



June 1, 2022

In the Matter of the Petition of
Public Service Electric and Gas Company
for Approval of Changes in its Gas Conservation
Incentive Program
(2022 PSE&G Gas Conservation Incentive
Program Rate Filing)

BPU Docket No. _____

VIA BPU E-FILING SYSTEM & ELECTRONIC MAIL

Carmen Diaz, Acting Secretary
Board of Public Utilities
44 South Clinton Avenue, 9th Floor
P.O. Box 350
Trenton, New Jersey 08625-0350

Dear Secretary Diaz:

Enclosed for filing on behalf of petitioner Public Service Electric and Gas Company is the Petition, Testimony of Michael McFadden, Karen Reif, Stephen Swetz, and Supporting Schedules in the above-referenced proceeding.

Please be advised that Attachment A - Schedule 6 is confidential and will be provided to the parties upon receipt of the Non-Disclosure Agreement, which is enclosed here.

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

Very truly yours,

A handwritten signature in blue ink, appearing to read "Danielle Lopez", with a long, sweeping flourish extending from the end.

C Attached service list (via e-mail)

In the Matter of the Petition of Public
Service Electric and Gas Company for
Approval of Changes in its Gas
Conservation Incentive Program
(2022 PSE&G Gas CIP Rate Filing)
BPU Docket No.

Carmen Diaz, Acting
Board Secretary
NJ Board of Public Utilities
44 South Clinton Avenue
P.O. Box 350
Trenton, NJ 08625

Brian O. Lipman, Director
Division of Rate Counsel
140 East Front Street, 4th Floor
P.O. Box 003
Trenton, NJ 08625

Maura Caroselli, Esq.
Division of Rate Counsel
140 East Front Street, 4th Floor
P.O. Box 003
Trenton, NJ 08625

Sarah Steindel, Esq.
Division of Rate Counsel
140 East Front Street, 4th Floor
P.O. Box 003
Trenton, NJ 08625

Carlana Morrison, Paralegal
Division of Rate Counsel
140 East Front Street, 4th Floor
P.O. Box 003
Trenton, NJ 08625

Carol Artale
NJ Board of Public Utilities
44 South Clinton Avenue, 9th Floor
P.O. Box 350
Trenton, NJ 08625

Rachel Boylan
NJ Board of Public Utilities
44 South Clinton Avenue
P.O. Box 350
Trenton, NJ 08625

Mahogany A. Hall
NJ Board of Public Utilities
44 South Clinton Avenue
P.O. Box 350
Trenton, NJ 08625

Paul Lupo
NJ Board of Public Utilities
44 South Clinton Avenue
P.O. Box 350
Trenton, NJ 08625

Michael Kammer
NJ Board of Public Utilities
44 South Clinton Avenue, 9th Floor
P.O. Box 350
Trenton, NJ 08625

Benjamin S. Hunter
NJ Board of Public Utilities
44 South Clinton Avenue, 9th Floor
P.O. Box 350
Trenton, NJ 08625

Stacy Peterson
NJ Board of Public Utilities
44 South Clinton Avenue, 9th Floor
P.O. Box 350
Trenton, NJ 08625

Kelly Mooij
NJ Board of Public Utilities
44 South Clinton Avenue, 9th Floor
P.O. Box 350
Trenton, NJ 08625

Jacqueline O'Grady
NJ Board of Public Utilities
44 South Clinton Avenue, 9th Floor
P.O. Box 350
Trenton, NJ 08625

Michael Beck
NJ Dept. of Law and Public Safety
25 Market Street
P.O. Box 112
Trenton NJ 08625

Bart Kilar
NJ Board of Public Utilities
44 South Clinton Avenue, 9th Floor
P.O. Box 350
Trenton, NJ 08625

Stacy Richardson
NJ Board of Public Utilities
44 South Clinton Avenue, 9th Floor
P.O. Box 350
Trenton, NJ 08625

Hanaa Rohman
NJ Board of Public Utilities
44 South Clinton Avenue, 9th Floor
P.O. Box 350
Trenton, NJ 08625

Scott Sumliner
NJ Board of Public Utilities
44 South Clinton Avenue, 9th Floor
P.O. Box 350
Trenton, NJ 08625

Benjamin Witherell
NJ Board of Public Utilities
44 South Clinton Avenue, 9th Floor
P.O. Box 350
Trenton, NJ 08625

Matko Ilic
NJ Dept. of Law and Public Safety
Richard J. Hughes Justice Complex
Public Utilities Section
25 Market Street, P.O. Box 112
Trenton, NJ 08625

Danielle Lopez, Esq.
PSE&G Services Corporation
80 Park Plaza, T5
P.O. Box 570
Newark, NJ 07102

Joseph F. Accardo, Jr.
PSE&G Services Corporation
80 Park Plaza, T5G
P.O. Box 350
Newark, NJ 07102

Michael Falcao
PSE&G Services Corporation
80 Park Plaza, T5
P.O. Box 570
Newark, NJ 07102

Caitlyn White
PSE&G Services Corporation
80 Park Plaza, T-5
P.O. Box 570
Newark, NJ 07102

Bernard Smalls
PSE&G Services Corporation
80 Park Plaza, T5
P.O. Box 570
Newark, NJ 07102

Matthew M. Weissman, Esq.
PSE&G Services Corporation
80 Park Plaza, T5
P.O. Box 570
Newark, NJ 07102

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

**IN THE MATTER OF THE PETITION OF)
PUBLIC SERVICE ELECTRIC AND GAS)
COMPANY FOR APPROVAL OF CHANGES) BPU DOCKET NO. _____
IN ITS GAS CONSERVATION)
INCENTIVE PROGRAM)
(2022 PSE&G GAS CONSERVATION)
INCENTIVE PROGRAM)**

VERIFIED PETITION

Public Service Electric and Gas Company (“PSE&G,” “the Company,” or “Petitioner”), a corporation of the State of New Jersey, having its principal offices at 80 Park Plaza, Newark, New Jersey, respectfully petitions the New Jersey Board of Public Utilities (“Board” or “BPU”) pursuant to *N.J.S.A. 48: 2-21*, or any other statute the Board deems applicable, as follows:

INTRODUCTION AND OVERVIEW OF THE FILING

1. Petitioner is a public utility engaged in the distribution of electricity and the provision of electric Basic Generation Service (“BGS”), and distribution of gas and the provision of Basic Gas Supply Service (“BGSS”), for residential, commercial and industrial customers within the State of New Jersey. PSE&G provides service to approximately 2.3 million electric and 1.9 million gas customers in an area having a population in excess of 6.5 million persons and that extends from the Hudson River opposite New York City, southwest to the Delaware River at Trenton, and south to Camden, New Jersey.

2. Petitioner is subject to Board regulation for the purposes of setting its retail distribution rates and to assure safe, adequate, and reliable electric distribution and natural gas

distribution service pursuant to *N.J.S.A. 48:2-21 et seq.*

3. PSE&G is filing this Petition seeking Board approval for a rate adjustment related to changes in the average use per customer when compared to a baseline use per customer. The Clean Energy Future – Energy Efficiency Program (“CEF-EE”) was approved in a Board Order dated September 23, 2020 in BPU Docket Nos. EO10121113 and GO18101112 (“CEF-EE Order”). In this Order, the Board approved a Conservation Incentive Program (“CIP”) that allows the Company to account for lost sales revenue resulting from the decrease in customer energy usage. The CEF-EE Order approved a Stipulation that explicitly authorizes this gas CIP (“GCIP”) cost recovery filing by June 1, 2022, for new rates effective October 1, 2022. Stipulation, paragraph 39.

BACKGROUND

4. On January 13, 2008, L. 2007, c. 340 (“RGGI Law”) was signed into law and pronounced that EE and conservation measures must be essential elements of the State’s energy future. The Legislature also found that public utility involvement and competition in the conservation and EE industries are essential to maximize efficiencies. N.J.S.A. 26:2C-45. Pursuant to Section 13 of the RGGI Law, codified in part as N.J.S.A. 48:3-98.1(a)(1), an electric or gas public utility may, among other things, provide and invest in EE and conservation programs in its service territory on a regulated basis.

5. An electric or gas public utility’s investment in EE and conservation programs is eligible for rate treatment approved by the Board, including a return on equity, or other incentives or rate mechanisms. N.J.S.A. 48:3-98.1(b).

6. On May 23, 2018, Governor Murphy signed the Clean Energy Act (“CEA”) into law. The CEA builds upon the RGGI Law by employing clean energy strategies and establishing aggressive energy reduction requirements with the goal of improving public health by ensuring a cleaner environment for current and future New Jersey residents. Specifically, the CEA requires that each utility implement EE measures that “achieve annual reductions in the use of electricity of two percent of the average annual usage in the prior three years within five years of implementation of its electric energy efficiency program” and “annual reductions in the use of natural gas of 0.75 percent of the average annual usage in the prior three years within five years of implementation of its gas energy efficiency program.”¹ The CEA emphasizes the importance of EE and peak demand reduction (“PDR”) and calls upon New Jersey’s electric and gas public utilities to play an increased role in delivering EE and PDR programs to customers, with the aim to achieve the State’s goal of 100% clean energy by 2050.

7. The CEA required the Board to complete a study to determine energy savings targets for each utility to achieve the full economic, cost effective potential for energy usage reductions and the timeframe to achieve those reductions. It also required the Board to adopt quantitative performance indicators (“QPIs”) to establish utility targets for energy usage reduction and PDR, and to establish a stakeholder process to evaluate the economically achievable EE and PDR requirements, rate adjustments, QPIs, and the process for evaluating, measuring, and verifying energy usage reductions and peak demand reductions by the public utilities.

¹ *P.L. 2018, c. 17, § 3(a) and (e)(1).*

CEF-EE PROGRAM

8. PSE&G filed for approval of its CEF-EE Program pursuant to Section 13 of the RGGI Law on October 11, 2018 (“CEF-EE Petition” or “Petition”). In accordance with the RGGI Law, the Company met with Board Staff and Rate Counsel on May 3, 2018 for a pre-filing meeting to discuss: (a) the nature of the EE program; (b) the program cost recovery mechanism to be proposed in the Petition; and (c) the minimum filing requirements (“MFRs”) to be submitted along with the Petition.

9. On November 14, 2018, Staff informed the Company that it found the CEF-EE Petition to be administratively deficient with respect to the MFRs for EE, renewable energy, and conservation programs ("Deficiency Letter"). In response to Staff's Deficiency Letter, the Company filed supplemental information on January 4, 2019 (“Supplemental Filing”). On January 9, 2019, Board Staff notified the Company that it reviewed the Petition for completeness and determined the Petition administratively complete, thereby establishing the Board’s 180-day review period. Accordingly, the Board’s 180-day review period under N.J.S.A. 48:3-98.1 commenced on January 7, 2019, with an expiration date of July 6, 2019.

10. The CEF-EE Program filing consisted of 22 sub-programs, including seven (7) residential subprograms, seven (7) commercial and industrial (“C&I”) sub-programs, and eight (8) pilot subprograms. The CEF-EE residential sub-programs were proposed to, among other initiatives, promote the purchase and installation of high-efficiency appliances through rebates and on-bill incentives; provide customers with energy audits and installation of EE measures; educate residential builders and developers on energy efficient home design and construction; and educate kindergarten through 12th grade students on EE. These residential sub-programs

were proposed to work together to upgrade efficiency in homes throughout PSE&G's service territory. The CEF-EE C&I sub-programs were proposed to, among other things, promote the installation of energy efficient equipment; advance efficient design and equipment installation for new buildings; optimize energy consumption in existing buildings; and upgrade all of PSE&G's existing high-pressure sodium cobra head streetlights to more efficient light emitting diode ("LED") streetlights. Lastly, the CEF-EE pilot sub-programs were proposed to implement and manage select, advanced approaches to EE that, after the conclusion of the pilot phase, may support future EE programs in New Jersey.

11. The total proposed investment for the CEF-EE Program was approximately \$2.8 billion, including \$2.5 billion for investment—including \$86.2 million for information technology ("IT") investments—and approximately \$283 million in administrative costs, including \$28.9 million for IT run costs, over the proposed six (6) year term of the Program, with a proposed 15-year amortization period for residential and C&I program investments.

12. PSE&G proposed that the costs be recovered via a new CEF-EE Program component ("CEF-EEC") of the Company's electric and gas Green Programs Recovery Charge ("GPRC") that would be filed annually. PSE&G proposed to earn a return on its net investment based on its most recent weighted average cost of capital ("WACC").

13. Additionally, the Company requested Board approval of a decoupling mechanism for recovering lost revenues, the Green Enabling Mechanism ("GEM"), which would provide for the recovery or refund of the difference between actual revenue and the level of "allowed" revenue per customer established in the most recently completed base rate case.

14. Public notice was provided, and six (6) public hearings were held on the CEF-EE Program on the following dates at three (3) locations in PSE&G's service territory: two (2) hearings on March 13, 2019 in New Brunswick, New Jersey; two (2) hearings on March 18, 2019 in Mt. Holly, New Jersey; and two (2) hearings on March 21, 2019 in Hackensack, New Jersey.

15. The Company, Rate Counsel, and the Environmental Advocates pre-filed direct and rebuttal testimony of their witnesses, and discovery was conducted.

16. Evidentiary hearings were conducted on May 1 and 2, 2019 before Commissioner Diane Solomon.

17. Several stipulations were approved by Commissioner Solomon to extend the 180-day period for decision pursuant to N.J.S.A. 48:3-98.1: (a) by Order dated June 27, 2019—extending the period from July 6, 2019 until August 19, 2019; (b) by Order dated August 12, 2019—extending the period from August 19, 2019 until September 18, 2019; (c) by Order dated September 11, 2019—extending the 180-day period for Board action on the Company's CEF-EE Program from September 18, 2019 until March 16, 2020 and authorizing PSE&G to extend four (4) of the five (5) then-current EE 2017 sub-programs for one (1) year, with an additional \$32.995 million of expenditures to be added to the existing EE 2017 component of the GPRC ("EE 2017 Extension I").

18. The Parties held settlement meetings on January 14, 29, February 5, 7, and 11, 2020, which culminated in an interim settlement and further extension. A fully executed stipulation was submitted to the BPU: 1) providing an extension of time for BPU action on the CEF-EE Petition until September 30, 2020; and 2) allowing the Company to continue all five (5) existing EE sub-programs through September 30, 2020, with an additional \$111 million of program investment and

an additional \$19 million for the Fixed Administrative Allowance and evaluation by outside contractors, to be recovered through the EE 2017 component of the Company's annual GPRC filing ("EE 2017 Extension II"). The Board approved that stipulation by Order dated February 19, 2020.

19. Pursuant to the requirements of the CEA, the Board undertook a process to develop a framework for establishing EE and PDR programs to reduce the use of electricity and natural gas in New Jersey.

20. As part of the Board's separate EE transition process applicable to all utility and State administered EE programs implemented pursuant to the CEA, the Board also established a stakeholder process to evaluate the economically achievable EE and PDR requirements, rate adjustments, QPIs, and the process for evaluating, measuring, and verifying energy usage reductions and peak demand reductions by the public utilities.

21. Following several stakeholder meetings regarding the EE Potential Study, the Board adopted the energy savings targets and QPIs as preliminary and approved establishment of an Energy Efficiency Advisory Group to participate in the ongoing EE transition stakeholder process related to the development of EE and PDR programs in New Jersey.

22. Board Staff considered and incorporated public comments and technical data received throughout the EE transition process in the refinement of a framework for EE and PDR programs. Staff also released proposals for comment on program administration and cost recovery and, ultimately, following the submission of comments, on March 20, 2020 issued the full Energy Efficiency Transition Straw Proposal.

23. Public comments were again considered prior to submission to the Board for approval, and on June 10, 2020, the Board accepted Staff's proposed framework ("Framework Order") for the performance targets, program administration, cost recovery (including lost revenue treatment), evaluation, measurement, verification ("EM&V"), and filing and reporting standards for implementation of New Jersey's EE and PDR programs.

24. The Framework Order allowed utilities the option of seeking a lost revenue adjustment mechanism ("LRAM") or the Conservation Incentive Program to address lost revenue recovery as called for in the CEA. With regard to the Conservation Incentive Program, the Framework Order states:

Conservation Incentive Program ("CIP")

As an alternative to the LRAM, Staff recommends that utilities continue to be able to utilize or propose participation in the Conservation Incentive Program ("CIP"). The Board approved the current CIP in 2014 for NJNG and SJG, and it includes the following protections: (1) an earnings test, (2) rate caps on surcharges, (3) a Basic Gas Supply Service ("BGSS") Savings Test, and (4) required shareholder contributions.

Staff recommends the following adjustments designed to make the CIP applicable to both gas and electric public utilities:

- Removal of the BGSS Savings Test – which realizes savings as a result of contract Restructurings, contract terminations, reductions of capacity for periods of at least one year, and other gas procurement strategies designed to benefit customers – and incorporation of an alternative test, which may include a cost-effectiveness test. The BGSS Savings Test could not apply to electric public utilities due to the Basic Generation Service ("BGS") auction process and to the other non-participating gas public utilities since they do not manage their natural gas capacity portfolios.
- Requirement that the utility calculate the difference between its baseline revenue per applicable customer, determined by the utility's most recent base rate case, and the actual revenue per applicable customer on a monthly basis. Staff recommends that the difference between the monthly baseline and actual revenue amount be tracked in a deferral account and be subject to review during an annual cost recovery true-up filing.

- Requirement that the utility file a base rate case no later than five years after commencement of an approved EE program in order to reset the baseline revenue per applicable customer, with the five year requirement satisfied if the utility has another base rate filing obligation.

As part of the modified CIP, the following protections would remain in place: (1) an earnings test, (2) rate caps on surcharges, (3) some form of a shareholder contribution; and (4) incorporation of an alternative to the BGSS Savings Test.

25. Following the Board's issuance of the Framework Order, the Parties recommenced settlement discussions concerning PSE&G's CEF-EE proposal.

26. The Company, Board Staff, Rate Counsel, and the intervening parties reached an agreement resolving all issues in the CEF-EE proceeding as guided by the principles set forth in the Framework Order and by the Joint Utility Working Group and the Utility Program Working Groups formed in connection with the EE transition process.

27. Following discovery, the filing of testimony, evidentiary hearings and several settlement conferences as described above, the Parties executed a stipulation of settlement ("Stipulation") resolving the CEF-EE matter on September 22, 2020.

28. The CEF-EE Order approved the CIP mechanism that is the subject of this proceeding consistent with Staff's recommendation of the CIP in the Framework Order as outlined in Paragraph 24.

THE CIP

29. The Stipulation, approved by the CEF-EE Order dated September 23, 2020, provided for the recovery of fixed costs and the potential for decline in revenue to account for lost sales revenue resulting from the decrease in customer energy usage. The recovery of lost revenues will be made via a CIP based on the methodology outlined below and detailed in the schedule for gas,

as noted in Attachment 6G to the CEF-EE Stipulation. As set forth fully in the Stipulation and its attachments, with respect to the CIP mechanism, the Company agreed as follows:

Shareholder Contribution

30. To implement initiatives to further customer conservation efforts, providing a funding amount (“shareholder contribution”) of \$3.3 million per year as long as the CIP remains in place, commencing with the start of the CIP deferrals, as defined below. All shareholder contribution expenditures will be allocated 55% to electric distribution (or approximately \$1.8 million) and 45% to gas distribution (or approximately \$1.5 million). Any under-spend in a year will be factored into the following year’s spending amount. The shareholder contribution will not be included in customer rates. The shareholder contribution will support initiatives designed to aid customers in reducing their costs of natural gas and electricity and to reduce each utility’s peak demand.

Filing/Tariff Details

31. In light of the COVID-19 pandemic, the parties to the CEF-EE Stipulation agreed that PSE&G would submit its first gas CIP cost recovery filing by June 1, 2022, for new rates effective October 1, 2022, based on an initial deferral period of October 1, 2021 through September 30, 2022 and that it would not book any GCIP deferral prior to October 1, 2021. The GCIP will be adjusted annually thereafter. The filings will document actual results, perform the required GCIP collection test described in more hereinafter, and propose the new GCIP rate. Any variances from the annual filing will be trued-up in the subsequent year.

CIP Methodology

32. The monthly CIP deferrals will be calculated by way of the approved methodology as reflected in Attachments 5 and 6G to the CEF-EE Stipulation. For the GCIP, the baseline usage per customer by applicable rate schedule is based on the billing determinants approved in the Company's 2018 base rate case. The baseline usage per customer will be adjusted with each subsequent base rate case. The margin rate utilized in the calculation of the gas deferral is based on the current variable margin rate for each rate schedule and will be updated for any Infrastructure Investment Program ("IIP") rate adjustments or all other future base rate changes.

33. For purposes of determining recovery eligibility for CIP accruals, the margin impact of changes in customer usage will be segregated into weather-related and non-weather-related components. The non-weather-related components will be limited by eligibility tests described in more detail below. The weather-related component will not be subject to those limitations.

34. The non-weather component will be calculated by first deducting the weather component. For gas, the weather impact will be calculated in the same manner as calculated for the Company's existing Weather Normalization Charge ("WNC"). The weather normalization methodology is detailed in Schedule 4 of Attachment 6G of the CEF-EE Stipulation. A description of the weather calculation is provided in the testimony of Michael McFadden.

