0.0000	0.000	0.000	0.00
16	Demand Charge, Agreements	16	0.0000	0.000	16	0.0000	0.000	0.000	0.00
17	Distribution Charge	27,094	0.000000	0.000	27,094	0.000000	0.000	0.000	0.00
18	Distribution Charge, Agreements	968	0.000000	0.000	968	0.000000	0.000	0.000	0.00
19	Margin Adjustment Charge	27,094	0.000000	0.000	27,094	0.000000	0.000	0.000	0.00
20	Margin Adjustment Charge, Agreements	968	0.000000	0.000	968	0.000000	0.000	0.000	0.00
21									
22	Facilities Charges			0.000			0.000	0.000	0.00
23	Minimum			0.000			0.000	0.000	0.00
24	Miscellaneous			(20.523)			(20.528)	(0.005)	0.02
25	Delivery Subtotal	28,062		4,685.750	28,062		4,874.417	\$188.667	4.03
26	Unbilled Delivery	•		(91.071)			(95.738)	(4.667)	5.12
27	Delivery Subtotal w unbilled			\$4,594.679			\$4,778,679	\$184.000	4.00
28	• • • • • • • • • • • • • • • • • • • •			•			•		
29	Supply								
30	Commodity Charge, BGSS-F	27,094	0.509559	\$13,806.000	27,094	0.509559	\$13,806.000	\$0.000	0.00
31	Emergency Sales Service	. 0	0.000000	0.000	. 0	0.000000	0.000	0.000	0.00
32	Miscellaneous			0.000			0.000	0.000	0.00
33	Supply Subtotal	27,094		\$13,806.000	27,094		\$13,806.000	\$0.000	0.00
34	Unbilled Supply	•		(2,208.144)	•		(2,208.144)	0.000	0.00
35	Supply Subtotal w unbilled			\$11,597,856			\$11,597.856	\$0.000	0.00
36							,		
37	Total Delivery + Supply	28,062		\$16,192,535	28,062		\$16,376,535	\$184,000	1.14
38	,,				•				
39									
40									
41	Notes:								

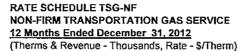
41 Notes:

42 All customers assumed to be on BGSS.

43 TSG-F revenues shown to 3 decimals.

44 Annualized Weather Normalized Revenue reflects Delivery rates in effect 1/1/2018

45 plus applicable BGSS charges.



#### Annualized

		Weath	er Normalize	<u> </u>	Proposed with GSMP Roll-in			Increa	ise
		<u>Units</u>	Rate	Revenue	Units	Rate	Revenue	Revenue	Percent
	Delivery	(1)	(2)	(3=1*2)	(4)	(5)	(6=4*5)	(7=6-3)	(8=7/3)
1	Service Charge	2.703	580.42	\$1,569	2.703	625.58	\$1,691	\$122	7.78
2	Dist Charge 0-50,000	99,166	0.074308	7,369	99,166	0.077756	7,711	342	4.64
3	Dist Charge 0-50,000, Agreements	26,064	0.017035	444	26,064	0.017035	444	0	0.00
4	Dist Charge over 50,000	136,943	0.074308	10,176	136,943	0.077756	10,648	472	4.64
5	Dist Charge over 50,000, Agreements	602,423	0.017061	10,278	602,423	0.017061	10,278	0	0.00
6	SBC	236,109	0.041995	9,915	236,109	0.041995	9,915	0	0.00
7	SBC, Agreements	628,487	0.005338	3,355	628,487	0.005338	3,355	0	0.00
8									
9	GPRC	236,109	0.004661	1,101	236,109	0.004661	1,101	0	0.00
10	GPRC, Agreements	628,487	0.000430	270	628,487	0.000430	270	0	0.00
11	Capital Adjustment Charges (CIP I)								
12	Service Charge	2.703	0.00	0	2.703	0.00	0	0	0.00
13	Distribution Charge 0-50,000	99,166	0.000000	0	99,166	0.000000	0	0	0.00
14	Distribution Charge 0-50,000, Agreements	26,064	0.000000	0	26,064	0.000000	0	O	0.00
15	Distribution Charge over 50,000	136,943	0.000000	0	136,943	0.000000	0	0	0.00
16	Distribution Charge over 50,000, Agreements	602,423	0.000000	0	602,423	0.000000	0	0	0.00
17	•								
18	Facilities Charges			936			936	0	0.00
19	Minimum			0			0	0	0.00
20	Miscellaneous			<u>(970)</u>			(970)	<u>0</u>	0.00
21	Delivery Subtotal	864,596		\$44,443	864,596		\$45,379	\$936	2.11
22	Unbilled Delivery			<u>(1,083)</u>			(1,105)	(22)	2.03
23	Delivery Subtotal w unbilled			\$43,360			\$44,274	\$914	2.11
24									
25	Supply								
26	Commodity Charge, BGSS-I	236,109	0.480037	\$113,341	236,109	0.480037	\$113,341	\$0	0.00
27	Emergency Sales Service	0	0.000000	0	0	0.000000	0	0	0.00
28	Pilot Use	0	1.89	0	0	1.89	0	0	0.00
29	Penalty Use	0	0.000000	0	0	0.000000	0	0	0.00
30	Miscellaneous			<u>160</u>			<u>160</u>	<u>0</u>	0.00
31	Supply Subtotal	236,109		\$113,501	236,109		\$113,501	\$0	0.00
32	Unbilled Supply			(2.936)			(2,936)	<u>0</u>	0.00
33	Supply Subtotal w unbilled			\$110,565			\$110,565	\$0	0.00
34	•••								
35	Total Delivery + Supply	864,596		\$153.925	864,596		\$154.839	<u>\$914</u>	0.59
36	, , , ,								
37									
~~									