35. Recovery of non-weather related gas CIP impacts shall be subject to the application of two eligibility tests: a modified BGSS Savings Test and a Variable Margin Test. In order to be eligible for recovery, non-weather related CIP impacts must pass both cost recovery tests. A description of the eligibility tests is provided in the testimony of Stephen Swetz ("BGSS Savings Test") and Michael McFadden ("Variable Margin Test").

The dual cost recovery tests set forth above shall operate in conjunction with each other so that the total non-weather recoverable amount is limited to the smaller of the two (2) recoverable amounts allowed under the separate BGSS Savings Test and Variable Margin Test for Gas. Any amounts that exceed the BGSS Savings Test and/or Variable Margin Test may be deferred for future recovery subject to the earnings test described below. The Company has agreed to not seek recovery of interest on any deferred carry-forward amount

Earnings Test

36. The parties to the CEF-EE stipulation agreed to include an earnings test, through which actual ROE shall be determined based on the actual net income of the utility for the most recent 12-month period divided by the average of the beginning and ending common equity balances for the corresponding period. The timing of the earnings test and definitions of Net Income and Common Equity are specified in the GCIP Tariffs provided in Attachment 5 of the CEF-EE Stipulation. The earnings test will be applicable to the total CIP deferral, including weather and non-weather components. If the calculated ROE exceeds the allowed ROE from the utility's last base rate case by 50 basis points or more, recovery of lost revenues through the CIP shall not be allowed for the applicable filing period and shall not be carried over to subsequent filing periods.

REQUEST FOR COST RECOVERY

37. Consistent with the CEF-EE Order, PSE&G is seeking BPU approval to implement a rate adjustment related to changes in the average revenue per customer when compared to a baseline revenue per customer.

38. Per the CEF-EE Order, the gas baseline use per customer is based on the billing determinants from the 2018 base rate case. The difference between the actual use per customer and the baseline use per customer is multiplied by the actual number of customers and the per therm margin rate for each applicable rate schedule.

39. Attachment B is the testimony of Michael P. McFadden, PSE&G's Director of Sales and Revenue Forecasting, providing an overview of the CIP mechanism, the calculation of weather impacts for the current CIP period from October 1, 2021 – September 30, 2022, and the calculation of the Variable Margin Test. Attachment C is the testimony of Karen B. Reif, PSE&G's Vice President of Renewables and Energy Solutions, providing the spending activity related to the CIP Shareholder Contribution ("SC") over the past several months, and an update on the SC expenditures to date. Attachment D is the testimony of Steven Swetz, Senior Director of Corporate Rates and Revenue Requirements for PSEG Services Corporation supporting the Earnings Test, BGSS Savings Test and rate calculation for the current CIP period.

40. The parties agree that the spending and initiatives reported in the filing are consistent with the Shareholder Contribution goals established in the CEF-EE Order.

41. The CIP margin deficiency to be collected from customers or the margin excess to be refunded to customers is calculated each month by applicable rate schedule by subtracting the baseline revenue per customer from the actual revenue per customer and multiplying the resulting revenue per customer by the actual number of customers for the month.

42. The Company's total deferral for the gas CIP ("GCIP") is \$52,931,565, representing \$24,615,099 of non-weather related gas distribution margin deficiencies and \$28,316,466 related to weather related gas distribution margin.

43. As required by the CEF-EE Order and Stipulation, the proposed gas rate adjustment is limited by a Variable Margin Test. *See* the testimony of Michael P. McFadden for a description and the results of the Variable Margin Test at Attachment A, Schedule 5.

44. The application of the Variable Margin Revenue Test and the BGSS Savings Test did not result in a limitation on the Company's GCIP recovery of non-weather related revenues.

45. The GCIP rates are summarized below:

		GCIP Rates Without SUT	GCIP Rates with SUT	
Group I	RSG	\$0.027367	\$0.029180	Per therm
Group II	GSG	\$0.027807	\$0.029649	Per therm
Group III	LVG	\$0.003779	\$0.004029	Per therm

See, Attachment D Schedule SS-GCIP-2.

46. Based upon rates effective May 1, 2022, the annual average bill impacts of the rates requested are set forth in Schedule SS-GCIP-3.

47. The annual impact of the proposed rates to the typical residential gas heating customer using 172 therms in a winter month and 1,040 therms annually is an increase in the annual bill from \$1,033.30 to \$1,063.68 or \$30.38 or approximately 2.94% (based upon Delivery Rates and BGSS-RSG charges in effect as of May 1, 2022, and assuming that the customer receives BGSS service from PSE&G). Attachment E is a draft Form of Notice of Filing and of Public Hearings (Form of Notice). This Form of Notice will be placed in newspapers having a circulation within the Company's gas service territory upon scheduling of public hearing dates. A Notice will be served on the County Executives and Clerks of all

municipalities within the Company's gas service territory upon scheduling of public hearing dates.

48. In accordance with the Board's recent Covid-19 order,² notice of this filing, the Petition, testimony, and schedules will be served upon the Division of Law, Public Utilities Section, R.J. Hughes Justice Complex, 25 Market St. 7th Floor West, PO Box 112, Trenton, NJ 08625 and upon the Director, Division of Rate Counsel, 140 East Front Street 4th Floor, Trenton, N.J. 08625 by electronic mail. Electronic copies of the Petition, testimony, and schedules will also be sent to the persons identified on the service list provided with this filing.

49. PSE&G requests that the Board find the proposed rates show in the tariff sheets included herein at Attachment D, Schedule SS-GCIP-4, are just and reasonable and PSE&G should be authorized to implement the proposed rates as set forth herein, on a provisional basis effective October 1, 2022 per the CEF-EE Stipulation, upon issuance of a written BPU order.

50. Any final rate relief found by the Board to be just and reasonable may be allocated by the Board for consistency with the provisions of *N.J.S.A.* 48:2-21 and for other good and legally sufficient reasons, to any class or classes of customers of the Company. Therefore, the average percentage changes in final rates may increase or decrease compared to the proposed rates based upon the Board's decision.

² See *In the Matter of the New Jersey Board of Public Utilities' Response to the Covid-19 Pandemic for a Temporary Waiver of the Requirements for Certain Non-Essential Obligations*, Docket No. EO20030254, dated March 19, 2020.

COMMUNICATIONS

51. Communications and correspondence related to the Petition should be sent as follows:

Joseph F. Accardo, Esq.
Vice President Regulatory and Deputy
General Counsel
Public Services Corporation
80 Park Plaza, T10
P.O. Box 570
Newark, New Jersey 07102
joseph.accardojr@pseg.com

Danielle Lopez, Esq.
Associate Counsel - Regulatory
PSEG Services Corporation
80 Park Plaza, T10
P. O. Box 570
Newark, New Jersey 07102
danielle.lopez@pseg.com

Michele Falcao
Regulatory Filings Supervisor
PSEG Services Corporation
80 Park Plaza, T10
P.O. Box 570
Newark, New Jersey 07102
michele.falcao@pseg.com

Caitlyn White
Regulatory Case Coordinator
PSEG Services Corporation
80 Park Plaza, T10
P.O. Box 570
Newark, New Jersey 07102
caitlyn.white@pseg.com

Bernard Smalls
Paralegal
PSEG Services Corporation
80 Park Plaza, T10
P.O. Box 570
Newark, New Jersey 07102
Bernard.smalls@pseg.com

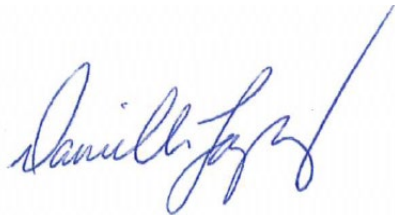
CONCLUSION AND REQUESTS FOR APPROVAL

For all the foregoing reasons, PSE&G respectfully requests that the Board retain jurisdiction of this matter and review and expeditiously issue an order approving this Petition specifically finding that:

1. PSE&G is authorized to receive the GCIP rate adjustment associated with the CIP period from October 1, 2021 – September 30, 2022, as reflected in this Petition and accompanying materials, along with anticipated updates of data; and
2. The rates shown in the tariff sheets included herein Attachment D, Schedule SS-GCIP-4, are just and reasonable and PSE&G should be authorized to implement the proposed rates as set forth herein, on a provisional basis effective October 1, 2022 per the CEF-EE Stipulation, upon issuance of a written BPU order.
3. Any amount not recovered in the current GCIP period will be deferred for recovery in a subsequent GCIP proceeding.

Respectfully submitted,

PUBLIC SERVICE ELECTRIC AND GAS COMPANY



By _____
Danielle Lopez
Assistant Counsel - Regulatory
PSEG Services Corp.
80 Park Plaza, T10
P. O. Box 570
Newark, New Jersey 07102

DATED: June 1, 2022

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

IN THE MATTER OF THE PETITION OF)
PUBLIC SERVICE ELECTRIC AND GAS)
COMPANY FOR APPROVAL OF CHANGES) BPU DOCKET NO. _____
IN ITS GAS CONSERVATION)
INCENTIVE PROGRAM)
(2022 PSE&G GAS CONSERVATION)
INCENTIVE PROGRAM))

CERTIFICATION

I, Michael P. McFadden, of full age, certifies as follows:

1. I am Director of Sales and Revenue Forecasting for PSEG Services Corporation.
2. I have read the contents of the foregoing Petition, and the information contained therein are true and correct to the best of my knowledge, information, and belief.

BY:



Michael P. McFadden

Public Service Electric and Gas Company
Conservation Incentive Program
Group I: Residential Heat & Non-Heating

Customer	Actual/ Estimate	Actual per Books ¹		Actual Avg. Use / Cust. (d) = (b) / (c)	Baseline Use / Cust. ² (e)	Difference (f) = (d) - (e)	Aggregate Therm Impact (g) = (f) * (c)	Margin Factor	Margin Variance
		Total Class	Number of						
		Therms	Customers						
Class	Estimate	Therms	Customers	Use / Cust.	Use / Cust. ²	Difference	Therm Impact	Factor	Variance
(a)		(b)	(c)		(e)	(f) = (d) - (e)	(g) = (f) * (c)		
Residential RSG									
Oct-21	Act	42,634,958	1,688,427	25.3	38.7	(13.5)	(22,709,343)	\$0.3918	(\$8,896,612)
Nov-21	Act	151,160,336	1,689,709	89.5	87.6	1.9	3,142,860	\$0.3918	\$1,231,247
Dec-21	Act	205,007,075	1,693,197	121.1	144.9	(23.8)	(40,331,963)	\$0.4057	(\$16,363,686)
Jan-22	Act	318,536,921	1,693,928	188.1	180.6	7.5	12,619,766	\$0.4057	\$5,120,155
Feb-22	Act	237,447,642	1,690,134	140.5	153.5	(13.0)	(21,988,641)	\$0.4057	(\$8,921,341)
Mar-22	Act	183,962,412	1,700,026	108.2	124.5	(16.3)	(27,693,427)	\$0.4057	(\$11,235,916)
Apr-22	Act	114,198,617	1,689,309	67.6	70.4	(2.8)	(4,730,067)	\$0.4057	(\$1,919,106)
May-22	Est	55,314,568	1,684,067	32.9	37.0	(4.2)	(6,988,878)	\$0.4057	(\$2,835,563)
Jun-22	Est	43,926,716	1,688,351	26.0	21.0	5.0	8,475,522	\$0.4184	\$3,546,336
Jul-22	Est	30,738,469	1,682,682	18.3	18.0	0.3	454,324	\$0.4184	\$190,099
Aug-22	Est	26,462,499	1,684,127	15.7	18.0	(2.3)	(3,856,651)	\$0.4184	(\$1,613,704)
Sep-22	Est	31,654,948	1,685,329	19	19.5	(0.7)	(1,213,437)	\$0.4184	(\$507,727)
Total		1,441,045,159		851.8	913.7		(104,819,934)		(\$42,205,818)

Margin Deficiency/ (Credit)	\$ 42,205,818
Prior Period (Over) / Under Recovery ³	\$ -

Total Deficiency/(Credit)	\$ 42,205,818
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Projected Residential Non-Heating Throughput for Recovery Period	1,549,740,630
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Pre-tax CIP Charge/(Credit)	\$ 0.027234
BPU/RC Assessment Factor	1.003000

CIP Charge/(Credit) including assessments	\$ 0.027316
6.625% Sales Tax	\$ 0.0018

Proposed After-tax CIP Charge/(Credit) per Therm	\$ 0.0291
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Current After-tax CIP Charge/(Credit) per Therm	\$ -
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Increase/ (Decrease) in After-tax CIP Charge/(Credit) per Therm	\$ 0.029126
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¹ Per Schedule 1, Page 2

² From 2018 Base Rate Case

³ Per Schedule 1, Page 3

Public Service Electric and Gas Company
Customers and Therms

Group I: Residential Heat & Non-Heating

	Act <u>Oct-21</u>	Act <u>Nov-21</u>	Act <u>Dec-21</u>	Act <u>Jan-22</u>	Act <u>Feb-22</u>	Act <u>Mar-22</u>	Act <u>Apr-22</u>	Est <u>May-22</u>	Est <u>Jun-22</u>	Est <u>Jul-22</u>	Est <u>Aug-22</u>	Est <u>Sep-22</u>	
<u>Customers</u>													
RSG heating	1,462,273	1,462,987	1,466,692	1,469,209	1,467,639	1,479,488	1,445,782	1,459,682	1,463,395	1,458,482	1,459,734	1,460,776	
RSG non-heating	226,154	226,723	226,505	224,719	222,495	220,538	243,527	224,385	224,956	224,200	224,393	224,553	
Total Customers	1,688,427	1,689,709	1,693,197	1,693,928	1,690,134	1,700,026	1,689,309	1,684,067	1,688,351	1,682,682	1,684,127	1,685,329	
<u>Volumes</u>													
RSG heating	40,812,074	148,057,457	201,172,425	314,389,653	233,989,377	180,971,937	111,098,742	54,366,424	43,173,771	30,211,582	26,008,907	31,112,353	1,415,364,701
RSG non-heating	1,822,884	3,102,879	3,834,650	4,147,268	3,458,265	2,990,476	3,099,875	948,144	752,945	526,886	453,592	542,596	25,680,458
Total Volumes	42,634,958	151,160,336	205,007,075	318,536,921	237,447,642	183,962,412	114,198,617	55,314,568	43,926,716	30,738,469	26,462,499	31,654,948	1,441,045,159

PUBLIC SERVICE ELECTRIC AND GAS COMPANY
STATEMENT OF ESTIMATED UNDER/(OVER) RECOVERED CIP BALANCE
Group I: Residential Heat & Non-Heating
October 2021 - September 2022

	Act <u>Oct-21</u>	Act <u>Nov-21</u>	Act <u>Dec-21</u>	Act <u>Jan-22</u>	Act <u>Feb-22</u>	Act <u>Mar-22</u>	Act <u>Apr-22</u>	Est <u>May-22</u>	Est <u>Jun-22</u>	Est <u>Jul-22</u>	Est <u>Aug-22</u>	Est <u>Sep-22</u>	TOTAL
Beginning Under/(Over) Recovery \$	0	0	0	0	0	0	0	0	0	0	0	0	0
Therm Sales	42,634,958	151,160,336	205,007,075	318,536,921	237,447,642	183,962,412	114,198,617	55,314,568	43,926,716	30,738,469	26,462,499	31,654,948	1,441,045,159
Pre-tax Recovery Rate per Therm ¹	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Recovery \$	0	0	0	0	0	0	0	0	0	0	0	0	0
Ending Under/(Over) Recovery \$	0	0	0	0	0	0	0	0	0	0	0	0	0

¹ Pre-tax Recovery Rate per therm excluding BPU and RC assessments.

Public Service Electric and Gas
Conservation Incentive Program
Group II: General Service Gas (GSG)
October 2021 - September 2022

Customer Class	Actual/ Estimate	Actual per Books ¹		Actual Avg. Use / Cust. (d) = (b) / (c)	Baseline Use / Cust. ² (e)	Difference (f) = (d) - (e)	Aggregate Therm Impact (g) = (f) * (c)	Margin Factor	Margin Variance
		Total Class	Number of						
		Therms	Customers						
(a)		(b)	(c)						
General Service Small									
Oct-21	Act	8,484,194	140,577	60.4	110.8	(50.5)	(7,092,104)	\$0.3048	(\$2,161,929)
Nov-21	Act	25,972,695	140,543	184.8	172.0	12.8	1,798,945	\$0.3048	\$548,383
Dec-21	Act	37,011,933	138,409	267.4	320.4	(53.0)	(7,334,280)	\$0.3120	(\$2,288,559)
Jan-22	Act	62,911,298	141,143	445.7	421.1	24.6	3,476,344	\$0.3120	\$1,084,744
Feb-22	Act	41,665,968	139,771	298.1	351.6	(53.5)	(7,477,770)	\$0.3120	(\$2,333,333)
Mar-22	Act	35,796,530	141,573	252.9	275.8	(23.0)	(3,249,108)	\$0.3120	(\$1,013,839)
Apr-22	Act	20,425,023	140,145	145.7	170.7	(25.0)	(3,498,022)	\$0.3120	(\$1,091,509)
May-22	Est	13,672,362	141,381	96.7	80.1	16.6	2,348,338	\$0.3120	\$732,766
Jun-22	Est	7,901,212	141,916	55.7	49.2	6.5	919,616	\$0.3186	\$292,954
Jul-22	Est	6,193,909	140,632	44.0	58.5	(14.5)	(2,033,539)	\$0.3186	(\$647,806)
Aug-22	Est	5,755,785	141,730	40.6	50.5	(9.9)	(1,401,710)	\$0.3186	(\$446,530)
Sep-22	Est	5,579,036	140,882	39.6	52.6	(13.0)	(1,831,466)	\$0.3186	(\$583,434)
Total		271,369,944		1,931.6	2,113.3		(25,374,755)		(\$7,908,091)

Margin Deficiency/ (Credit)	\$ 7,908,091
Prior Period (Over) / Under Recovery ³	\$ -
Total Deficiency/(Credit)	\$ 7,908,091
Projected Commercial Throughput for Recovery Period	285,582,118
Pre-tax CIP Charge/(Credit)	\$ 0.027691
BPU/RC Assessment Factor	<u>1.003000</u>
CIP Charge/(Credit) including assessments	\$ 0.027774
6.625% Sales Tax	<u>\$ 0.001840</u>
Proposed After-tax CIP Charge/(Credit) per Therm	\$ 0.029614
Current After-tax CIP Charge/(Credit) per Therm	\$ -
Increase/ (Decrease) in After-tax CIP Charge/(Credit) per Therm	<u>\$ 0.029614</u>

¹ Per Schedule 2, Page 2
² From 2018 Base Rate Case
³ Per Schedule 2, Page 3

Public Service Electric and Gas
Customers and Therms

Group II: General Service Gas (GSG)

	Act <u>Oct-21</u>	Act <u>Nov-21</u>	Act <u>Dec-21</u>	Act <u>Jan-22</u>	Act <u>Feb-22</u>	Act <u>Mar-22</u>	Act <u>Apr-22</u>	Est <u>May-22</u>	Est <u>Jun-22</u>	Est <u>Jul-22</u>	Est <u>Aug-22</u>	Est <u>Sep-22</u>	
<u>Customers</u>													
GSG Heating	115,159	115,243	113,358	115,721	114,562	116,097	115,039	115,868	116,306	115,254	116,154	115,459	
GSG Non-Heating	25,418	25,299	25,050	25,421	25,210	25,476	25,107	25,513	25,610	25,378	25,576	25,423	
Total Customers	140,577	140,543	138,409	141,143	139,771	141,573	140,145	141,381	141,916	140,632	141,730	140,882	
<u>Volumes</u>													
GSG Heating	6,536,461	22,489,444	32,269,520	56,666,122	36,471,364	31,185,657	17,212,339	11,993,806	6,931,180	5,433,483	5,049,147	4,894,097	237,132,619
GSG Non-Heating	1,947,733	3,483,252	4,742,413	6,245,176	5,194,604	4,610,873	3,212,685	1,678,556	970,032	760,426	706,638	684,938	34,237,326
Total Volumes	8,484,194	25,972,695	37,011,933	62,911,298	41,665,968	35,796,530	20,425,023	13,672,362	7,901,212	6,193,909	5,755,785	5,579,036	271,369,944

PUBLIC SERVICE ELECTRIC AND GAS COMPANY
STATEMENT OF ESTIMATED UNDER/(OVER) RECOVERED CIP BALANCE
Group II: General Service Gas (GSG)
October 2021 - September 2022

	Act <u>Oct-21</u>	Act <u>Nov-21</u>	Act <u>Dec-21</u>	Act <u>Jan-22</u>	Act <u>Feb-22</u>	Act <u>Mar-22</u>	Act <u>Apr-22</u>	Est <u>May-22</u>	Est <u>Jun-22</u>	Est <u>Jul-22</u>	Est <u>Aug-22</u>	Est <u>Sep-22</u>	TOTAL
Beginning Under/(Over) Recovery \$	0	0	0	0	0	0	0	0	0	0	0	0	0
Therm Sales	8,484,194	25,972,695	37,011,933	62,911,298	41,665,968	35,796,530	20,425,023	13,672,362	7,901,212	6,193,909	5,755,785	5,579,036	271,369,944
Pre-tax Recovery Rate per Therm ¹	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Recovery \$	0	0	0	0	0	0	0	0	0	0	0	0	0
Ending Under/(Over) Recovery \$	0	0	0	0	0	0	0	0	0	0	0	0	0

¹ Pre-tax Recovery Rate per therm excluding BPU and RC assessments.

Public Service Electric and Gas Company
Conservation Incentive Program
Group III: Large Volume Gas (LVG)
October 2021 - September 2022

Customer Class	Actual/ Estimate	Actual per Books ¹		Large Customer Adjustment (c2)	Adjusted Number of Customers (c) = (c1) + (c2)	Actual Avg. Use / Cust. ² (d) = (b) / (c)	Baseline Use / Cust. (e)	Difference (f) = (d) - (e)	Aggregate Therm Impact (g) = (f) * (c)	Margin Factor	Margin Variance
		Total Class	Number of								
		Therms (b)	Customers (c1)								
General Service Large											
Oct-21	Act	29,498,409	18,977	-	18,977	1,554.4	2,350.0	(795.6)	(15,098,124)	\$0.0432	(\$652,435)
Nov-21	Act	69,893,663	19,245	-	19,245	3,631.7	3,486.2	145.5	2,800,211	\$0.0432	\$121,006
Dec-21	Act	88,064,522	18,937	-	18,937	4,650.3	5,220.9	(570.6)	(10,804,819)	\$0.0442	(\$477,962)
Jan-22	Act	137,920,823	19,462	-	19,462	7,086.9	6,506.4	580.5	11,296,428	\$0.0442	\$499,709
Feb-22	Act	107,676,156	19,242	-	19,242	5,595.9	5,940.9	(345.0)	(6,637,872)	\$0.0442	(\$293,633)
Mar-22	Act	95,958,095	20,065	-	20,065	4,782.4	5,478.7	(696.3)	(13,970,701)	\$0.0442	(\$618,008)
Apr-22	Act	60,047,008	19,489	-	19,489	3,081.2	3,703.5	(622.4)	(12,128,681)	\$0.0442	(\$536,524)
May-22	Est	32,950,763	19,393	-	19,393	1,699.1	2,037.8	(338.7)	(6,568,215)	\$0.0442	(\$290,552)
Jun-22	Est	24,457,099	19,266	-	19,266	1,269.4	1,477.0	(207.6)	(3,998,851)	\$0.0452	(\$180,596)
Jul-22	Est	22,333,627	19,126	-	19,126	1,167.7	1,374.6	(206.9)	(3,956,978)	\$0.0452	(\$178,705)
Aug-22	Est	23,688,435	19,208	-	19,208	1,233.3	1,379.9	(146.6)	(2,816,661)	\$0.0452	(\$127,206)
Sep-22	Est	23,504,573	19,154	-	19,154	1,227	1,322.8	(95.7)	(1,832,272)	\$0.0452	(\$82,749)
Total		715,993,173				36,979.5	40,278.7		(63,716,534)		(\$2,817,656)

Margin Deficiency/ (Credit)	\$	2,817,656
Prior Period (Over) / Under Recovery ³	\$	-
Total Deficiency/(Credit)	\$	2,817,656
Projected Commercial Throughput for Recovery Period		748,896,089
Pre-tax CIP Charge/(Credit)	\$	0.003762
BPU/RC Assessment Factor	\$	1.003000
CIP Charge/(Credit) including assessments	\$	0.003773
6.625% Sales Tax	\$	0.000250
Proposed After-tax CIP Charge/(Credit) per Therm	\$	0.004023
Current After-tax CIP Charge/(Credit) per Therm	\$	-
Increase/ (Decrease) in After-tax CIP Charge/(Credit) per Therm	\$	0.004023

¹ Per Schedule 3, Page 2

² From 2018 Base Rate Case

³ Per Schedule 3, Page 3

Public Service Electric and Gas Company
Customers and Therms

Group III: Large Volume Gas (LVG)

	Act <u>Oct-21</u>	Act <u>Nov-21</u>	Act <u>Dec-21</u>	Act <u>Jan-22</u>	Act <u>Feb-22</u>	Act <u>Mar-22</u>	Act <u>Apr-22</u>	Est <u>May-22</u>	Est <u>Jun-22</u>	Est <u>Jul-22</u>	Est <u>Aug-22</u>	Est <u>Sep-22</u>	
<u>Customers</u>													
LVG	18,977	19,245	18,937	19,462	19,242	20,065	19,489	19,393	19,266	19,126	19,208	19,154	
Total Customers	18,977	19,245	18,937	19,462	19,242	20,065	19,489	19,393	19,266	19,126	19,208	19,154	
<u>Volumes</u>													
LVG	29,498,409	69,893,663	88,064,522	137,920,823	107,676,156	95,958,095	60,047,008	32,950,763	24,457,099	22,333,627	23,688,435	23,504,573	715,993,173
Total Volumes	29,498,409	69,893,663	88,064,522	137,920,823	107,676,156	95,958,095	60,047,008	32,950,763	24,457,099	22,333,627	23,688,435	23,504,573	715,993,173

PUBLIC SERVICE ELECTRIC AND GAS COMPANY
STATEMENT OF ESTIMATED UNDER/(OVER) RECOVERED CIP BALANCE
Group III: Large Volume Gas (LVG)
October 2021 - September 2022

	<u>Act</u> <u>Oct-21</u>	<u>Act</u> <u>Nov-21</u>	<u>Act</u> <u>Dec-21</u>	<u>Act</u> <u>Jan-22</u>	<u>Act</u> <u>Feb-22</u>	<u>Act</u> <u>Mar-22</u>	<u>Act</u> <u>Apr-22</u>	<u>Est</u> <u>May-22</u>	<u>Est</u> <u>Jun-22</u>	<u>Est</u> <u>Jul-22</u>	<u>Est</u> <u>Aug-22</u>	<u>Est</u> <u>Sep-22</u>	TOTAL
Beginning Under/(Over) Recovery \$	0	0	0	0	0	0	0	0	0	0	0	0	0
Therm Sales	29,498,409	69,893,663	88,064,522	137,920,823	107,676,156	95,958,095	60,047,008	32,950,763	24,457,099	22,333,627	23,688,435	23,504,573	715,993,173
Pre-tax Recovery Rate per Therm ¹	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Recovery \$	0	0	0	0	0	0	0	0	0	0	0	0	0
Ending Under/(Over) Recovery \$	0	0	0	0	0	0	0	0	0	0	0	0	0

¹ Pre-tax Recovery Rate per therm excluding BPU and RC assessments.

Public Service Electric and Gas
Weather Normalization
2021-2022 Winter Period

Step 1: Determine the degree day variance from the dead band.

	Normal Degree Days	0.50% Dead Band	Dead Band Low End	Dead Band High End	Actual Degree Days	Normalization Amount (1)
October	236	1	234	237	80	154
November	516	3	514	519	521	(2)
December	818	4	814	822	629	185
January	992	5	987	997	1,121	(124)
February	833	4	829	838	802	27
March	693	3	690	697	610	80
April	357	2	355	358	355	(1)
May	128	1	127	129	128	-

Step 2: Determine the normalized volumes by rate class.

	Therms Per Degree Day (2)			Normalization Volumes (3)		
	RSG	GSG	LVG	RSG	GSG	LVG
October	129,873	1,318	97,805	20,052,391	203,499	15,101,092
November	222,262	42,117	97,805	(493,422)	(93,500)	(217,127)
December	248,504	56,468	97,805	46,065,186	10,467,473	18,130,113
January	291,049	63,143	98,097	(35,953,283)	(7,800,055)	(12,117,922)
February	285,420	57,952	98,097	7,829,071	1,589,623	2,690,801
March	285,864	60,592	98,097	22,737,726	4,819,510	7,802,671
April	269,756	63,978	98,097	(180,287)	(42,759)	(65,561)
May	199,583	5,113	98,097	-	-	-

Step 3: Calculate the margin revenue to be deferred.

	Margin Revenue Deferral (4)				
Margin Revenue Factor:					
December 2021 - May 2022	0.391760	0.304836	0.043213		
May 2022 - September 2022	0.405725	0.312036	0.044236	Total	
October	\$ 7,855,725	\$ 62,034	\$ 652,563	\$ 8,570,322	
November	\$ (193,303)	\$ (28,502)	\$ (9,383)	\$ (231,188)	
December	\$ 18,689,798	\$ 3,266,228	\$ 802,004	\$ 22,758,030	
January	\$ (14,587,146)	\$ (2,433,898)	\$ (536,048)	\$ (17,557,092)	
February	\$ 3,176,450	\$ 496,020	\$ 119,030	\$ 3,791,500	
March	\$ 9,225,264	\$ 1,503,861	\$ 345,159	\$ 11,074,283	
April	\$ (73,147)	\$ (13,342)	\$ (2,900)	\$ (89,389)	
May	\$ -	\$ -	\$ -	\$ -	
Winter Period Total	\$ 24,093,641	\$ 2,852,400	\$ 1,370,425	\$ 28,316,466	

(1) Amount above or below the Dead Band

(2) Consumption factors to be true-up at the end of the Winter Period for actual # of customers.

(3) Normalization degree days x Therms Per Degree Day

(4) Normalization Volumes x Margin Revenue Factor

Public Service Electric and Gas
Conservation Incentive Program Filing
October 2021 - September 2022
CIP Recovery Tests
Summary

Determine Weather and Non-Weather CIP Impacts

	<u>Weather</u>	<u>Non-Weather</u>	<u>Total</u>
CIP Group 1 (RSG)	\$ 24,093,641	\$ 18,112,177	\$ 42,205,818
CIP Group 2 (GSG)	\$ 2,852,400	\$ 5,055,691	\$ 7,908,091
CIP Group 3 (LVG)	\$ 1,370,425	\$ 1,447,231	\$ 2,817,656
Total Deficiency/(Credit)	\$ 28,316,466	\$ 24,615,099	\$ 52,931,565

Step 2: Apply Modified BGSS Savings Test

A. Non-weather Impact Subject to Modified BGSS Savings Test

Non-Weather Impact	\$ 24,615,099
75% Factor	75%
Subtotal	\$ 18,461,324
Prior Year Carry-Forward (Modified BGSS Savings Test)	\$ -
Non-weather Impact Subject to Test	\$ 18,461,324

B. BGSS Savings

Permanent Capacity Savings (Exhibit C, Schedule 6, Page 3)	\$ 45,394,957
Additional Capacity BGSS Savings (Exhibit C, Schedule 6, Page 3)	\$ -
Avoided Cost BGSS Savings (Exhibit C, Schedule 6, Page 4)	\$ 6,888,851
Total BGSS Savings	\$ 52,283,808

C. Results

Non-Weather Impacts Passing Test (current accrual)	\$ 24,615,099
Non-Weather Impacts Passing Test (prior year carry-forward)	\$ -
Non-Weather Impacts Exceeding Test	\$ -

Public Service Electric and Gas
Conservation Incentive Program Filing
October 2021 - September 2022
CIP Recovery Tests
Summary

Step 3: Apply Variable Margin Revenue Test

<u>A. Non-weather Impact Subject to Variable Margin Revenue Test</u>	
Non-Weather Impact	\$ 24,615,099
Prior Year Carry-Forward (Variable Margin Revenue Test)	\$ -
Non-weather Impact Subject to Test	\$ 24,615,099
<u>B. Variable Margin Revenues</u>	
Variable Margin Revenues (Exhibit C, Schedule 6, Page 5)	\$ 752,836,896
Factor	4.0%
Total Fixed Recovery Cap	\$ 30,113,476
<u>C. Results</u>	
Non-Weather Impacts Passing Test (current accrual)	\$ 24,615,099
Non-Weather Impacts Passing Test (prior year carry-forward)	\$ -
Non-Weather Impacts Exceeding Test	\$ -

Step 4: Determine Recoverable Non-Weather CIP Impacts

<u>A. Current Year Accrual Recoverable Non-Weather Impacts</u>	
Amount Passing Modified BGSS Savings Test	\$ 24,615,099
Amount Passing Variable Margin Revenue Test	\$ 24,615,099
Recoverable Amount	\$ 24,615,099
<u>B. Previous Carry-Forward Recoverable Amounts</u>	
Amount Passing Modified BGSS Savings Test	\$ -
Amount Passing Variable Margin Revenue Test	\$ -
Deduction for any amount also included in above	\$ -
	\$ -
Total Non-Weather Recoverable CIP Amount	\$ 24,615,099

Public Service Electric and Gas Company
CIP Recovery Tests
CIP BGSS Savings

I. Permanent BGSS Savings

<u>Pipeline</u>	<u>Contract No.</u>	<u>Type of Transaction</u>	<u>Quantity Dth</u>	<u>Annual \$</u>
Texas Eastern	870146	Contract Terminated	88,321	\$ 3,539,906
Texas Eastern	870145	Contract Terminated	25,000	821,250
Texas Eastern	911678	Contract Reduced	33,376	1,400,000
Texas Eastern	911677	Contract Reduced	56,493	2,000,000
Texas Eastern	911679	Contract Reduced	59,817	2,200,000
Dominion	200318/200315	Contract Terminated	43,300	1,089,237
Dominion	525445	Contract Reduced	48,526	2,537,483
Dominion	200482	Contract Reduced	55,737	4,271,190
National Fuel	F11135	Contract Terminated	48,400	3,545,087
National Fuel	F10833	Contract Terminated	30,795	1,265,702
National Fuel	F10845	Contract Terminated	20,000	822,018
Steuben	4	Contract Terminated	11,111	1,084,634
Steuben	3	Contract Terminated	30,955	3,333,011
Trunkline	21079	Contract Terminated	89,392	6,630,062
Trunkline	20912	Contract Terminated	25,242	998,725
Panhandle	22945	Contract Terminated	88,498	2,994,348
Panhandle	22652	Contract Terminated	25,000	718,138
Texas Gas	T025024	Contract Terminated	85,417	6,144,167

Total Permanent Reductions **\$ 45,394,957**

II. Additional Capacity BGSS Savings

<u>CIP Recovery</u>	<u>Year</u>	<u>Annual \$</u>
2020-2021		\$ -

III. Avoided Capacity

<u>CIP Recovery</u>	<u>Year</u>	<u>Annual \$</u>
2020-2021		\$ 6,888,851

VI. Total of all Savings

<u>CIP Recovery Year</u>	<u>Permanent Capacity Savings</u>	<u>Additional Capacity BGSS Savings</u>	<u>Avoided Cost BGSS Savings</u>	<u>Annual \$</u>
2020-2021	\$ 45,394,957	\$ -	\$ 6,888,851	\$ 52,283,808

Public Service Electric and Gas
CIP Recovery Tests
Avoided Capacity Cost BGSS Savings

Month (a)	Base Year Customer Count (b)	Current Year Customer Count (c)	Net Increase/ (Decrease) Customer Count (d) = (b) / (c)	Baseline Use / Cust. (e)	Avoided Capacity (f) = (d) * (e)
Group 1: RSG					
October	1,624,278	1,688,427	64,149	38.7	2,482,564
November	1,630,996	1,689,709	58,713	87.6	5,143,299
December	1,635,566	1,693,197	57,631	144.9	8,350,794
January	1,636,952	1,693,928	56,976	180.6	10,289,922
February	1,630,001	1,690,134	60,133	153.5	9,230,383
March	1,615,444	1,700,026	84,582	124.5	10,530,487
April	1,653,790	1,689,309	35,519	70.4	2,500,571
May	1,636,600	1,684,067	47,467	37.0	1,756,279
June	1,631,876	1,688,351	56,475	21.0	1,185,975
July	1,683,288	1,682,682	(606)	18.0	(10,908)
August	1,621,557	1,684,127	62,570	18.0	1,126,260
September	1,630,455	1,685,329	54,874	19.5	1,070,043
Subtotal				913.7	53,655,669
Average Per Unit BGSS Capacity Cost					0.12839
Total Avoided Capacity Cost BGSS Savings					<u>\$6,888,851</u>

Notes:

- (1) Base Year Customer Count is equal to the test year customer count used to set base rates in a base rate case
- (2) Current Year Customer Count is equal to the customer count in the CIP accrual year.
- (3) The average per unit BGSS Capacity Cost represents the average of all capacity costs in the BGSS portfolio included in the annual BGSS filing for the prospective BGSS year. This value is used as a proxy for the avoided cost of incremental capacity.

Public Service Electric and Gas
CIP Recovery Tests
Variable Margin

Group I (RSG)	\$625,858,135
Group II (GSG)	\$92,503,071
Group III (LVG)	<u>\$34,475,690</u>
Total Variable Margin	<u>\$752,836,896</u>

Customer Class	Actual/ Estimate	Number of Customers	Baseline Use / Cust.	Margin Factor	Variable Revenue
<u>RSG</u>					
Oct-21	Act	1,688,427	38.7	\$0.3918	\$25,598,430
Nov-21	Act	1,689,709	87.6	\$0.3918	\$57,987,747
Dec-21	Act	1,693,197	144.9	\$0.4057	\$99,542,319
Jan-22	Act	1,693,928	180.6	\$0.4057	\$124,120,793
Feb-22	Act	1,690,134	153.5	\$0.4057	\$105,259,483
Mar-22	Act	1,700,026	124.5	\$0.4057	\$85,873,021
Apr-22	Act	1,689,309	70.4	\$0.4057	\$48,251,814
May-22	Est	1,684,067	37.0	\$0.4057	\$25,280,919
Jun-22	Est	1,688,351	21.0	\$0.4184	\$14,835,272
Jul-22	Est	1,682,682	18.0	\$0.4184	\$12,673,251
Aug-22	Est	1,684,127	18.0	\$0.4184	\$12,684,134
Sep-22	Est	1,685,329	<u>19.5</u>	\$0.4184	<u>\$13,750,952</u>
Total			913.7		\$625,858,135
<u>GSG</u>					
Oct-21	Act	140,577	110.8	\$0.3048	\$4,748,101
Nov-21	Act	140,543	172.0	\$0.3048	\$7,368,898
Dec-21	Act	138,409	320.4	\$0.3120	\$13,837,599
Jan-22	Act	141,143	421.1	\$0.3120	\$18,545,914
Feb-22	Act	139,771	351.6	\$0.3120	\$15,334,579
Mar-22	Act	141,573	275.8	\$0.3120	\$12,183,734
Apr-22	Act	140,145	170.7	\$0.3120	\$7,464,766
May-22	Est	141,381	80.1	\$0.3120	\$3,533,689
Jun-22	Est	141,916	49.2	\$0.3186	\$2,224,278
Jul-22	Est	140,632	58.5	\$0.3186	\$2,620,792
Aug-22	Est	141,730	50.5	\$0.3186	\$2,280,057
Sep-22	Est	140,882	<u>52.6</u>	\$0.3186	<u>\$2,360,662</u>
Total			2,113.3		\$92,503,071
<u>LVG</u>					
Oct-21	Act	18,977	2,350.0	\$0.0432	\$1,927,152
Nov-21	Act	19,245	3,486.2	\$0.0432	\$2,899,309
Dec-21	Act	18,937	5,220.9	\$0.0442	\$4,373,583
Jan-22	Act	19,462	6,506.4	\$0.0442	\$5,601,353
Feb-22	Act	19,242	5,940.9	\$0.0442	\$5,056,798
Mar-22	Act	20,065	5,478.7	\$0.0442	\$4,862,814
Apr-22	Act	19,489	3,703.5	\$0.0442	\$3,192,766
May-22	Est	19,393	2,037.8	\$0.0442	\$1,748,165
Jun-22	Est	19,266	1,477.0	\$0.0452	\$1,285,125
Jul-22	Est	19,126	1,374.6	\$0.0452	\$1,187,336
Aug-22	Est	19,208	1,379.9	\$0.0452	\$1,197,024
Sep-22	Est	19,154	<u>1,322.8</u>	\$0.0452	<u>\$1,144,266</u>
Total			40,278.7		\$34,475,690

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

**In The Matter of the Petition of
Public Service Electric and Gas Company
for Approval of Changes in its Gas Conservation
Incentive Program
(2022 PSE&G Gas Conservation Incentive Program)**

BPU Docket No. _____

DIRECT TESTIMONY

OF

**MICHAEL P. MCFADDEN
DIRECTOR – SALES AND REVENUE FORECASTING**

June 1, 2022

ATTACHMENT B

1 **PUBLIC SERVICE ELECTRIC AND GAS COMPANY**
2 **DIRECT TESTIMONY**
3 **OF**
4 **MICHAEL P. MCFADDEN**
5 **DIRECTOR – SALES AND REVENUE FORECASTING**

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

7 A. My name is Michael McFadden, and I am the Director of Sales and Revenue
8 Forecasting for PSEG Services Corporation. My principal place of business is 80 Park Plaza,
9 Newark, New Jersey 07102.