39 Notes:

38

40 All customers assumed to be on BGSS.

41 Annualized Weather Normalized Revenue reflects Delivery rates in effect 1/1/2018

42 plus applicable BGSS charges.43

Schedule SS-GSMPII-4(R) Page 9 of 9

## Annualized

	_	Weath	er Normalize	d	Proposed	with GSMP R	oll-in	Increa	ase
		<u>Units</u>	Rate	Revenue	<u>Units</u>	Rate	Revenue	Revenue	Percent
	<u>Delivery</u>	(1)	(2)	(3=1*2)	(4)	(5)	(6=4*5)	(7=6-3)	(8=7/3)
1	Service Charge	0.240	147.31	\$35	0.240	154.95	\$37	\$2	5.71
2	Margin 0-600,000	52,881	0.066666	3,525	52,881	0.070005	3,702	177	5.02
3	Margin over 600,000	5,266	0.054703	288	5,266	0.057443	<b>30</b> 2	14	4.86
4	Extended Gas Service	0	0.150000	0	0	0.150000	0	0	0.00
5	SBC	58,147	0.041995	2,442	58,147	0.041995	2,442	0	0.00
6 7	GPRC Recovery Charge	58,147	0.004661	271	58,147	0.004661	271	0	0.00
8	Capital Adjustment Charges (CIP I)	30,141	0.00-001	211	30, 147	0.004001	211	v	0.00
9	Service Charge	0,240	0.00	0	0.240	0.00	0	0	0.00
10	Distribution Charge 0-600,000	52.881	0.000000	Ô	52,881	0.000000	Ō	ō	0.00
11	Distribution Charge over 600,000	5,266	0.000000	0	5,266	0.000000	ō	0	0.00
12	Extended Gas Service, Special Delivery Charge	0	0.000000	Ō	0	0.000000	ō	o o	0.00
13		_		_	_		_	_	
14	Facilities Charges			0			0	0	0.00
15	Minimum			0			0	0	0.00
16	Miscellaneous			<u>0</u>			<u>0</u>	<u>0</u>	0.00
17	Delivery Subtotal	58,147		\$6,561	58,147		\$6,754	\$193	2.94
18	Unbilled Delivery			(28)			(29)	<u>-1</u>	3.57
19	Delivery Subtotal w unbilled			\$6,533			\$6,725	\$192	2.94
20									
21	Supply								
22	Commodity Component	58,147	0.328168	\$19,082	58,147	0.328168	\$19,082	\$0	0.00
23	Pilot Use	0	1.89	0	0	1.89	0	0	0.00
24	Penalty Use	0		0	0		0	0	0.00
25	Extended Gas Service	0		0	0		0	0	0.00
26	Miscellaneous			<u>0</u>			<u>0</u>	<u>0</u>	0.00
27	Supply Subtotal	58,147		\$19,082	58,147		\$19,082	\$0	0.00
28	Unbilled Supply			<u>139</u>			<u>139</u>	<u>0</u>	0.00
29	Supply Subtotal w unbilled			\$19,221			\$19,221	\$0	0.00
30									
31	Total Delivery + Supply	58,147		<u>\$25,754</u>	58,147		<u>\$25,946</u>	<u>\$192</u>	0.75
32									