10 **Q. Please describe your education and business experience.**

11 A. I received a Bachelor's of Science degree in Finance from the Rutgers School of
12 Business and a Masters of Business Administration from Excelsior College. I have over 15
13 years' experience in rates, revenue requirements, and financial analysis. I started my career as
14 an analyst in the Bureau of Rates and Tariffs for the New Jersey Board of Public Utilities
15 ("Board") before joining Public Service Electric and Gas ("PSE&G", or "the Company") as a
16 Senior Regulatory Analyst in 2008. In 2014, I was promoted to Manager of Revenue
17 Requirements where I managed over 20 annual regulatory filings with the Board, including the
18 Clean Energy Future – Energy Efficiency filing, which resulted in Board approval of the
19 Conservation Incentive Program ("CIP"). In June 2021, I was promoted to my current position
20 of Director of Sales and Revenue Forecasting for PSEG Services Corporation.

ATTACHMENT B

1 **Q. Please describe your responsibilities as Director of Sales and Revenue Forecasting**
2 **for PSEG Services Corporation.**

3 A. I am responsible for overseeing the development of the Company's electric and gas
4 sales and revenue forecast, including the forecasted electric and gas CIP accrual, and
5 supervising the development of the weather impacts on the sales and revenue forecast.

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

7 A. The purpose of this testimony is to provide:

- 8 • An overview of the gas CIP mechanism ("GCIP"), including the monthly baseline use
9 per customer for each applicable GCIP customer group;
- 10 • The calculation of the weather impacts for the current proceeding of October 1, 2021 –
11 September 30, 2022 ("GCIP Period"); and
- 12 • The calculation of heating degree day ("HDD") normal weather and HDD consumption
13 factors for the period October 1, 2022 through May 31, 2023 to be utilized in the
14 calculation of weather for the subsequent CIP proceeding;
- 15 • The calculation of the Variable Margin GCIP savings test. Note that the BGSS Savings
16 Test and the Earnings Test described in the Petition are discussed in the testimony of
17 Mr. Stephen Swetz, submitted herewith.

18 **Q. Does your testimony include any schedules?**

19 A. Yes. My testimony includes schedules that were prepared by me or under my direction
20 and supervision. These schedules are as follows:

- 21 • Schedule MPM-GCIP-1 shows the true-up calculation for the residential coefficients
22 to account for the difference between the actual and the projected number of

ATTACHMENT B

1 customers on which the coefficients embodied in the Weather Normalization Charge
2 tariff were based. The Schedule includes actual results from October 1, 2021 through
3 April 30, 2022 and assumes actual customers are the same as forecast for May 2022;

- 4 • Schedule MPM-GCIP-2 presents the development of the proposed CIP monthly
5 Degree Day Consumption Factors to be used for the 2022-2023 Winter Period;
- 6 • Schedule MPM-GCIP-3 contains the updated base level of normal degree days for the
7 2022-2023 Winter Period based on the 20 year period ending December 2021; and
- 8 • Schedule MPM-GCIP-4 contains a description of the Gas Sales Forecast Model,
9 which explains the derivation of the weather coefficients and the data values used in
10 the generation of the HDD consumption factors in Schedule MPM-GCIP-2.

11 **Q. What is the GCIP mechanism?**

12 A. The GCIP mechanism was approved by the Board in the Clean Energy Future – Energy
13 Efficiency matter on September 23, 2020 in Dockets Nos. GO18101112 and EO18101113
14 (“CEF-EE Order”). The GCIP rate mechanism provides a rate adjustment related to changes
15 in the average use per customer when compared to a baseline use per customer, removing the
16 disincentive for the Company to encourage customers to conserve energy. The GCIP margin
17 deficiency to be collected from customers or the margin excess to be refunded to customers is
18 calculated each month by applicable rate schedule by subtracting the baseline use per customer
19 from the actual use per customer and multiplying the resulting use per customer by the actual
20 number of customers and per therm margin rate for the month.

ATTACHMENT B

1 **Q. What rate schedules are included in the GCIP?**

2 A. The GCIP is applicable to each of the following customer groups:

- 3 • Group I – Residential Service Gas (“RSG”);
4 • Group II – General Service Gas (“GSG”); and
5 • Group III – Large Volume Gas (“LVG”).

6 **Q. How is the baseline use per customer determined?**

7 A. Per the CEF-EE Order, the gas baseline use per customer (“BUC”) shall be stated in
8 therms on a monthly basis for each of the customer class groups to which the CIP applies. The
9 BUC shall be rounded to the nearest one tenth of one therm and shall be reset each time new
10 base rates are placed into effect through a base rate case. The BUC for this proceeding is based
11 on the therms and customers from PSE&G’s 2018 base rate case. Please see the table below
12 for the BUC for each customer group from PSE&G’s 2018 base rate case and utilized in the
13 calculation of base rates and future infrastructure investment program rate calculations.

Baseline Use per Customer - 2018 Base Rate Case			
Month	RSG	GSG	LVG
Oct	38.7	110.8	2,350.0
Nov	87.6	172.0	3,486.2
Dec	144.9	320.4	5,220.9
Jan	180.6	421.1	6,506.4
Feb	153.5	351.6	5,940.9
Mar	124.5	275.8	5,478.7
Apr	70.4	170.7	3,703.5
May	37.0	80.1	2,037.8
Jun	21.0	49.2	1,477.0
Jul	18.0	58.5	1,374.6
Aug	18.0	50.5	1,379.9
Sep	19.5	52.6	1,322.8
TOTAL ANNUAL	913.7	2,113.3	40,278.7

14

ATTACHMENT B

1 **Q. Where are the calculations of the GCIP Margin Excess or Deficiency for this**
2 **proceeding?**

3 A. Please see Attachment A, Schedules 1 through 3 to the Petition for the October 1, 2021
4 through September 30, 2022 results based on actual data from October 1, 2021 through April
5 30, 2022 and a forecast for the remaining months from May 1, 2022 through September 30,
6 2022. Attachment A is the same template as Exhibit 6G of the Stipulation approved by the
7 Board in the CEF-EE matter. Schedule 1 shows the results for rate schedules RSG, Schedule
8 2 shows the results for rate schedule GSG and Schedule 3 shows the results for rate schedule
9 LVG. In each schedule, page 1 shows the calculation of the monthly margin variance for the
10 GCIP period, page 2 shows details supporting the calculation, and page 3 shows the current
11 period over or under-collection (zero for all rate schedules for this filing as there is no existing
12 rate).

13 **Q. Please describe the GCIP recovery tests?**

14 A. Pursuant to the CEF-EE Order, recovery of a margin deficiency associated with non-
15 weather related changes in customer usage is subject to the lesser of the outcomes of a BGSS
16 Savings Test and a Variable Margin Test. In order to recover the GCIP non-weather related
17 margin deficiency: (1) the Company must have BGSS savings of at least 75 percent of the non-
18 weather related margin deficiency; and (2) the non-weather related margin deficiency must be
19 less than or equal to 6.5% of aggregate variable margins (4% for this initial GCIP filing). Any
20 amount that exceeds these limitations may be deferred for future recovery and will be subject
21 to the recovery tests in that future period.

ATTACHMENT B

1 **Q. How is the therm impact of weather determined?**

2 A. As described in the CEF-EE Order and shown in Attachment A, Schedule 4, weather
3 will be calculated as the difference in the actual and normal HDD multiplied by the sales
4 coefficients to establish sales impacts. The difference in the actual and normal HDD are
5 adjusted for a deadband, which is ½ percent of the normal calendar-month degree days. The
6 sales impacts, adjusted for the deadband, will be multiplied by a margin factor based on the
7 latest tariff rates to derive the revenue impact of weather.

8 **Q. How did you calculate the non-weather related GCIP margin?**

9 A. The non-weather related GCIP margin is calculated as the total GCIP margin deficiency
10 less the weather related margin deficiency. In accordance with the CEF-EE Order, the impact
11 of weather for the GCIP period is calculated in a manner consistent with the existing gas
12 Weather Normalization Charge (“WNC”) and is shown in Attachment A, Schedule 4. The
13 weather effect will be measured by the impacts on sales and associated distribution revenue of
14 heating degree days (“HDD”). As shown in Attachment A, Schedule 4, the margin impact is
15 determined by calculating the total therm impact of weather in the month, adjusted for a
16 deadband, and multiplying it by the per therm variable base distribution rate for each customer
17 group, known as the margin factor.

18 **Q. How were the consumption factors determined for this proceeding?**

19 A. The weather in this GCIP proceeding uses the approved consumption factors for
20 October 2021 through May 2022 in the WNC tariff.

ATTACHMENT B

1 **Q. Are there any adjustments to the approved consumption factors in the WNC**
2 **tariff?**

3 A. Yes. For RSG only, the consumption factors are trued-up. The monthly degree day
4 consumption factors for the RSG Heating customers and for the RSG Non-Heating customers
5 are based on regression models of use per customer. The consumption factor for these two
6 customer groups are, as a result, calculated by multiplying the consumption factor per customer
7 by the forecasted number of customers in each month. The trued-up consumption factors for
8 these two groups are the consumption factors embodied in the WNC tariff adjusted to reflect
9 the actual number of customers from October 2021 through April 2022. For May 2022, the
10 actual customers are estimated to be the same as the forecasted customers until the actual
11 customers are known. The trued-up monthly degree day consumption factors are calculated,
12 as Schedule MPM-GCIP-1 shows, by multiplying the RSG Heating and the RSG Non-Heating
13 degree day consumption factors by the ratio of the actual number of customers to the forecasted
14 number of customers that were incorporated into the original calculation.

15 **Q. How are the updated monthly HDD consumption factors developed?**

16 A. Schedule MPM-GCIP-2 shows the calculation of the monthly HDD consumption
17 factors for the next CIP period of October 2022 through September 2023 based on the
18 estimated HDD weather coefficients from the Company's econometric sales forecasting
19 models. The impact of the monthly degree days is the sum of the coefficient on the heating
20 degree day variable and the product of the coefficient and the value of the
21 economic/demographic variable of any variable and or variables that are interactive with
22 heating degree days, such as the price-heating degree day interactive variable, to arrive at the
23 total therm per heating degree day estimate. In the case of the residential rates, this is

ATTACHMENT B

1 multiplied by the projected number of customers since the models, and as a result the
2 coefficients, are based on sales per customer – not on total customers. Please see Schedule
3 MPM-GCIP-5 for the details on the derivation of the weather coefficients and the data values
4 used in the generation of the HDD consumption factors in Schedule MPM-GCIP-2.

5 **Q. How is the normal HDD determined?**

6 A. The base level of normal HDD for the period of October 2021 – May 2022 are equal to
7 the approved normal HDD in the WNC tariff.

8 **Q. Have the base level of normal degree days for the next winter period of October**
9 **2022 through May 2023 been updated?**

10 A. Yes. The base level of normal degree days for the winter period months of October
11 2022 through September 2023 have been calculated based on the 20-year period ending
12 December 2021 and are shown in Schedule MPM-GCIP-3.

13 **Q. How is the margin factor for each rate schedule determined?**

14 A. The margin factor is the weighted average of the latest per therm distribution rates in
15 the Company's tariff and the approved therm billing determinants from the last base rate case.
16 Please see Schedule MPM-GCIP-4 for the calculation.

17 **Q. What is the GCIP non-weather margin?**

18 A. The total weather impact from October 2021 – April 2022 is an under-collection of
19 \$28.3 million from the warmer than normal weather as shown in Attachment A, Schedule 4.
20 The total deferral as calculated in Attachment A, Schedule 1 – 4 for the GCIP period is
21 estimated at \$52.9 million. As a result, the non-weather GCIP deferral subject to the GCIP
22 savings test is \$24.6 million as shown in Attachment A, Schedule 5.

ATTACHMENT B

1 **Q. What are the results of the GCIP savings tests?**

2 A. The GCIP savings tests are the lesser of a modified BGSS Savings Test and a Variable
3 Margin Revenue Test. As shown in Attachment A, Schedule 5, there is no limit in the GCIP
4 recovery for the BGSS Savings Test or the Variable Margin Revenue Test.

5 **Q. Please describe the BGSS Savings Test.**

6 A. Please see the testimony of Stephen Swetz for the calculation of the BGSS savings test,
7 which is shown in Attachment A, Schedule 5, pages 3 and 4.

8 **Q. Please describe the Variable Margin Revenue Test.**

9 A. As shown in Attachment A, Schedule 5, page 5, the Variable Margin Revenue Test first
10 calculates the total Variable Revenue as the actual number of customers multiplied by the
11 baseline use per customer and by the margin factor per customer group. The total Variable
12 Revenue is then multiplied by the allowed percentage of variable margin, which is 6.5%,
13 except for this initial GCIP period where the rate is 4.0%. Based on actual results from October
14 2021 through April 2022 and a forecast from May 2022 – September 2022, total variable
15 margin is \$752.8 million, resulting, after applying the 4% rate, in a variable margin cap of
16 \$30.1 million.

ATTACHMENT B

1 **Q. Is there an additional GCIP Recovery Test?**

2 A. Yes. In addition to the BGSS and Variable Margin Revenue Test for non-weather
3 recovery caps, the Company must pass an earnings test. Please see the testimony of Mr. Swetz
4 for the calculation of the earnings test.

5 **Q. Has the impact of the GCIP margin excess and margin deficiency been calculated**
6 **by customer group?**

7 A. Yes. Please see the testimony of Mr. Swetz for the proposed rates for each customer
8 group and the associated impact on a typical or class average customer.

9 **Q. Does this conclude your testimony at this time?**

10 A. Yes.

**Public Service Electric and Gas Company
Conservation Incentive Program - Gas**

SCHEDULE MPM-GCIP-1

Calculation of the Customer True-Up to the RSG-Residential Degree Day Consumption Factors

RSG-Residential Heating						RSG-Residential Non-Heating					
(1)		(2)	(3)	(4)	(5)	(6)		(7)	(8)	(9)	(10)
			(2) / (1)		(4) x (3)				(7) / (6)		(9) x (8)
	Customers			Consumption	Trued-Up Consumption	Customers			Consumption	Trued-Up Consumption	
Month	Forecast	Actual	Adjustment	Factor	Factor	Forecast	Actual	Adjustment	Factor	Factor	
Oct-21	1,473,418	1,462,274	0.9924366	133,337	132,329	236,153	226,154	0.9576588	(2,565)		(2,456)
Nov-21	1,481,940	1,462,987	0.9872107	222,287	219,444	238,062	226,723	0.9523696	2,959		2,818
Dec-21	1,480,247	1,466,693	0.9908434	246,925	244,664	237,100	226,505	0.9553142	4,020		3,840
Jan-22	1,467,017	1,469,210	1.0014949	286,636	287,064	245,669	224,719	0.9147227	4,356		3,985
Feb-22	1,471,634	1,467,639	0.9972853	282,495	281,728	239,883	222,495	0.9275147	3,981		3,692
Mar-22	1,478,263	1,479,489	1.0008294	281,861	282,095	235,531	220,538	0.9363438	4,025		3,769
Apr-22	1,483,298	1,483,298	1.0000000	272,046	272,046	234,980	234,980	1.0000000	4,430		4,430
May-22	1,482,446	1,482,446	1.0000000	196,181	196,181	233,989	233,989	1.0000000	3,402		3,402

Public Service Electric and Gas Company
Conservation Incentive Program - Gas

SCHEDULE MPM-GCIP-2

Page 1 of 4

Degree Day Consumption Factor Calculation

RSG Heating							RSG Non-Heating					
Month	HDD	HDDxWage Coefficient	HDD x Price Coefficient	Value		Customers	Degree Day Consumption	HDD	HDD x Price Coefficient	Value		Degree Day Consumption
				Real Price	Wage		Factor			Real Price	Customers	Factor
Oct-22		0.001162		0.7529	94.3300	1,467,099	160,811					
Nov-22	0.05674	0.001162		0.7529	94.3300	1,469,374	244,433			1.0290	224,534	5,658
Dec-22	0.18976		-0.00637	0.7529	94.3300	1,472,421	272,345	0.0310		1.0290	224,052	6,946
Jan-23	0.20804		-0.00637	0.7638	96.3900	1,464,327	297,514	0.0498	-0.0137	1.0250	226,038	8,083
Feb-23	0.19978		-0.00637	0.7638	96.3900	1,467,145	285,968	0.0447	-0.0102	1.0250	223,122	7,641
Mar-23	0.19447			0.7638	96.3900	1,469,114	285,699	0.0355		1.0250	221,722	7,871
Apr-23	0.19225			0.7638	96.3900	1,472,137	283,018	0.0387		1.0250	221,634	8,577
May-23	0.13848			0.7638	96.3900	1,472,462	203,907	0.0398		1.0250	221,326	8,809

**Public Service Electric and Gas Company
Conservation Incentive Program - Gas**

SCHEDULE MPM-GCIP-2

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Commercial GSG Heating						Commercial GSG Non-Heating	
Month	HDDxPrice		HDDxHouseholds		Degree Day Consumption	HDD Coefficient	Degree Day Consumption
	Coefficient	Value	Coefficient	Value	Factor		Factor
Oct-22							
Nov-22	-22,077	0.9009	17	3,375	37,013	2,590	2,590
Dec-22	-16,575	0.9009	20	3,375	51,766	3,693	3,693
Jan-23	-12,668	0.9687	19	3,378	51,990	3,887	3,887
Feb-23	-14,163	0.9687	20	3,378	54,048	3,995	3,995
Mar-23	-12,272	0.9687	20	3,378	54,105	4,008	4,008
Apr-23	-10,012	0.9687	19	3,378	55,742	4,082	4,082
May-23	-38,026	0.9687	17	3,378	21,407	3,758	3,758

Public Service Electric and Gas Company
Conservation Incentive Program - Gas

SCHEDULE MPM-GCIP-2

Page 3 of 4

Month	Industrial GSG Heating		Industrial GSG Non-Heating	
	<u>HDD</u> Coefficient	Degree Day Consumption Factor	<u>HDD</u> Coefficient	Degree Day Consumption Factor
Oct-22	-	-	-	-
Nov-22	1,219	1,219	142	142
Dec-22	2,163	2,163	207	207
Jan-23	2,467	2,467	235	235
Feb-23	1,935	1,935	138	138
Mar-23	2,217	2,217	239	239
Apr-23	1,746	1,746	232	232
May-23	1,112	1,112	150	150

**Public Service Electric and Gas Company
Conservation Incentive Program - Gas**

SCHEDULE MPM-GCIP-2

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Commercial LVG

Month	HDDxCust		HDDxPrice		Degree Day Consumption Factor
	Coefficient	Value	Coefficient	Value	
Oct-22	32.23	3369.26	-26136	0.7361	89,348
Nov-22	32.23	3369.26	-26136	0.7361	89,348
Dec-22	32.23	3369.26	-26136	0.7361	89,348
Jan-23	32.23	3388.16	-26136	0.7911	88,519
Feb-23	32.23	3388.16	-26136	0.7911	88,519
Mar-23	32.23	3388.16	-26136	0.7911	88,519
Apr-23	32.23	3388.16	-26136	0.7911	88,519
May-23	32.23	3388.16	-26136	0.7911	88,519

Industrial LVG

HDDxMfg		HDDxPrice		Degree Day Consumption Factor
Coefficient	Value	Coefficient	Value	
39.12	248.64	-2595	0.69	7,928
39.12	248.51	-2595	0.69	7,923
39.12	248.36	-2595	0.69	7,918
39.12	248.20	-2595	0.74	7,781
39.12	248.03	-2595	0.74	7,774
39.12	247.83	-2595	0.74	7,767
39.12	247.60	-2595	0.74	7,758
39.12	247.34	-2595	0.74	7,747

**Public Service Electric and Gas Company
Conservation Incentive Program - Gas****SCHEDULE MPM-GCIP-3****Normal Monthly Weather****(2002-2021 Average)**

Calendar Month	Degree Days
October-22	227.51
November-22	522.85
December-22	816.04
January-23	989.30
February-23	837.70
March-23	684.17
April-23	354.26
May-23	127.88

Public Service Electric and Gas Company
Conservation Incentive Program - Gas

SCHEDULE MPM-GCIP-4

Weighted Average Therm Margin Rate Calculation

RSG	<i>Therms*</i> <i>(000)</i>	<i>Rates</i> <i>Oc21 - Nov21</i>	<i>Rates</i> <i>Dec21 - May22</i>	<i>Rates</i> <i>Jun22 - Sep22</i>
Distribution Charges	1,494,872	0.391767	0.405733	0.418429
Off-Peak Usage	56	0.195884	0.202867	0.209214
Wtd Avg Rate	1,494,928	0.39176	0.405725	0.418421

GSG	<i>Therms</i> <i>(000)</i>	<i>Rates</i> <i>Oc21 - Nov21</i>	<i>Rates</i> <i>Dec21 - May22</i>	<i>Rates</i> <i>Jun22 - Sep22</i>
Distribution Charge - Pre 7/14/97	2,183	0.304859	0.312060	0.318585
Distribution Charge - All Others	295,256	0.304859	0.312060	0.318585
Off-Peak Dist Charge - Pre 7/14/97	-	0.152430	0.156030	0.159293
Off-Peak Dist Charge - All Others	45	0.152430	0.156030	0.159293
Wtd Avg Rate	297,484	0.304836	0.312036	0.318561

LVG	<i>Therms</i> <i>(000)</i>	<i>Rates</i> <i>Oc21 - Nov21</i>	<i>Rates</i> <i>Dec21 - May22</i>	<i>Rates</i> <i>Jun22 - Sep22</i>
Distribution Charge 0-1,000 pre 7/14/97	8,974	0.043725	0.040665	0.037727
Distribution Charge over 1,000 pre 7/14/97	45,378	0.043078	0.045179	0.047127
Distribution Charge 0-1,000 post 7/14/97	145,700	0.043725	0.040665	0.037727
Distribution Charge over 1,000 post 7/14/97	540,051	0.043078	0.045179	0.047127
Wtd Avg Rate	740,103	0.043213	0.044236	0.045162

* Therms represents the annualized, weather-normalized approved sales from the 2018 base rate case

Natural Gas Sales Forecast - 2022

Public Service Electric & Gas Company

Finance Department

Electric and Gas Sales and Revenue Forecasting Group

November 2021

Contents

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Introduction

The natural gas sales forecast has a key role in both the operating and financial planning processes of Public Service Electric & Gas (PSE&G).

The volumetric and maximum day sendout projections are used in the development of strategies for optimal gas procurement by PSE&G's BGSS supplier.

The sales forecast also serves as the basis for the natural gas revenue forecast that is a key parameter in PSE&G's financial planning process. This includes not only the budgeting process but also the regulatory process.

The purpose of this document is to describe the current forecast methodology, forecast assumptions, and the 2022 gas sales forecast. The first section describes the econometric sales models. A discussion of the forecast assumptions used to develop the sales forecast follows. Section III describes the maximum daily send-out projection. An appendix contains more detailed information on the billing period to calendar month conversion, and forecast tables.

I Model Specification and Estimation

Residential Model

Residential gas sales are determined by the number of residential customers and the amount of gas that each of these customers uses. As a result, the modeling of residential sales is disaggregated into two components: the projection of the number of customers and the estimate of what, on average, each of these customers will use. While the projection of the number of residential natural gas customers can be based on historical trends and expected residential construction activity in the service area, the models utilized to develop the average use forecast are more complicated and are described below.

The demand for energy is a derived demand from the demand for the services that the energy provides. In the case of gas in the residential sector, this is a demand for the three main end-uses of gas: space heating, water heating, and cooking. Standard microeconomic theory suggests that the demand for these gas-fueled end-uses is a function of the real, i.e. inflation adjusted, price of gas, and the income of the household. In addition, since space heating and, to a lesser extent, water heating is affected by the weather; weather also needs to be included in the model specification, i.e.

$$\text{THERM/CUST} = f(\text{PRICEGAS}, \text{INCOME}, \text{WEATHER}) \quad [1]$$

where:

THERM/CUST	= Average gas sales per customer,
PRICEGAS	= Real price of gas,
INCOME	= Measure of customer income,
WEATHER	= Billing-month weather.

While information on individual appliance ownership and consumption is not available, PSE&G does segregate its Residential customer data into those customers that have gas space heating and those that do not. As a result, separate models estimating the average gas sales for space heating customers and non-space heating customers were developed.

Weather is incorporated into the models using billing-month heating degree days (HDD). To allow for the possibility of month-specific response to weather, the heating degree data was multiplied by monthly binary variables to produce month-specific HDD independent variables.

The real price of gas was defined as the annual average revenue per therm divided by the Consumers' Price Index –All Urban Consumers. However, the extreme seasonality of monthly gas consumption made the utilization of this variable directly in a linear specification impractical because it is unrealistic to expect that a change in price would have the same impact, measured in therms,

in January, a high consumption month, as in July where consumption can be only one-tenth the January volume. As a result, this variable was incorporated as an interactive variable with HDD to create the effect that a change in price will affect the magnitude of the response to weather, i.e. a small response in the summer months and a much larger response during the space heating season.

Income is defined as the total real wages and salary disbursements for New Jersey from the U.S. Department of Commerce, Bureau of Economic Analysis. This is a narrower measure than personal income, omitting for example dividends, interest and rental income, and, as a result, is assumed to more accurately reflect the economic well-being of the majority of our customers. The incorporation of this variable directly into a linear specification suffers from the same drawback as that of the price. As a result, this variable was also incorporated into the specification as an interactive variable with HDD. In the models the economic variables were lagged one year to account for the delay in the impact that these variables have on consumer behavior.

As a result, the final functional form of the model that was estimated is:

$$\text{THERM/CUST}_t = f\left(\frac{\text{MONTH}_t \times \text{HDD}_t \times \text{PRICEGAS}_{a-1}}{\text{MONTH}_t \times \text{HDD}_t \times \text{INCOME}_{a-1}, \text{MONTH}_t \times \text{HDD}_t}\right) \quad [2]$$

where:

THERM/CUST	= Average gas sales per customer,
PRICEGAS	= Real price of gas,
INCOME	= Real Wage and Salary Disbursements,
HDD	= Heating degree days,
MONTH	= Vector of binary variables for each heating month,
t	= Billing-month,
a	= Year associated with billing-month, t.

The models were estimated using monthly data from January 2010 to February 2020 period. The results of the OLS estimation procedure are summarized in Table 1 and Figures 1 and 2.

As Figures 1 and 2 illustrate, the high values of the coefficients of determination of both the model for gas space heating customers and the model of those customers without gas heating explain an extremely high proportion of the variation from the mean values. The estimates of the individual coefficients of the RSG model estimations are what one would expect given the characteristics of residential natural gas consumption. The key predictor of gas sales to this sector is weather with the weather having a greater impact on those customers with gas space heating than those without. Price is a factor for residential customers during the winter months but, its impact is relatively small.

Figure 1

RSG Space Heating Model Actual vs. Fitted Values

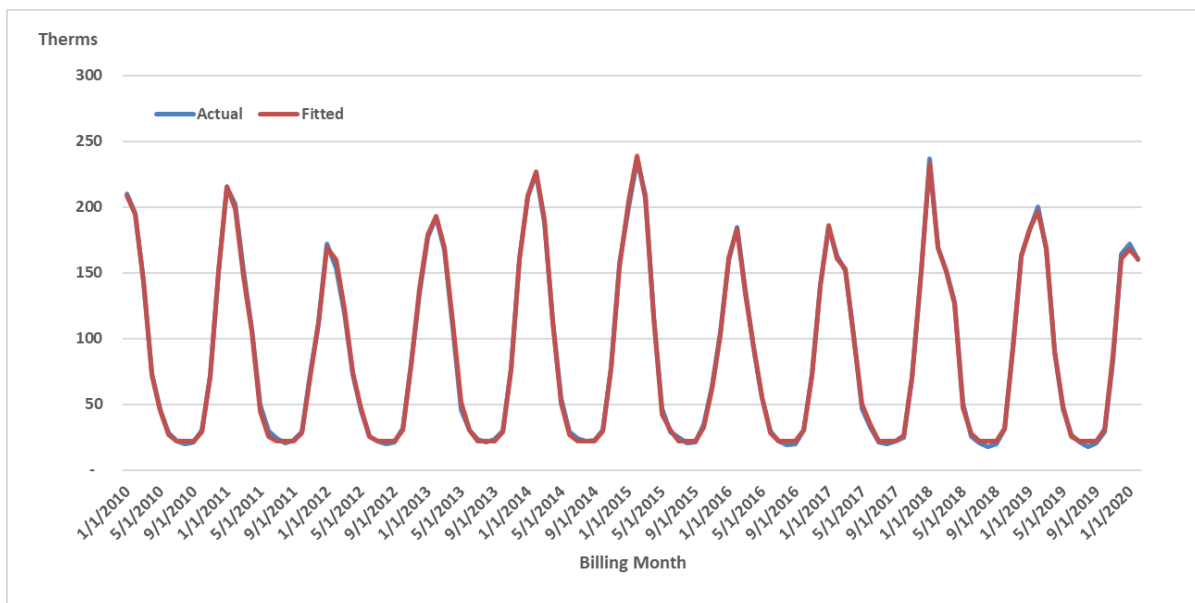
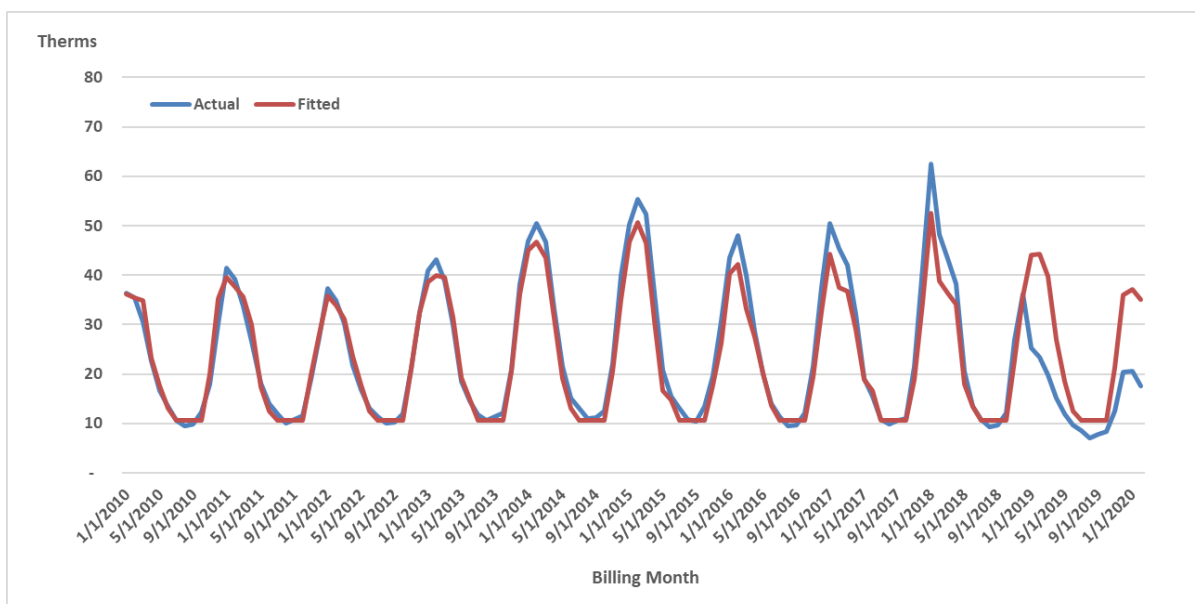


Figure 2
**RSG Non-Space Heating Model
Actual vs. Fitted Values**



The price elasticity estimates were estimated to be -0.0125 and -0.17 for space heating and non-space heating customers, respectively and consistent with lower gas prices and the lack of a surge in consumption in response to them. The non-space heating elasticity is the result of a similar therm impact of price but, measured over a much smaller base usage. Income was found to have an effect on gas consumption by space heating customers in the fall. This is consistent with income changes resulting affecting when space heating equipment is turned on. The economic downturn appeared to result in a delay in turning on this equipment in the fall reducing use.

Table 1

Estimated Coefficients of the Residential Models
(standard errors in parentheses)

	JAN	FEB	MAR	APR	MAY	JUNE	NOV	DEC	R2	DW	n
HEATING											
HDD	0.20804 (0.007)	0.19978 (0.006)	0.19447 (0.006)	0.19225 (0.009)	0.13848 (0.004)	0.18255 (0.022)	0.057 (0.008)	0.190 (0.008)	0.999	1.554	122
	DJF*										
PRICE x HDD	-0.00637 (0.002)										
	ON**										
WAGE x HDD	0.00116 (0.000)										
* Dec-Jan-Feb											
** Oct-Nov											
	JAN	FEB	MAR	APR	MAY	JUNE	NOV	DEC	R2	DW	n
NON-HEATING											
HDD	0.04981 (0.007)	0.04465 (0.007)	0.03549 (0.002)	0.03872 (0.004)	0.03975 (0.010)	0.08491 (0.048)	0.02519 (0.005)	0.03102 (0.003)	0.974	0.989	150
PRICE x HDD	-0.01366 (0.005)	-0.01019 (0.006)									

The second key element of the residential forecast, as noted above, is the projection of the number of residential natural gas customers. This forecast is based on historical trends between customer growth and residential construction activity in the service area and is discussed in the Forecast Assumptions section.

Commercial

The demand for natural gas by the non-residential sector, as with any other factor of production, is a function of the input's price, the price of substitutes (if any) and the level of production. This implies that gas sales to the commercial sector is a function of the real price of gas and the level of "output" of the commercial sector in PSE&G's service territory, i.e. Again, since gas is primarily used for space and/or water heating, weather needs to be included in the specification resulting in the following:

$$\text{THERMS} = f(\text{PRICEGAS}, \text{OUTPUT}, \text{HDD}) \quad [3]$$

where:

THERMS	= Gas Sales,
PRICEGAS	= Real price of gas,
OUTPUT	= Commercial sector output,
HDD	= Heating degree days.

The problem with this specification is that there is not a good measure of output for the local commercial sector. However, if it is assumed that the demand for local commercial output is a function of the local economic and demographic factors, i.e., how many households there are (HSH) and how much money do they have to spend (INCOME), commercial output can then be defined as:

$$\text{OUTPUT} = f(\text{INCOME}, \text{HSH}) \quad [4]$$

Substituting [4] into [3] yields:

$$\text{THERMS} = f(\text{PRICEGAS}, \text{INCOME}, \text{HSH}, \text{HDD}) \quad [5]$$

LVG model was estimated for customers in the commercial sector using monthly billing data from January 2010 to December 2020 period. The firm delivery customers in this class whose usage does not exceed 300 Dth are served under rate GSG. These customers are further disaggregated into those with gas space heat and those that heat with other fuels. These two groups of customers are modeled separately. Time period for GSG Heating model set from January 2010 to December 2020 period while GSG Non-Heating model set from January 2011 to December 2020 in order to get better estimation results. The larger commercial customers are served under rate LVG. These are also modeled separately.

Historical annual household estimates for New Jersey is available from the U.S. Bureau of the Census. As with the residential models, the strong seasonality associated with commercial gas sales dictates that the economic/demographic variables can be used in the model directly but, need to be used as interactive variables with HDD. In addition, in the models the economic variables were lagged one year to account for the delay in the impact that these variables have

on consumer behavior. As a result, the functional form that was estimated for each of the three groups of commercial customers is¹:

$$\text{THERMS}_t = f\left(\frac{\text{MONTH} \times \text{HDD}_t}{\text{MONTH} \times \text{HDD}_t} \times \text{PRICEGAS}_{a-1}, \frac{\text{MONTH} \times \text{HDD}_t}{\text{MONTH} \times \text{HDD}_t} \times \text{INCOME}_{a-1}, \frac{\text{MONTH} \times \text{HDD}_t}{\text{MONTH} \times \text{HDD}_t} \times \text{HSH}_{a-1}, \text{HDD}_t\right) \quad [6]$$

where:

THERMS	= Gas sales,
PRICEGAS	= Real price of gas,
INCOME	= Real Wage and Salary Disbursements,
HDD	= Heating degree days,
MONTH	= Vector of binary variables for each heating month,
t	= Billing-month,
a	= Year associated with billing-month, t.

The results of the OLS estimation procedure, summarized in Figures 3-5, show that the commercial models also fit the historical data well.

The estimated coefficients of the three commercial models indicate that while the small commercial space heating are sensitive to price, with an estimated elasticity of -0.23 the non-space heating customers are not, and the large commercial LVG customers are sensitive to price, with an estimated elasticity of -0.012. In addition, while the coefficients on households, the economic indicator in the models, are highly statistically significant, this does not imply large sales increases given the anticipated slow growth in the number of households.

¹ It was not necessary to incorporate month-specific HDD specification since the LVG sales are less sensitive to the weather.

Figure 3
GSG Commercial Space Heating Model
Actual vs. Fitted Values

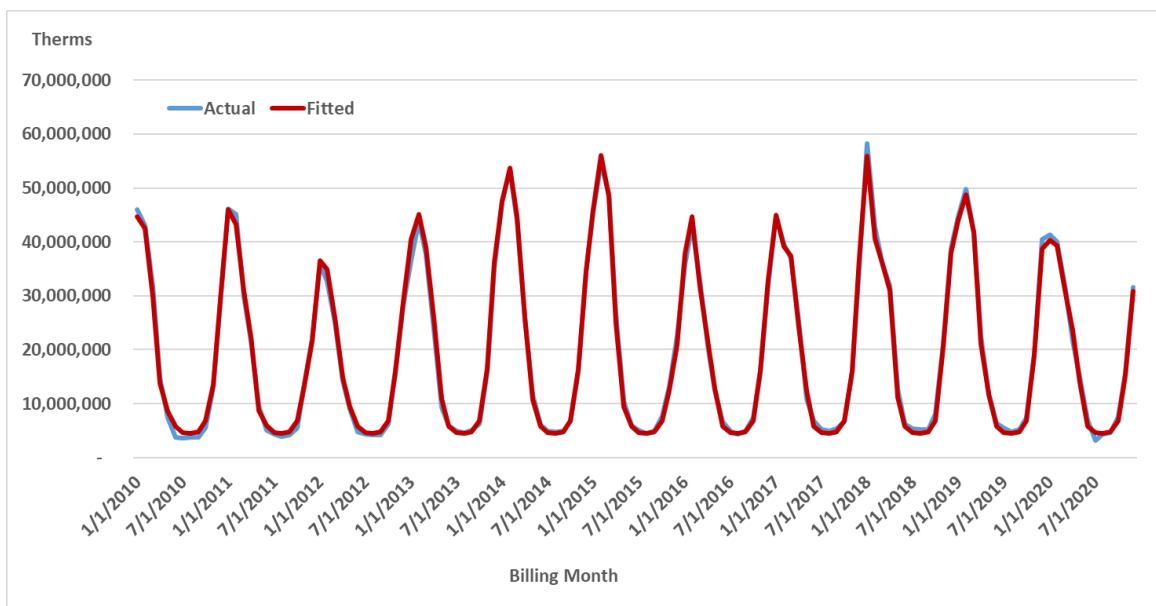


Figure 4
GSG Commercial Non-Space Heating Model
Actual vs. Fitted Values

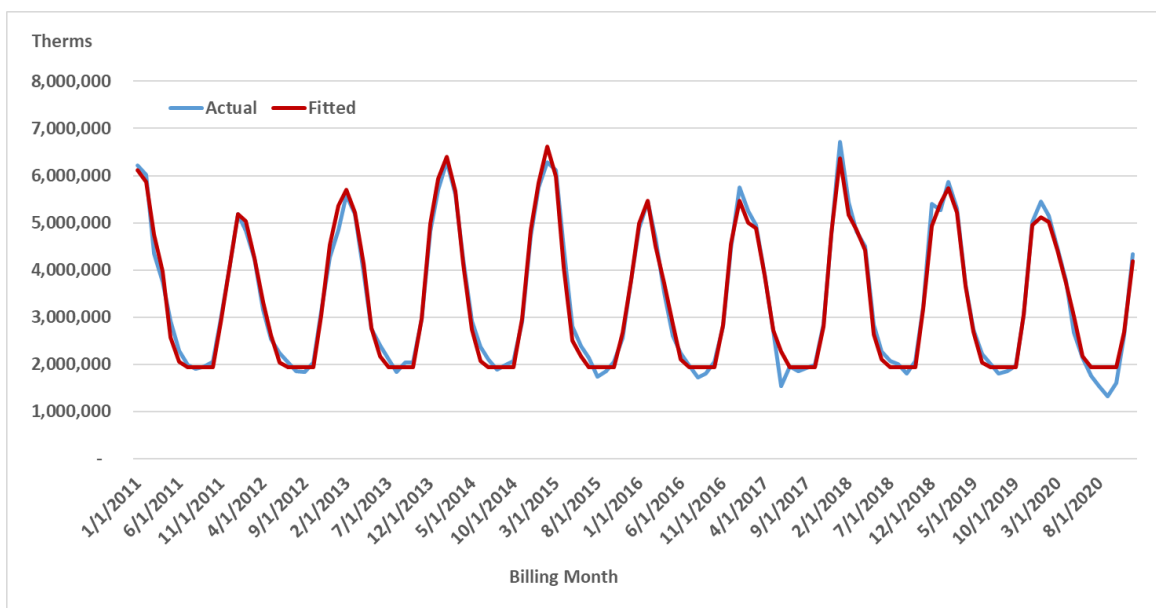


Figure 5
LVG Commercial Model
Actual vs. Fitted Values

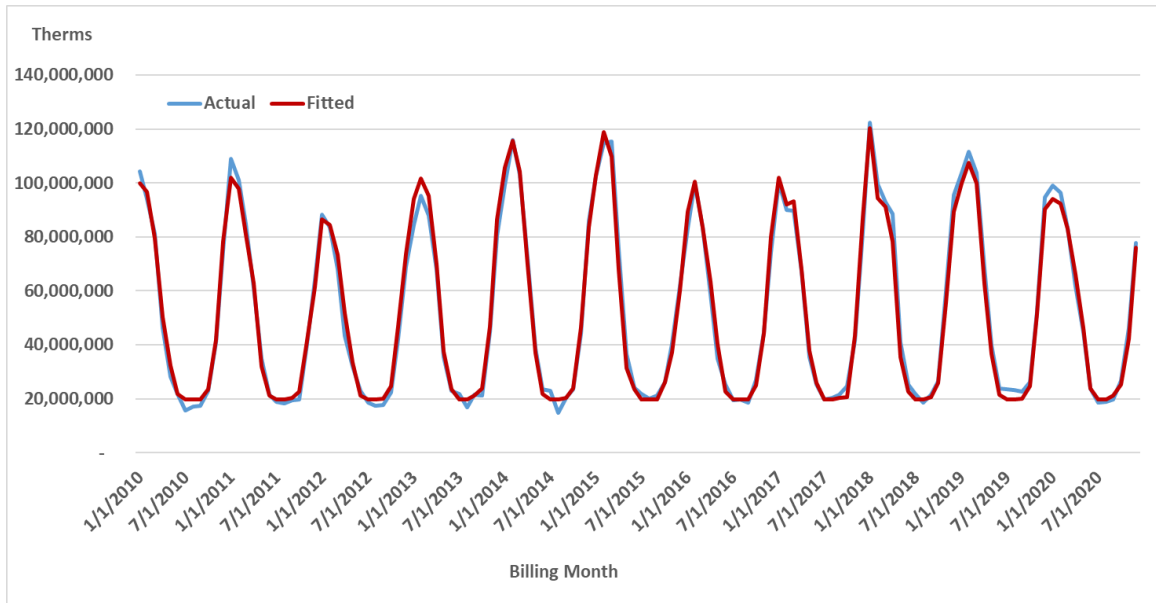


Table 2

Estimated Coefficients of the
GSG Commercial Gas Sales Models
(standard errors in parentheses)

	JAN	FEB	MAR	APR	MAY	JUN		NOV	DEC	R2	DW	n
HEATING												
PRICE x HDD	-12668 (2,269)	-14163 (2,453)	-12272 (3,113)	-10012 (5,145)	-38026 (16,543)			-22077 (5,985)	-16575 (3,181)	0.996	1.398	132
CUST x HDD	19.03 (0.9)	20.06 (0.9)	19.54 (1.1)	19.38 (1.7)	17.24 (3.8)			16.86 (2.5)	19.77 (1.1)			
COVID-HDD	-1208 (1,353)											
NON-HEATING												
HDD	3887 (75)	3995 (77)	4008 (92)	4082 (147)	3758 (338)	4651 (1,718)		2590 (187)	3693 (100)	0.983	1.333	120
COVID-HDD	-343 (228)											

Table 3

**Estimated Coefficients of the
LVG Commercial Gas Sales Models**
(standard errors in parentheses)

HDD x PRICE	HDD x CUST	HDD x COVID	R2	DW	n
-26136 (4,274)	32 (1)	-3133 (4,067)	0.989	1.007	132

Industrial

While gas sales to the commercial sector are correlated with commercial output because output tends to be correlated with commercial space-heated floor space, sales to the PSE&G rate GSG and rate LVG gas customers in the industrial sector are not correlated with the industrial output because gas, for the most part, is not used for process heat. It is used to heat employee workspaces and the number of employees has been declining while industrial output has been increasing. Therefore, rather than used the traditional function for the demand for a factor of production such as [3], the following specification is used:

$$\text{THERMS} = f(\text{PRICEGAS}, \text{EMP}, \text{HDD}) \quad [7]$$

where:

EMP = Manufacturing employment.