35 Notes:

36 All customers assumed to be on BGSS.

37 Annualized Weather Normalized Revenue reflects Delivery rates in effect 1/1/2018

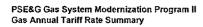
38 plus applicable BGSS charges.

39

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

Schedule SS-GSMPII-5(R) Page 1 of 2

		Present		6/1/2020		12/1/2020		6/1/2021		12/1/2021	
		1	Charge		Charge		Charge		Charge		Charge
		Charge w/o	Including	Charge w/o	Including	Charge wlo	Including	Charge w/o	Including	Charge w/o	Including
Rate Schedule	!	SUT	SUT	SUT	SUT	SUT	SUT	SUT	SUT	SUT	SUT
RSG	Service Charge	\$5.46	\$5.82	\$5.46	\$5,82	\$5.46	\$5.82	\$5.46	\$5.82	\$5,46	\$5.83
	Distribution Charges	\$0,321832	\$0,343153	\$0.342358	\$0,365039	\$0,358890	\$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
	5	***************************************	40	40,11	45.152524	40,,,,	40,150257	40.,000.00	00.101015	VO. 132005	90,20001
GSG	Service Charge	\$12,23	\$13,04	\$13,18	\$14,05	\$13,87	\$14,79	\$14.55	\$15.51	\$15.26	\$16.2
	Distribution Charge - Pre July 14, 1997	\$0,259499	\$0,276691	\$0.270641	\$0.288571	\$9.278417	\$0.296862	\$0,285951	\$0,304895	\$0.293621	\$0.31307
	Distribution Charge - All Others	\$0.259499	\$0,276691	\$0.270641	\$0.288571	\$0.278417	\$0.296862	\$0.285951	\$0.304895	\$0.293621	\$0.31307
	Balancing Charge	\$0.084457	\$0.090052	\$0.084457	\$0.090052	\$0.084457	50.090052	\$0.084457	\$0.090052	\$0.084457	\$0.090057
	Off-Peak Use Dist Charge - Pre July 14, 1997	\$0.129750	\$0.138346	\$0,135321	\$0.144286	\$0,139209	\$0.148432	50.004437	\$0.152448	\$0,146811	\$0,15653
	Off-Peak Use Dist Charge - All Others	\$0,129750	\$0.138346	\$0,135321	\$0,144286	\$0,139209	\$0,148432				
	Oil-reak ose bist Charge - Ail Others	\$0,129150	30.135340	\$0,135321	\$U, 144200	\$0,139209	\$U, (40432	\$0.142976	\$0.152448	\$0,146811	<b>\$0.</b> 156537
LVG	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	\$100.12 \$4.4460	\$4,7405	\$100.12	\$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		
			\$0,030487	\$0.052547	\$0.050020	\$0.055855		\$0.059012		\$0,062130	\$0.066246
	Distribution Charge over 1,000 pre July 14, 1997	\$0.041279					\$0.047793		\$0,049413	\$0.047946	\$0.05112
	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	\$0,056246
	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	\$0,05112
	Balancing Charge	\$0.084457	\$0.090052	\$0.084457	\$0.090052	\$0.084457	\$0.090052	\$0.084457	\$0.090052	\$0.084457	\$0.090052
SLG	Single-Mantle Lamp	\$9,6316	\$10,2697	\$9,6316	\$10,2697	\$9,6316	\$10,2697	\$9.6316	\$10,2697	\$9,6316	\$10,2697
SLG	Double-Mantie Lamp, inverted	\$9,4856	\$10.2057 \$10.1140	\$9,4856	\$10,2097	\$9,4856	\$10,2097	\$9.4856	\$10,2097	\$9,4856	\$10,2097
	Double Mantle Lamp, inverted	\$8,3906	\$10,1140 \$8,9465	\$8,3906	\$8,9465	\$8,3906	\$8,9465	\$8,3906	\$8,9465	\$8,3906	\$10,1140
		\$9,4856	\$10,1140	\$9,4856	\$10,1140	\$9,4856	\$10,1140	\$9,4856			\$10,1140
	Triple-Mantle Lamp, prior to January 1, 19933								\$10.1140	\$9.4856	
	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	\$D.186785	\$0.199160	\$0.207948	\$0.221725
TSG-F	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	50.081242	\$0.086624	\$0.083836	\$0.089390	\$0,086506	\$0,09223
	Distribution Crisiges	1	40.070000	40.07 5000	40.000700	30.0012.2	40.000021	40.00000	45.555555	40,000000	QD,DDZED.
TSG-NF	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	50,074308	\$0.079231	SD.077756	\$0.082907	\$0.080183	SD.085495	\$0.082538	\$0.088006	\$0,084944	\$0.090572
	Distribution Charge over 50,000	\$0,074308	50,079231	\$0,077756	\$0,082907	50,080183	\$0,085495	\$0,082538	\$0.088006	50,084944	\$0.090572
	Diskipation Grange Grov Grand	1	40.07022		00,00007	<b>V</b> -,	40.000	40,002020	•=1=====	40.00.077	*********
	Special Provision (d)	\$1.89	\$2,02	\$1,89	\$2,02	\$1,89	\$2,02	\$1.89	\$2.02	\$1.89	\$2.02
ale.	Overfee Observe	6447.54	6457 57	0454.55	6466.00	6455.55	ቀለቱም ሰላ	****	8470.00	6474 SF	p.400.00
CIG	Service Charge	\$147.31	\$157.07	\$154.95	\$166.22	\$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
BGSS RSG	Commodity Charge including Losses	\$0.346015	\$0.368938	\$0,345811	\$0.368721	\$0.345667	\$0,368567	\$0,345527	\$0.368418	\$0.345383	\$0.368265
									300.55		
CSG	Service Charge	\$ 580,42	\$ 618,87	\$ 625,58	\$ 667.02	\$ 658,34	\$ 701,96	\$ 690,82	736,59	\$ 724.73	\$ 772.74