Since gas is used primarily for space heating the economic variables need to be used as interactive variables with HDD to account for the extreme seasonality of the data. As a result, the functional form that was estimated is:

$$\text{THERMS}_t = f(\text{HDD}_t \times \text{PRICEGAS}_{a-1}, \text{HDD}_t \times \text{EMP}_{a-1}, \text{HDD}_t) \quad [8]$$

where:

THERMS	= Gas sales,
PRICEGAS	= Real price of gas,
HDD	= Heating degree days,
t	= Billing-month,
a	= Year associated with billing-month, t.

The results of the OLS estimation procedure, summarized in Figures 6-8, show that the industrial models for customers in the two space heating segments fit the historical data well. GSG Heating model is estimated for using monthly billing data from January 2011 to December 2020 period while Non-Heating model is estimated for using monthly billing data from January 2013 to December 2020 in order to get better estimation results. The data for industrial GSG non-heating customers, however, seems to indicate the presence of out of period adjustments in the billing data which the model doesn't, and can't be expected to, account for. These were addressed with binary variables. The larger industrial customers are served under rate LVG. The model was estimated for customers in the industrial sector using monthly billing data from January 2010 to December 2020 period.

Like the small and medium commercial models, the estimated coefficients of the three industrial models indicate that sensitivity to price is small. The small industrial customers, rate GSG did not show any statistically significant response to price while rate LVG sensitive to price, with an estimated elasticity of -0.1. Small response of the industrial sector to gas prices is attributed to the fact that gas, since it is not used for process heat, is a relatively small proportion of the total costs of production.

Figure 6
GSG Industrial Space Heating Model
Actual vs. Fitted Values

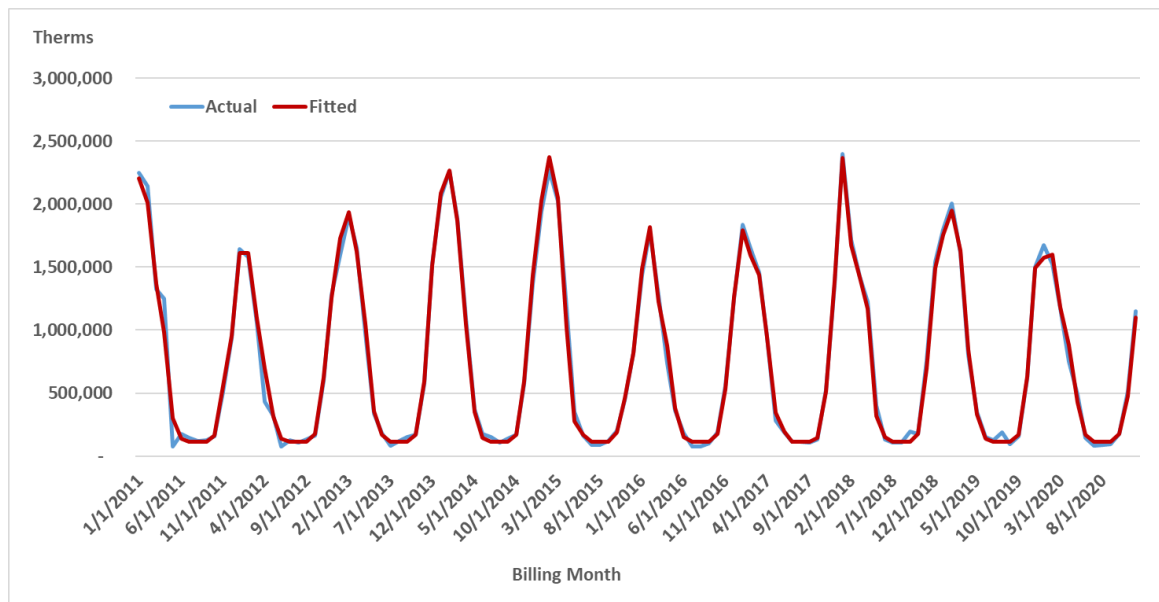


Figure 7
GSG Industrial Non-Space Heating Model
Actual vs. Fitted Values

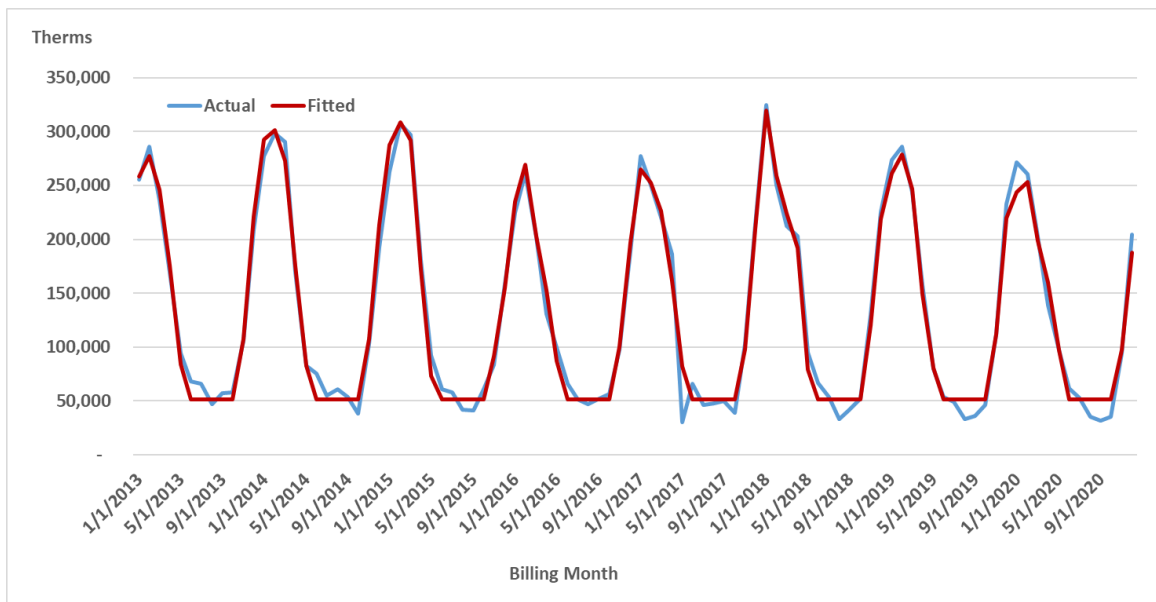


Figure 8
LVG Industrial Heating Model
Actual vs. Fitted Values

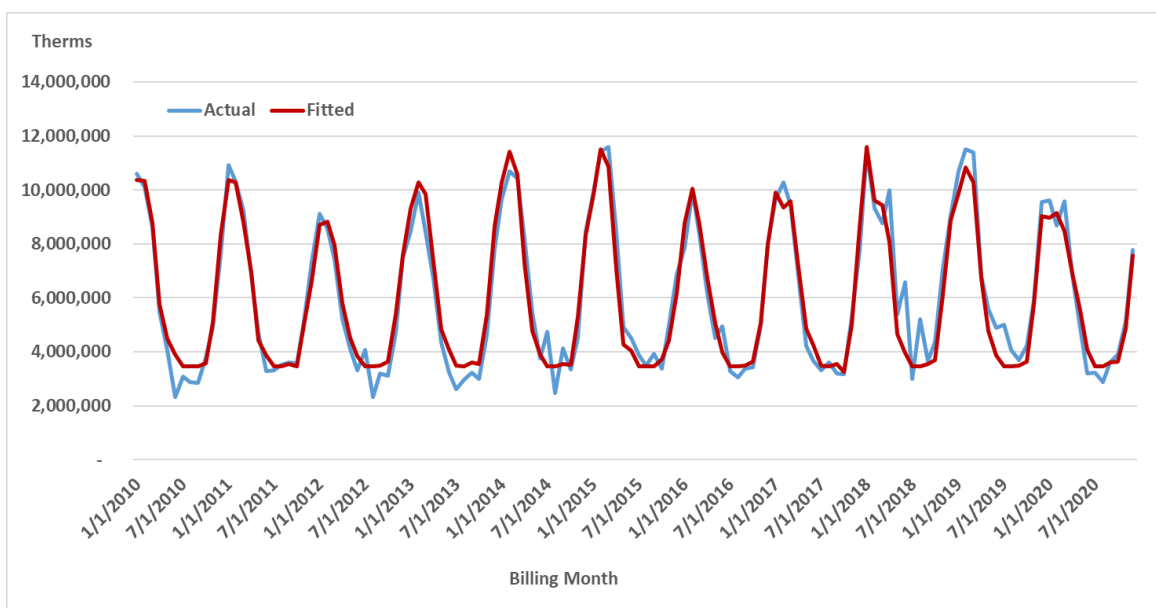


Table 4

**Estimated Coefficients of the
GSG Industrial Gas Sales Models**
(standard errors in parentheses)

	JAN	FEB	MAR	APR	MAY	JUN	OCT	NOV	DEC	R2	DW	n
HEATING												
HDD	2467 (182)	1935 (25)	2217 (157)	1746 (48)	1112 (111)	1188 (564)		1219 (187)	2163 (100)	0.992	2.203	120
COVID-HDD	-113 (74)											
NON-HEATING												
HDD	235 (5)	138 (33)	239 (6)	232 (10)	150 (23)			142 (13)	207 (7)	0.981	1.796	96
COVID-HDD	-2 (15)											

Table 5

**Estimated Coefficients of the
LVG Industrial Gas Sales Models**
(standard errors in parentheses)

HDD x PRICE	HDD x EMP	HDD x COVID	R2	DW	n
-2595 (1,057)	39 (4)	-110 (792)	0.938	1.459	132

II Forecast Assumptions

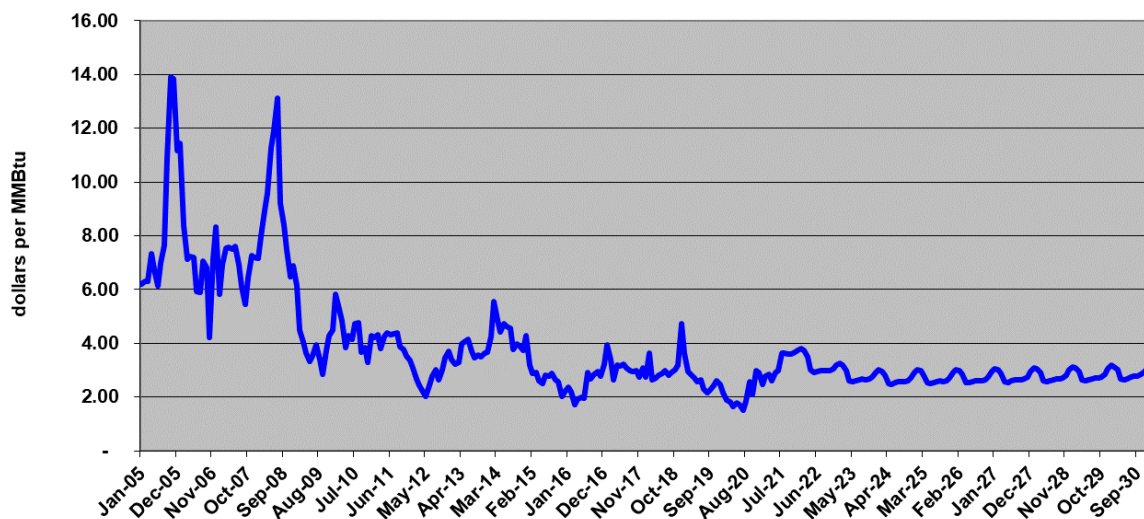
The models described above, in concert with assumptions about future prices and local economic and demographic parameters, were utilized to produce a forecast of billed natural gas delivered sales by rate for the residential, commercial, and industrial customer classes. The assumptions and the forecasts are described in more detail below.

Natural Gas Prices

The main driver of retail natural gas prices is the wholesale cost of gas which changes monthly. While these costs are passed through to commercial and industrial customers on monthly basis, the gas cost under- or over-collection of the residential customers is addressed in October where the rate is adjusted to collect or return the imbalance over the following twelve months. For the purpose of the forecast, the wholesale natural gas price was assumed to follow the NYMEX future prices as of July 06, 2021. As figure 9 shows, the wholesale price of gas is projected to stay relatively stable during the 2019-2029 periods.

Figure 9

NYMEX Natural Gas Futures Prices, July 6, 2021 (\$/MMBtu)



This price projection was used in the ER&T Gas cost model which generated commodity gas costs by rate. The residential costs, along with the actual imbalance in the residential gas supply cost and the revenue collection to offset this cost was utilized in the Cognos residential model to produce a stream of residential prices assuming that every October the imbalance was trued-up over the following 12 months. These projected commodity costs, combined with delivery tariff assumptions results in projected retail prices that are summarized below.

Table 6
Historic and Projected Retail Gas Prices
(dollars per therm)

Year	RSG		Commercial			Industrial		
	Heating	Non-Heating	GSG		LVG	GSG		LVG
			Heating	Non-Heating		Heating	Non-Heating	
2010	1.24	1.43	1.10	1.07	0.97	1.11	1.06	0.92
2011	1.09	1.26	1.06	1.04	0.92	1.05	1.05	0.87
2012	1.00	1.18	0.95	0.93	0.80	0.95	0.98	0.75
2013	0.94	1.09	1.00	0.99	0.84	1.00	1.01	0.80
2014	0.80	0.94	1.06	1.04	0.91	1.10	1.08	0.90
2015	0.64	0.80	0.86	0.85	0.74	0.86	0.88	0.74
2016	0.71	0.87	0.83	0.83	0.69	0.83	0.86	0.70
2017	0.77	0.91	0.95	0.95	0.79	0.95	0.98	0.80
2018	0.74	0.88	0.93	0.92	0.79	0.94	0.96	0.77
2019	0.81	1.25	0.94	0.92	0.78	0.94	0.97	0.73
2020	0.78	1.31	0.87	0.87	0.71	0.80	0.91	0.66
2021	0.79	1.08	0.95	0.96	0.77	0.93	0.98	0.73
2022	0.83	1.11	1.05	1.03	0.85	1.04	1.08	0.80
2023	0.81	1.09	0.99	0.98	0.81	0.98	1.03	0.75
2024	0.84	1.11	0.99	0.99	0.79	0.98	1.03	0.73
2025	0.83	1.09	0.99	0.98	0.78	0.97	1.02	0.73
2026	0.82	1.09	0.99	0.98	0.78	0.97	1.02	0.73
2027	0.82	1.08	0.99	0.97	0.78	0.96	1.01	0.73
2028	0.81	1.06	0.98	0.96	0.77	0.95	0.99	0.71
2029	0.84	1.09	1.01	0.98	0.78	0.97	1.02	0.68
2030	0.86	1.12	1.06	1.01	0.79	0.99	1.04	0.69
2031	0.86	1.12	1.06	1.01	0.79	0.99	1.04	0.69
2032	0.86	1.12	1.06	1.01	0.79	0.99	1.04	0.69
2033	0.86	1.12	1.06	1.01	0.79	0.99	1.04	0.69
2034	0.86	1.12	1.06	1.01	0.79	0.99	1.04	0.69
2035	0.86	1.12	1.06	1.01	0.79	0.99	1.04	0.69

Energy Efficiency

In recent years, new technologies and state's saving programs have had significant impact on gas consumption to residential, commercial and industrial customer groups. The method of incorporating efficiency changes into the model estimation process when the changes are not driven by any of the economic explanatory variables is a two-step process.

The first step is to eliminate the impact of these programs in the historical series by adding the estimated impacts of these programs to the historical data, estimating the model, and then producing a forecast. This forecast will not have any impacts of the efficiency programs embedded in it.

The second step is to remove the impacts of the efficiency programs from both the history and the forecast. This reverts the historical data back to actual values and produces a forecast with the impacts of the efficiency programs correctly incorporated.

This methodology is used for RSG Heating, Commercial GSG Heating and LVG sales to incorporate the impacts of the current PSE&G efficiency programs and the estimated impacts of the proposed Clean Energy Future filing. These impacts are summarized in Table 7 below.

Table 7
Impacts of
Energy Master Plan – Energy Efficiency – Clean Energy Future
(therms)

	BILLING MONTH ASUMPTIONS		
	EMP	EE	CEF
2010	14,596,331	1,014,482	-
2011	16,831,360	3,286,510	-
2012	12,618,148	4,213,546	-
2013	16,790,499	5,039,977	-
2014	22,116,578	6,586,486	-
2015	24,589,911	6,989,516	-
2016	27,228,971	7,495,738	-
2017	30,109,454	8,348,880	-
2018	33,743,659	9,542,828	-
2019	37,356,813	9,955,587	-
2020	40,245,934	13,762,353	128
2021	40,245,934	13,762,353	4,134,178
2022	40,245,934	13,762,353	14,630,313
2023	40,245,934	13,762,353	29,173,727
2024	40,245,934	13,762,353	38,163,963
2025	40,245,934	13,762,353	51,804,502
2026	40,245,934	13,762,353	64,283,838
2027	40,245,934	13,762,353	76,038,938
2028	40,245,934	13,762,353	87,794,039
2029	40,245,934	13,762,353	99,549,140
2030	40,245,934	13,762,353	111,304,240
2031	40,245,934	13,762,353	123,059,340
2032	40,245,934	13,762,353	134,814,441
2033	40,245,934	13,762,353	146,569,542
2034	40,245,934	13,762,353	158,324,643
2035	40,245,934	13,762,353	170,079,743

Economic Projections

Economic and demographic forecast assumptions for the nation and New Jersey are from Moody's Economy July 2021 forecast. This forecast captures impact of COVID-19 on economy which assumes that, nationally, the economy will recover at a slow rate after pandemic. This national forecast is expected to be reflected in New Jersey's economic outlook that is also expected to be at a slow pace. In addition, an adjustment was made to RSG sales forecast, to capture perceived impacts of pandemic due to the most recent impacts of the government mandated economic restrictions that were not captured in the economic forecast. Commercial GSG and LVG models are estimated through 2020 and derived the COVID impact from estimated COVID coefficient. The forecast is summarized in Table 8.

Weather during the forecast period is assumed to be "normal" as defined by the average daily weather during the twenty-year period ending December 31, 2019.

Table 8

National and New Jersey Economic Forecast Assumptions

	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
United States														
Gross Domestic Product, (Bil. USD, SAAR)	19,543	20,612	21,433	20,938	22,577	24,517	25,753	26,983	28,136	29,242	30,383	31,580	32,819	34,106
Industrial Production: Total, (Index 2012=100, SA)	104	109	109	102	110	113	114	116	117	118	119	121	122	124
Income: Personal - Total, (Bil. Ch. 2009 USD, SAAR)	15,992	16,493	16,889	17,714	18,212	17,923	18,391	18,842	19,207	19,610	20,067	20,561	21,070	21,584
Employment: Total Nonagricultural, (Mil. #, SA)	147	149	151	142	145	151	153	155	156	156	157	158	159	159
Household Survey: Unemployment Rate, (% , SA)	4.3	3.9	3.7	8.1	5.7	4.3	4.0	3.9	4.1	4.2	4.2	4.3	4.2	4.3
CPI: Urban Consumer - All Items, (Index 1982-84=100, SA)	245	251	256	259	265	272	279	286	293	300	306	313	320	327
Interest Rates: 3-Month Treasury Bills EBY, (% p.a., NSA)	0.9	2.0	2.1	0.4	0.1	0.2	0.6	1.5	2.4	2.5	2.5	2.5	2.4	2.4
Terms Conventional Mortgages: All Loans Fixed Effective Rate, (% , NSA)	4.1	4.7	4.4	3.8	3.9	4.3	4.8	5.2	5.5	5.8	5.8	5.8	5.8	5.7
New Jersey														
Real Personal Income, (Mil. 09\$, SAAR)	544,786	556,962	569,814	604,789	625,424	612,017	624,969	638,812	649,981	662,249	676,134	691,296	706,813	721,889
Employment: Total Nonagricultural, (Ths., SA)	4,121	4,159	4,197	3,851	3,931	4,054	4,114	4,145	4,159	4,172	4,186	4,200	4,215	4,229
Employment: Total Manufacturing, (Ths., SA)	247	250	251	238	242	246	245	241	237	233	229	225	221	218
Employment: Total Non-Manufacturing, (Ths., SA)	3,874	3,909	3,946	3,613	3,689	3,808	3,869	3,904	3,922	3,939	3,957	3,975	3,994	4,011
Labor: Unemployment Rate, (% , SA)	4.5	4.0	3.4	9.8	7.0	5.0	4.3	4.1	4.2	4.3	4.3	4.3	4.3	4.3
Population: Total, (Ths.)	8,886	8,885	8,881	8,888	8,903	8,917	8,934	8,953	8,971	8,986	8,997	9,003	9,006	9,008
Households: Total, (Ths.)	3,343	3,353	3,363	3,346	3,345	3,415	3,437	3,454	3,471	3,484	3,495	3,504	3,514	3,524
Housing Starts: Single-family, (#, SAAR)	11,568	12,255	12,243	12,637	17,278	19,241	19,840	19,957	19,987	18,785	17,265	15,472	14,307	13,646

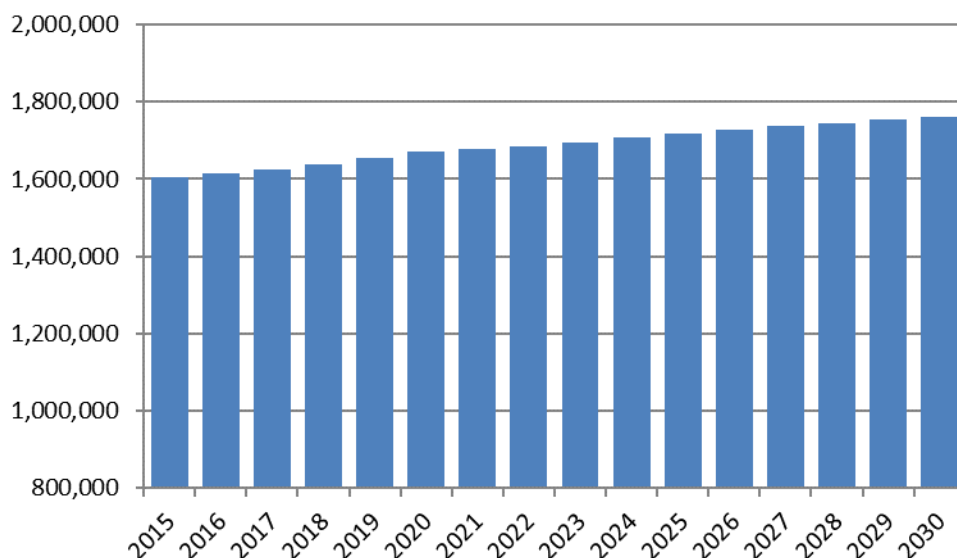
Customer Forecasts

The number of residential customers with and without natural gas space heat is based on historical trends and expected residential construction activity in the service area. Residential non-heating customers have been steadily declining at an average annual rate of 0.75 percent and this is expected to continue.

Furthermore it is assumed that these customers are converting to gas heat. The number of gas heating customers is also expected to increase as new residential construction occurs. The number of gas customers is assumed to reflect the current decline seen in new single family housing construction. As a result, as the figure below shows, the number of residential customers is expected to remain relatively stable.

Figure 10

Annual Gas Residential Customers



BGSS Share

The share of delivered sales that are BGSS supplied is assumed to follow recent trends where therm shares have stabilized at their current levels across the broad range of customer classes.

III Maximum Daily Sendout Forecast

Introduction

Distribution facilities are designed to meet the estimated maximum hour demand on a day with a mean temperature of 0°F and with seven weather stations in NJ as the measuring base. Gas supplies are designed to meet the estimated maximum daily as well as maximum hourly demand. The maximum daily sendout forecast process consists of:

- Estimating the relationship between weather and firm daily sendout,
- Extrapolating that relationship to determine the current level of daily sendout at 0 degrees if no day that cold appeared in the model estimation data,
- Forecasting future maximum daily sendout levels based on the current estimated level

The remainder of this section describes each of these steps in turn.

Daily Firm Sendout Model Estimation

There are two major issues in modeling maximum firm daily sendout. First, the diversity of the customer base needs to be controlled for. Second, the model has to be designed to be extrapolated rather than interpolated. Each of these issues is discussed below.

The firm sendout number accounts for gas deliveries to a diverse set of customers ranging from residential homes to large industrial sites. Since sales to different types of customers respond to weather differently, customer mix must be controlled for in any modeling effort. In addition, the behavior of this diverse group of customers will change differently over time as prices and other economic parameters change over time. As a result, these changes also need to be accounted for. Unfortunately, the firm sendout number is not available by rate. As a result, the only way to control for changes in customer mix and changes in the behavior over time by these customers is to limit the time period of data that is used in the model estimation.

The second issue, of extrapolation, is addressed in a similar way. The relationship between sendout and weather is fairly linear. In reality, it is probably not perfectly linear. This is not an issue when estimating a model and using the results to interpolate values with the range of the estimation data. However, when extrapolating the data outside the range of the estimation data the

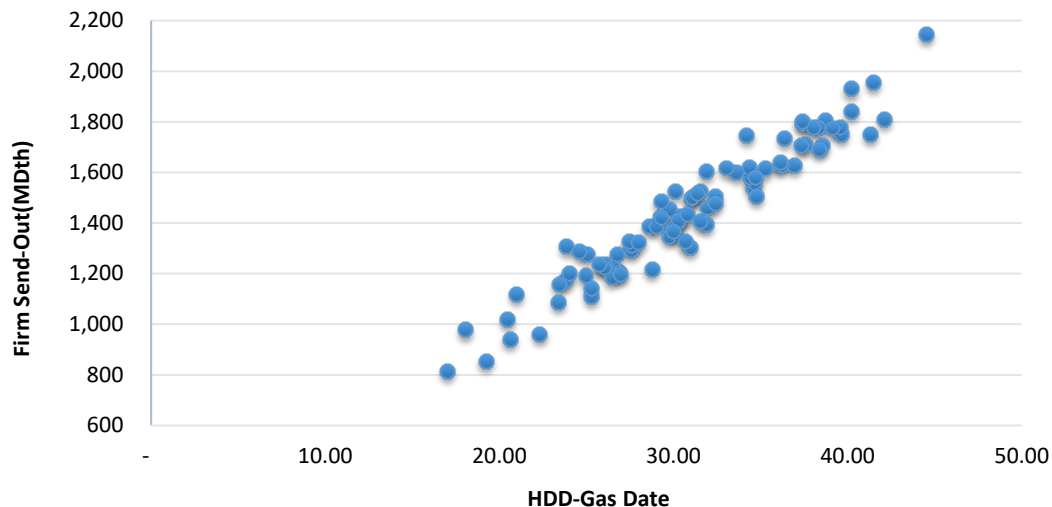
imprecision increases. The way to minimize this imprecision is to limit the observations to the lower temperature data so as to get a linear estimation of that portion of a non-linear curve that is closest to the ultimate extrapolation value.

To address both of these forecasting issues, the data used in estimating the relationship between daily sendout and weather was limited to December 2020, January and February 2021 during the most recent year available. Customer class mix will not change significantly in this short period and it contains the coldest months when the maximum sendout would most likely occur. Analysis of the data for these months indicates two things.

First, the data confirms the general responsiveness of firm sendout to the weather, as Figure 11 shows. Second, the relationship appears linear

Figure 11

December 2020 - January & February 2021 Daily Firm Sendout vs Heating Degree Days



To refine the impact of the day-type on sendout, the regression model from previous years was enhanced to allow for not only an intercept change from the day-type but, also a HDD response change.

The regression model that modeled daily sendout, SENDOUT, is specified as:

$$\text{SENDOUT}_t = f(\text{HDD}_t, \text{HDD}_{t-1}, \text{WIND-SPEED}, \text{SKY-CONDITIONS}, \text{WEEKDAY}_t, \text{HOLIDAY}_t, \text{SNOW}_t) \quad [9]$$

Where:

HDD _t	=	Heating degree days on gas day t,
HDD _{t-1}	=	One day lag basis Heating degree days on gas day t-1,
WIND-SPEED	=	Daily average wind speed, MPH,
SKY-COND	=	Report of each cloud layer,
WEEKDAY	=	Interactive variable that takes the value of HDD on weekdays, otherwise 0,
HOLIDAY	=	Interactive variable that takes the value of HDD on Sundays or Holidays, otherwise 0,
SNOW	=	Binary variable that takes the value of 1 when reported snowstorm accumulation in any portion of the service area is 6 inches or more, 0 otherwise.

The estimation results are shown in Table 8 and Figure 12 below.

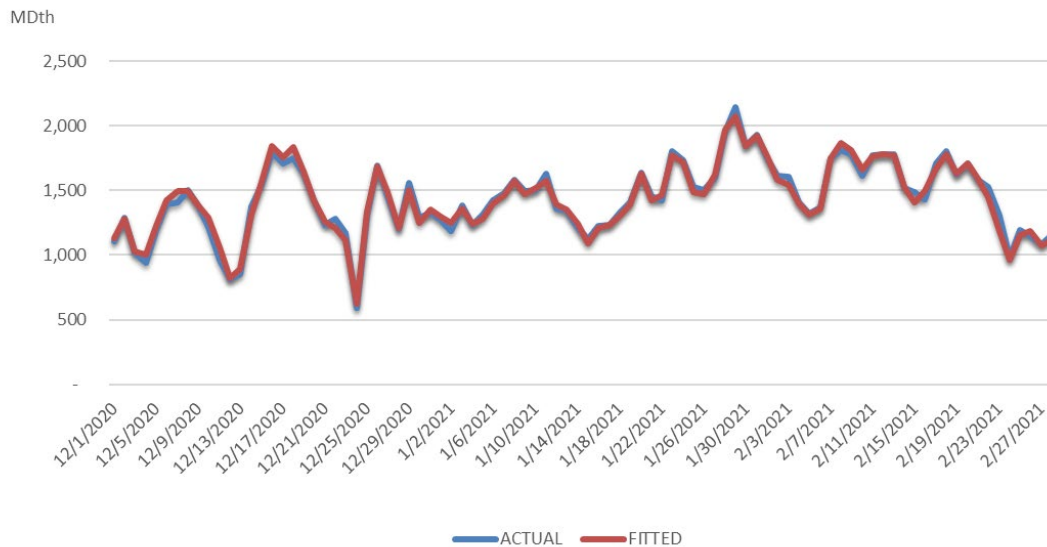
Table 8

Estimated Coefficients of the Daily Sendout Model
(standard errors in parentheses)

Intercept	HDD				WIND-SPEED	SKY COND	SNOW	R2
	HDD	LAG	HOLIDAY	WEEKDAY				
-34.5 (30.2)	35.8 (1.0)	7.8 (0.9)	0.47 (0.5)	0.53 (0.4)	13.3 (1.5)	9.3 (3.3)	-11.1 (17.6)	0.9792

Figure 12

Daily Sendout Model
Actual vs. Fitted Values



The estimated coefficients of the model suggest that the estimated maximum daily peak would occur on a Friday. The model predicts that the maximum peak daily sendout would be 2074 MDth.

A. Calendar-Month Sales Calculation

Introduction

Utilities have traditionally had a disconnection in the timing of their revenues and their costs. Revenues from retail sales are a revenue stream from meter readings and the resulting bills to their customers that occur on a daily basis throughout the month. The bills issued from meter reads in the current month's meter reading schedule are all recorded as billing-month revenue. Billing-month revenue will include revenue from electricity or gas delivered during the previous month while excluding deliveries of electricity or gas delivered during the current month that occurred after the meters were read. Expenses, on the other hand, such as wages, fuel, depreciation, etc., have been recorded on a calendar-month basis. This inconsistency in the revenue and expense streams can be tolerated if there are no major changes in the revenue and/or expense streams. If major changes are occurring, such as a rapid increase in fossil fuel prices or a high seasonality in sales, a comparison of the billing-month revenue and the calendar-month expenses can give a false view of a utility's financials. To remedy this situation, the sales and revenue accrual calculation, the estimation of calendar-month sales and revenue from billed sales and revenue and the estimation of unbilled sales and revenue was developed.

Section II will discuss how, in theory, the billed sales and the unbilled estimates are used to calculate calendar-month sales using a simple example and introduce the notation that will serve as the basis of the analysis. A description of the theory's specific application to PSE&G's meter reading schedule, that can have a single billing month encompass up to four calendar-months, follows.

Section III will describe the implementation of the estimation of the calendar-month sales and revenue process at PSE&G.

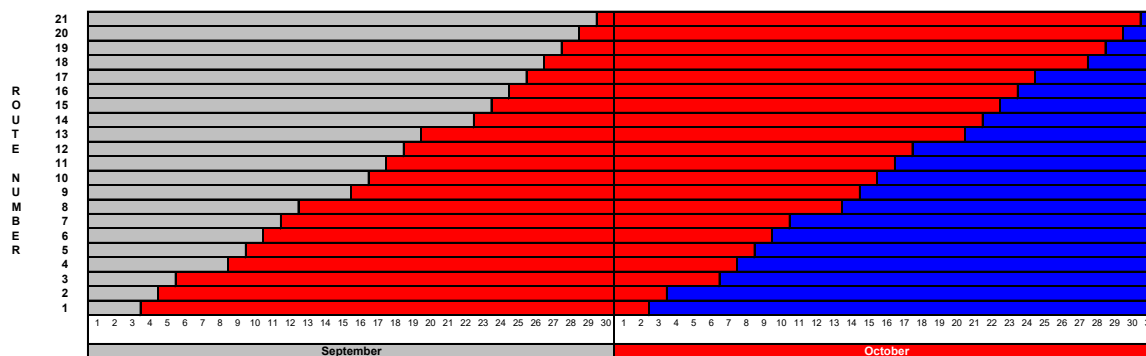
The Unbilled and Calendar-Month Estimation

A Simple Example

Utilities generally read all of their meters every month on 21 workdays. Figure 1, below shows a hypothetical October billing-month (in red) as determined by the September and October meter reading schedules. In the chart, each row represents a Route Number or a group of meters that are always read on the same day (although the day when they are all read may vary from month to month). The bottom row is red on all the days after the September read date, September 3rd until the October read date, October 2nd. If it is assumed that the customers' meters are read at noon, the October bill to these customers will reflect 28.5 days of service in September and only 1.5 days in October². The second row from the bottom represents Route 2 whose customers' meters were read on September 4th and October 3rd. The October bill to these customers will reflect 27.5 days of service in September and only 2.5 days in October. This continues until the top row, Route 21, that had meter reading days of September 29th and October 30th. The October bills to these customers represent only 1.5 days of September service and 29.5 days of October service.

Figure 1

Hypothetical October 2008 Billing-Month



From the red portion of the diagram, it can be seen that the October billing-month consists of September sales that are billed in October that, to facilitate discussion, will be referred to as **SEP B> OCT** and October sales that are billed in October i.e., **OCT B> OCT**. The calendar-month sales are defined as the red and blue rectangle defined by the month of October and the 21 read-cycles. This consists of **OCT B> OCT** sales and the October unbilled sales, **OCT B> NOV**, the October sales that will be billed in November.

² Or, more realistically, if the meter reads for all the Route 1 customers are evenly distributed throughout an 8:00 AM to 4:00 PM workday, the reads, on average, would represent a half day's sales on the read day.

The relationship between billed, unbilled, and calendar-month sales can be derived from these identities from the steps below.

$$\text{October Calendar} = \boxed{\text{OCT B} > \text{OCT}} + \boxed{\text{OCT B} > \text{NOV}} = \boxed{\begin{matrix} \text{OCT B} > \text{OCT} \\ \text{OCT B} > \text{NOV} \end{matrix}} \quad [1]$$

Adding and subtracting $\boxed{\text{SEP B} > \text{OCT}}$ to the r.h.s. of [1] yields:

$$\text{October Calendar} = \boxed{\begin{matrix} \text{OCT B} > \text{OCT} \\ \text{OCT B} > \text{NOV} \end{matrix}} + \boxed{\text{SEP B} > \text{OCT}} - \boxed{\text{SEP B} > \text{OCT}} \quad [2]$$

Rearranging the r.h.s. of [2] yields:

$$\text{October Calendar} = \boxed{\begin{matrix} \text{OCT B} > \text{OCT} \\ \text{SEP B} > \text{OCT} \end{matrix}} + \boxed{\text{OCT B} > \text{NOV}} - \boxed{\text{SEP B} > \text{OCT}} \quad [3]$$

Substituting [1] into the l.h.s. of [3] yields:

$$\boxed{\begin{matrix} \text{OCT B} > \text{OCT} \\ \text{OCT B} > \text{NOV} \end{matrix}} = \boxed{\begin{matrix} \text{OCT B} > \text{OCT} \\ \text{SEP B} > \text{OCT} \end{matrix}} + \boxed{\text{OCT B} > \text{NOV}} - \boxed{\text{SEP B} > \text{OCT}} \quad [4]$$

This is the familiar:

$$\text{October Calendar} = \text{October Billed} + \text{October Unbilled} - \text{September Unbilled}^3 \quad [5]$$

This formula for the accrual of calendar-month sales and revenues is preferred to any direct estimation of calendar-month sales because any error in the unbilled estimate is

“reversed out” in the following month. The advantage of this is that, as the calendar time period extends, the potential error resulting from unbilled estimates is reduced. This can be seen by summing up [5] over the 2008 calendar-year as:

$$\text{Calendar-Year 2008} = \sum_{i=\text{JAN08}}^{\text{DEC08}} \text{Billed}_i + \sum_{i=\text{JAN08}}^{\text{DEC08}} \text{Unbilled}_i - \sum_{i=\text{DEC07}}^{\text{NOV08}} \text{Unbilled}_i \quad [6]$$

³ The difference between the current month’s unbilled and the previous month’s is often referred to as the “net unbilled”.

Where:

Billed_i = Billing-month sales in month i,

Unbilled_i = Unbilled sales in month i.

That simplifies to:

$$\text{Calendar-Year 2008} = \sum_{i=\text{JAN08}}^{\text{DEC08}} \text{Billed}_i + \text{Unbilled}_{\text{DEC08}} - \text{Unbilled}_{\text{DEC07}} \quad [7]$$

The key result from [7] is that the annual calendar-year sales are the annual billed sales, a very large real number, and the difference between two monthly unbilled estimates. Since the error that can be expected in the difference between the two monthly unbilled estimates can be assumed to be quite small compared to the annual billed total, the calendar-year estimate, as a result, can be expected to be very accurate.