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		6/1/2022		12/1/2022		6/1/2023		12/1/2023		10/1/2024	
***************************************			Charge		Charge		Charge		Charge		Charge
		Charge w/o	Including	Charge wio	Including	Charge w/o	Including	Charge w/o	Including	Charge w/o	Including
Rate Schedule		SUT	SUT	SUT	SUT	SUT	SUT	SUT	SUT	SUT	SUT
	Service Charge	\$5,46	\$5.82	\$5,46	\$5,82	\$5,46	\$5,82		55.82	\$5.46	\$5,82
	Distribution Charges	\$0,399798	\$0.426285	50,414341	\$0.441791	S0.428553	\$0,456945	\$0,443405	\$0,472781	\$0.463779	\$0.494504
	Balancing Charge	\$0,084457	\$0.090052		\$0.090052	\$0.084457	\$0.090052		\$0.090052	SD.D84457	\$0.090052
	Off-Peak Use	\$0,199899	\$0.213142		SD.220896	\$0,214277	\$0,228473		\$0.236391	\$0,231890	\$0.247253
			40.E 101-E	00.251111	OU.LEGUSO	45,21-4277	40,22,0410	40.221100	30.200051	30.231030	30,241233
GSG	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	\$0.316698	\$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	50,154223	\$0,164440	\$0,157849	\$0,168306	\$0.161616	\$0,172323	\$0,166706	\$0,177750
	Off-Peak Use Dist Charge - All Others	\$0,150488	50,160458		\$0,164440	\$0,157849	\$0.168306		\$0,172323	\$0,166706	\$0.177750
	Service Charge	\$100.12	\$106.75		\$106.75	\$100.12	\$106.75		\$106.75	\$100.12	\$106.75
	Demand Charge	\$4,9862	\$5.3165		\$5,5121	\$5.3489	\$5,7033		\$5.9031	\$5.7936	\$6.1774
	Distribution Charge 0-1,000 pre July 14, 1997	\$0.064998	\$0.059304	\$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	50.051251	\$0.054646	\$0,052934	\$0.056441	\$D,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
SLG	Single-Manile 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	59,4856	\$10,2097		\$10,2697	\$9,6316 \$9,4856	\$10.2697		\$10,2097	\$9.6316 \$9.4856	\$10,2697
		\$8,3906	\$8,9465		\$8,9465	\$8,3906	\$8.9465	\$9,4656	\$8,9465	\$9,4636 \$8,3906	\$8,9465
	Double Mantle Lamp, upright										
	Triple-Mantle Lamp, prior to January 1, 19933	\$9,4856	\$10,1140		\$10,1140	\$9,4856	\$10.1140		\$10.1140	\$9,4856	\$10,1140
	Triple-Mantle Lamp, on and after January 1, 1993	\$61.9958	\$66,1030		\$66.1030	\$61.9958	\$66.1030		\$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
TSG-F	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
TSG-NF	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	50,093064	\$0,089666	\$0.095606	\$0.091987	\$0.098081	\$0.094401	\$0,100655	\$0.097700	\$0.104173
		\$0.087282	\$0.093064	\$0,089666	\$0,095606	\$0.091987	\$0.098081	\$0.094401	\$0,100655		
	Distribution Charge over 50,000	\$0,081282	\$0,093064	\$0,089066	\$0,09500	\$0,091967	\$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
CIG	Service Charge	\$176.33	\$188.01	\$181.75	<b>\$</b> 193,79	\$187.04	\$199.43	\$192,57	\$205.33	\$200.16	\$213,42
	Distribution Charge 0-600,000	\$0.079358	\$0.084615		50.087132	\$0.084026	\$0,089593	\$0,086439	\$0.092166	50.089743	50,095688
	Distribution Charge over 600,000	\$0.065118	\$0.069432		\$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
BGSS RSG	Commodity Charge including Losses	\$0.345243	\$0.368115	\$0.345100	\$0.367963	\$0.344959	\$0.367813	\$0.344812	\$0.367656	\$0.344610	\$0.367440
CSG	Service Charge	s 758,31	\$ 808.55	\$ 793.25	S 845.8D	\$ 827.89	\$ 882.74	\$ 864,61	\$ 921,89	S 915,71	\$ 976.38

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

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	Incremental Typical Annual Bill Impacts By Rate Class														
			Roll-In Date												
	If Your Annual			En En											
Rate Class	Therm Use Is:	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	Customer Bill (\$)			
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			

			lno	remental An	nual Percent	Change From	Current Typ	ical Annual B	ill			7				
	By Rate Class <sup>1</sup>															
				Roll-in Date T												
	If Your Annual											Change from				
Rate Class	Therm Use Is:	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	Current Bill				
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

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Page 2 of 2

				Cumulati	ve Typical Ar	nual Bill Imp	acts								
	By Rate Class														
	Roll-In Date														
Rate	If Your Annual														
Class	Therm Use Is:	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	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				

			Cumula	tive Percent	Changes Fror	n Current Typ	ical Annual I	3111		•	•				
	By Rate Class														
				Roll-In Date											
Rate	If Your Annual														
Class	Therm Use Is:	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%	4.14%	5.82%	7.53%	9.22%	10.93%	12.61%	14.36%	16.77%				
GSG	1,882	1,915.58	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>&</sup>lt;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 See also, "Analysis of the Economic Impacts Pipeline FINAL 02-07-2017.pdf'. 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.

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 <a href="https://implanhelp.zendesk.com/hc/en-us">https://implanhelp.zendesk.com/hc/en-us</a>.

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

#### RESPONSE:

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