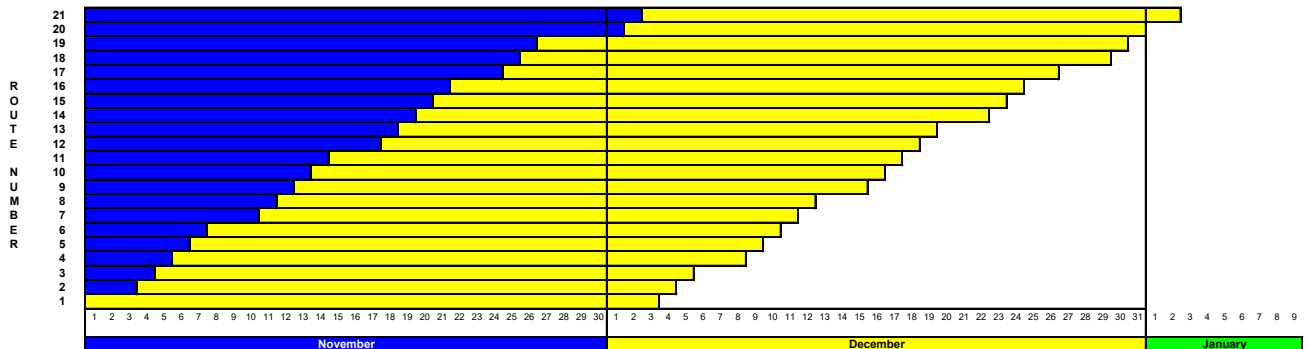
The same general results described in this simple example apply to PSE&G's more complicated meter reading schedule that is described below.

A More General Example

Unlike the hypothetical October billing-month, discussed above, that spanned two months, September and October, the PSE&G billing-month can encompass as many as four months. For example, the December 2008 PSE&G billing month, illustrated in Figure 2, has meter reading dates ranging from October 31st to January 2nd. As a result, it spans four months, October, November, December, and January⁴.

⁴ This is the original PSE&G December 2008 meter reading schedule. It has since been "compressed" to accommodate the implementation of iPower, the new billing and customer information system.

Figure 2
PSE&G December 2008 Billing-Month



Therefore, to develop a general algorithm applicable to PSE&G, the definition of billed, unbilled, and calendar sales must be expanded to include the potential of having sales from two additional calendar months reflected in a billing-month. December 2008 billing month, for example, is defined as:

$$\text{December Billed} = \begin{array}{|l|} \hline \text{OCT B} > \text{DEC} \\ \text{NOV B} > \text{DEC} \\ \text{DEC B} > \text{DEC} \\ \text{JAN B} > \text{DEC} \\ \hline \end{array} \quad [8]$$

Given the additional components of the billed, $\text{OCT B} > \text{DEC}$, i.e. the “under billed” sales, and $\text{JAN B} > \text{DEC}$, the “excess billed” sales, the addition of the current unbilled and subtraction of the previous month’s unbilled to the December billed, as defined in the simple example above, will overstate December calendar-month sales by the sum of under billed and excess billed sales. As a result, the December unbilled needs to be redefined as:

$$\text{December Unbilled} = \begin{array}{|l|} \hline \text{DEC B} > \text{JAN} \\ \text{DEC B} > \text{FEB} \\ \hline \end{array} + \begin{array}{|l|} \hline \text{NOV B} > \text{JAN} \\ \hline \end{array} - \begin{array}{|l|} \hline \text{JAN B} > \text{DEC} \\ \hline \end{array} \quad [9]$$

$$\text{December Unbilled} = \text{December Unbilled} + \text{January Underbilled} - \text{December Excess Billed} [10]$$

December calendar can then be defined as December billed plus the new

December unbilled less the equivalent November unbilled or:

$$\begin{array}{rcl}
 \begin{array}{|l|} \hline \text{DEC B> OCT} \\ \text{DEC B> NOV} \\ \text{DEC B> DEC} \\ \text{DEC B> JAN} \\ \hline \end{array} & = & \begin{array}{|l|} \hline \text{OCT B> DEC} \\ \text{NOV B> DEC} \\ \text{DEC B> DEC} \\ \text{JAN B> DEC} \\ \hline \end{array} \\
 & + & \begin{array}{|l|} \hline \text{DEC B> JAN} \\ \text{DEC B> FEB} \\ \hline \end{array} + \begin{array}{|l|} \hline \text{NOV B> JAN} \\ \hline \end{array} - \begin{array}{|l|} \hline \text{JAN B> DEC} \\ \hline \end{array} \\
 & - & \begin{array}{|l|} \hline \text{NOV B> DEC} \\ \text{NOV B> JAN} \\ \hline \end{array} - \begin{array}{|l|} \hline \text{OCT B> DEC} \\ \hline \end{array} + \begin{array}{|l|} \hline \text{DEC B> NOV} \\ \hline \end{array} & [11]
 \end{array}$$

or, in words:

$$\begin{array}{rcl}
 \text{December Calendar} & = & \text{December Billed} \\
 & + & \text{December Unbilled} \\
 & - & \text{November Unbilled} & [12]
 \end{array}$$

This is the general formula that is used to calculate unbilled sales at PSE&G.

The PSE&G Gas Calendar-Month Estimation

The estimation of calendar-month gas sales at PSE&G is based on the notion that gas sales can be divided into two components: a weather sensitive component and a non-weather sensitive component. The weather sensitive component is affected by the winter weather as measured by heating degree days (HDD). The non-weather component is simply a function of the number of days in the sales period. As a result, sales during the unbilled periods can be estimated based on the HDD and number of days during the unbilled periods and the estimates of the weather-sensitive sales per HDD and non-weather sensitive sales per day.

The estimate of the weather-sensitive sales per HDD for each rate, the HDD coefficient, is the sum of the coefficients associated with its model's independent variables that have a HDD component divided by the number of days in the billing period. In the case of RSG that, unlike the other rates, is modeled on a use per customer basis, this result is multiplied by the number of customers.

The estimate of the non-weather sensitive sales per day for each rate, the base coefficient, is the value of the model equation with all of the coefficients associated with HDD set to zero and divided by the number of days in the billing period. As in the case of the HDD coefficient, the RSG result is multiplied by the number of customers.

Given the structure of the models, these coefficients will vary by month and by year. The current estimates for 2008 and 2009 are shown in Table 1 below.⁵

Table 1

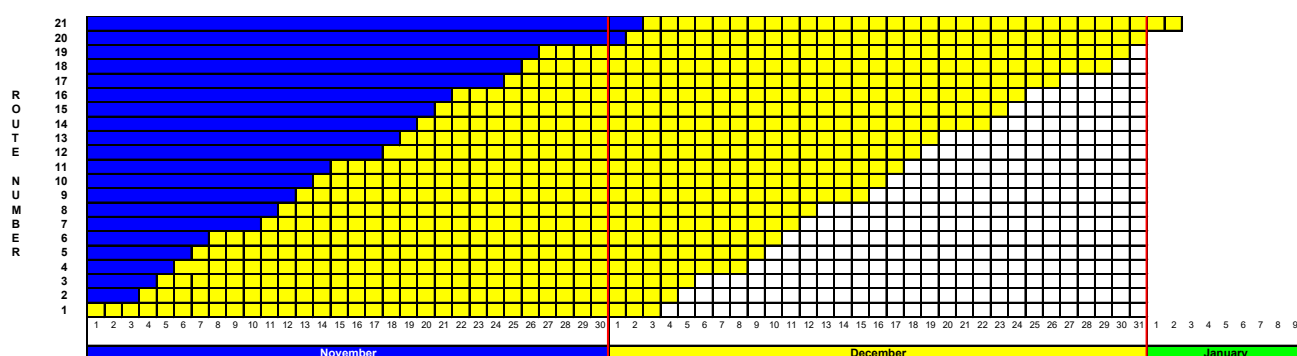
Unbilled Weather and Base Coefficients, 2008-2009

Billing Month	RSG				GSG-Commercial				GSG-Industrial				LVG - Non Vehicle			
	Heating		Non-heating		Heating		Non-heating		Heating		Non-heating		Commercial		Industrial	
	Base	HDD	Base	HDD	Base	HDD	Base	HDD	Base	HDD	Base	HDD	Base	HDD	Base	HDD
Jan-08	1,477,624	246,082	218,393	4,689	56,941	45,607	168,133	3,942	(15,873)	3,333	2,978	501	1,047,971	79,608	145,023	8,767
Feb-08	1,554,914	253,674	234,372	4,811	69,746	45,607	175,674	3,942	(15,256)	3,333	3,786	501	1,172,070	79,608	167,056	8,767
Mar-08	1,343,904	249,936	236,373	4,737	25,553	45,607	158,654	3,942	(16,832)	3,333	2,893	501	1,053,237	79,608	138,433	8,767
Apr-08	1,337,980	248,305	190,526	4,692	13,895	45,607	150,129	3,942	(15,769)	3,333	5,681	501	1,076,058	79,608	159,387	8,767
May-08	1,267,108	251,443	164,912	4,741	146,976	45,607	117,463	3,942	332	3,333	4,166	501	838,647	79,608	137,277	8,767
Jun-08	1,086,639	250,233	135,407	4,714	126,187	45,607	95,849	3,942	2,561	3,333	3,704	501	708,324	79,608	129,981	8,767
Jul-08	984,641	248,954	116,905	4,704	135,270	45,607	94,660	3,942	3,907	3,333	2,680	501	610,707	79,608	119,171	8,767
Aug-08	912,999	249,456	104,709	4,666	103,926	45,607	80,601	3,942	2,045	3,333	2,578	501	613,535	79,608	119,770	8,767
Sep-08	940,487	252,748	111,693	4,746	108,515	45,607	84,252	3,942	2,953	3,333	2,730	501	581,470	79,608	129,852	8,767
Oct-08	809,244	249,439	113,383	4,671	115,541	45,607	90,002	3,942	3,184	3,333	1,932	501	728,815	79,608	116,580	8,767
Nov-08	1,076,293	250,792	138,927	4,687	(9,962)	45,607	107,114	3,942	(7,929)	3,333	5,262	501	769,823	79,608	112,495	8,767
Dec-08	1,191,333	252,604	187,367	4,690	(9,608)	45,607	130,211	3,942	(18,805)	3,333	2,214	501	902,036	79,608	120,543	8,767
Jan-09	1,481,212	248,163	214,955	4,643	56,601	45,745	153,926	3,711	(15,827)	3,259	2,952	490	1,041,705	79,850	144,156	8,190
Feb-09	1,548,542	252,236	228,920	4,692	69,856	45,745	171,980	3,711	(15,254)	3,259	3,796	490	1,173,921	79,850	167,320	8,190
Mar-09	1,393,454	253,517	239,084	4,687	26,121	45,745	168,175	3,711	(17,054)	3,259	2,980	490	1,076,642	79,850	141,509	8,190
Apr-09	1,331,091	250,149	185,138	4,617	13,721	45,745	148,255	3,711	(15,497)	3,259	5,622	490	1,062,628	79,850	157,398	8,190
May-09	1,266,433	253,309	160,992	4,665	145,815	45,745	116,535	3,711	352	3,259	4,136	490	832,022	79,850	136,193	8,190
Jun-09	1,094,707	252,091	133,240	4,638	126,187	45,745	95,849	3,711	2,565	3,259	3,704	490	708,324	79,850	129,981	8,190
Jul-09	987,359	250,802	114,502	4,629	134,644	45,745	94,222	3,711	3,889	3,259	2,668	490	607,880	79,850	118,620	8,190
Aug-09	925,740	251,308	103,701	4,591	104,600	45,745	81,124	3,711	2,058	3,259	2,595	490	617,512	79,850	120,546	8,190
Sep-09	953,382	254,625	110,592	4,670	109,193	45,745	84,778	3,711	2,971	3,259	2,747	490	585,098	79,850	130,662	8,190
Oct-09	808,699	251,291	110,672	4,596	114,612	45,745	89,279	3,711	3,169	3,259	1,918	490	722,957	79,850	115,643	8,190
Nov-09	1,077,388	252,654	135,835	4,612	(9,899)	45,745	106,433	3,711	(7,834)	3,259	5,235	490	764,927	79,850	111,779	8,190
Dec-09	1,203,734	254,479	184,915	4,615	(9,637)	45,745	130,597	3,711	(18,750)	3,259	2,238	490	904,708	79,850	120,900	8,190

⁵ While the coefficient is called the "base" coefficient, it really does not measure base use per day. Rather it is the intercept term in a simple regression. As a result, it can be negative reflecting the intercept of a regression that is outside of the relevant range.

The billed, unbilled, excess billed, and underbilled days and heating degree days are derived from the meter reading schedule and daily weather data. The measure used is the Average Route Days (ARD). The ARD are defined as the number of days across all routes for a given period divided by 21, the total number of routes. This concept is illustrated in Figure 3, a slightly different version of the December 2008 billing-month, shown below.

Figure 3
PSE&G December 2008 Billing-Month



Each square represents an ARD.⁶ The total yellow blocks in each row represent the number of days in that particular route during the December billing-month. The sum of all the yellow blocks, 677, divided by 21 represent the average number of days in the December billing-month, i.e., the average number of days across the 21 routes or 32.24.

The number of excess billed days, $\boxed{\text{JAN B} > \text{DEC}}$, is:

$$1.5 \text{ (January 1}^{\text{st}} \text{ and half of January 2}^{\text{nd}}) / 21 = 0.07 \quad [13]$$

HDD for each period are a weighted sum of the daily HDD where the weight is the ARD associated with that day. For example, from the diagram it can be seen that on December 21st, the sales to 8 routes, routes 14-21, will be in the

⁶ Well, not exactly. Remember that it is assumed that the meters are read at noon. As a result the last yellow block to the right of each row counts as a half day. On the other hand, the last blue block on the right of each row also counts as a half day in the December billing-month so, the math works for the billing-month but, the half needs to be taken into account when discussing portions of the unbilled and billed periods. For a clearer discussion, however, the half days will be, for the most part, ignored.

December billing-month while sales to the first thirteen routes will be in the January billing-month. As a result , 8/21 or 38 percent of the HDD on December 20th will be assigned to the December billing month and 62 percent will be assigned to the January billing month.

HDD for underbilled and excess billed periods are assigned in a similar manner.

From Table 2 below that shows the normal monthly billed an unbilled HDD and days by type, it can be seen that underbilled days and HDD occur rarely while excess billed days are quite common.

Table 2
Billed and Unbilled Days and Weather
2008-2009

Billing Month	Heating Degree Days				Days			
	Billed	Unbilled	Excess Billed	Under Billed	Billed	Unbilled	Excess Billed	Under Billed
Jan-08	795.06	322.08	0.59	-	31.67	12.76	0.02	0.00
Feb-08	786.44	283.76	5.90	-	30.19	11.83	0.29	0.00
Mar-08	643.82	187.74	2.62	-	30.67	12.10	0.21	0.00
Apr-08	360.41	73.05	0.20	-	30.14	11.83	0.10	0.00
May-08	108.21	13.78	0.05	-	29.90	13.05	0.21	0.00
Jun-08	15.47	0.14	-	-	30.33	12.60	0.10	0.00
Jul-08	0.14	-	-	-	30.71	12.81	0.02	0.00
Aug-08	0.01	0.03	-	-	29.57	14.29	0.07	0.00
Sep-08	1.87	7.02	0.04	-	30.71	13.52	0.02	0.00
Oct-08	60.34	87.80	-	-	29.38	15.12	0.00	0.00
Nov-08	255.88	213.78	1.65	-	29.76	15.43	0.10	0.00
Dec-08	578.34	338.40	1.75	0.17	32.24	14.19	0.07	0.02
Jan-09	797.36	361.02	1.75	-	31.86	13.33	0.07	0.00
Feb-09	786.19	277.80	7.41	-	30.14	11.48	0.36	0.00
Mar-09	634.56	188.08	1.17	-	30.00	12.21	0.10	0.00
Apr-09	361.92	73.58	0.46	-	30.52	11.79	0.19	0.00
May-09	108.91	13.36	0.05	-	30.14	12.67	0.21	0.00
Jun-09	15.07	0.12	-	-	30.33	12.21	0.10	0.00
Jul-09	0.12	-	-	-	30.86	12.38	0.12	0.00
Aug-09	0.01	0.03	-	-	29.38	13.90	0.02	0.00
Sep-09	1.97	6.92	0.04	-	30.52	13.38	0.02	0.00
Oct-09	61.71	86.34	-	-	29.62	14.74	0.00	0.00
Nov-09	261.34	207.03	1.65	-	29.95	14.88	0.10	0.00
Dec-09	582.57	329.38	3.90	-	32.14	13.81	0.17	0.00

On a monthly basis, the necessary coefficient, weather, and day data are transmitted to PSE&G accounting services each month. They are used to calculate the actual current month unbilled sales, UnbilledTherms, using:

$$\text{UnbilledTherms} = \text{UnbilledDays} \times \text{BASECoef} + \text{UnbilledHDD} \times \text{HDDCoef} \quad [14]$$

Where:

as UnbilledDays = the number of route days in the unbilled period defined by [9],

 Unbilled HDD = the number of HDD in the unbilled period as defined by [9],

 BASECoef = the Base coefficient,

 HDDCoef = the HDD coefficient.

The results of this calculation, with the previous month's unbilled results, are used to calculate calendar-month sales.

Unbilled, and as a consequence, calendar-month revenue is calculated by pricing the unbilled therms at the projected tariff rates. Adding the net unbilled revenue to the billing-month revenues results in the estimate of calendar-month revenue.

B. Summary Tables

Delivered Gas Sales As Billed 2017-2027 (MDth)

Class	Rate	Category	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Residential	RSG	Heating	130,512	147,879	146,246	139,222	151,937	152,180	151,659	153,036	154,322	155,639	156,992
		Non-Heating	8,860	9,314	4,016	3,620	3,995	4,057	3,961	3,956	3,929	3,910	3,889
	Total		139,371	157,193	150,262	142,842	155,932	156,237	155,620	156,992	158,251	159,550	160,881
Commercial	GSG	Heating	22,541	25,864	24,501	20,883	24,011	23,691	23,435	23,606	23,339	23,126	22,862
		Non-Heating	3,939	4,315	4,077	3,682	3,766	3,798	3,913	3,914	3,915	3,913	3,912
		Total	26,480	30,179	28,577	24,565	27,777	27,489	27,348	27,520	27,253	27,039	26,774
	LVG		61,091	70,527	68,443	60,670	66,680	66,563	67,069	67,807	68,197	68,275	68,315
	TSG	Firm	941	1,193	1,060	971	1,010	992	962	922	866	809	754
		Non-Firm	10,062	14,028	14,595	9,534	10,783	10,756	10,710	10,643	10,541	10,434	10,330
		Total	11,003	15,221	15,655	10,505	11,793	11,748	11,672	11,566	11,407	11,242	11,084
	CIG		3,595	5,471	4,746	1,808	1,910	1,910	1,910	1,910	1,910	1,910	1,910
	CSG		16,341	21,300	8,119	5,254	8,297	8,297	8,297	8,297	8,297	8,297	8,297
	Total		118,510	142,697	125,540	102,801	116,458	116,007	116,297	117,100	117,064	116,763	116,379
Industrial	GSG	Heating	871	1,019	940	786	864	874	913	913	913	913	913
		Non-Heating	153	169	160	149	158	158	158	158	158	158	158
		Total	1,025	1,188	1,100	935	1,022	1,032	1,071	1,071	1,071	1,071	1,072
	LVG		7,043	8,383	8,339	6,937	7,823	7,862	7,806	7,801	7,759	7,698	7,643
	TSG	Firm	1,511	1,528	1,444	1,497	1,567	1,540	1,496	1,436	1,351	1,266	1,183
		Non-Firm	17,374	6,115	6,373	5,867	5,815	5,796	5,766	5,721	5,653	5,581	5,512
		Total	18,886	7,643	7,816	7,364	7,381	7,336	7,261	7,157	7,004	6,847	6,695
	CIG		564	1,020	695	613	535	535	535	535	535	535	535
	CSG		83,737	106,647	122,752	71,945	68,134	68,134	68,134	68,134	68,134	68,134	68,134
	Contract		8,822	-	-	-	-	-	-	-	-	-	-
	Total		120,075	124,880	140,702	87,793	84,896	84,899	84,808	84,699	84,503	84,286	84,080
Lighting	SLG		66	76	62	69	64	64	64	64	64	64	64
Total			378,023	424,847	416,566	333,506	357,350	357,207	356,789	358,854	359,882	360,663	361,404

Supplied Gas Sales As Billed 2017-2027 (MDth)

Class	Rate	Category	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Residential	RSG	Heating	124,075	141,470	141,490	135,338	148,004	148,241	147,733	149,075	150,329	151,612	152,929
		Non-Heating	8,362	8,844	3,814	3,472	3,840	3,899	3,807	3,802	3,776	3,758	3,738
	Total		132,437	150,315	145,305	138,811	151,844	152,140	151,540	152,877	154,104	155,370	156,667
Commercial	GSG	Heating	17,387	19,929	19,320	16,454	18,986	18,733	18,539	18,680	18,474	18,308	18,103
		Non-Heating	2,965	3,158	3,044	2,780	2,888	2,913	3,000	3,001	3,001	3,000	2,999
		Total	20,352	23,087	22,364	19,234	21,874	21,646	21,539	21,681	21,475	21,308	21,102
	LVG		24,578	26,300	27,067	22,372	25,169	25,117	25,338	25,658	25,821	25,865	25,893
	TSG	Firm	-	-	-	-	-	-	-	-	-	-	-
		Non-Firm	942	807	840	1,108	788	788	788	788	788	788	788
		Total	942	807	840	1,108	788	788	788	788	788	788	788
	CIG		3,595	5,471	4,746	1,808	1,910	1,910	1,910	1,910	1,910	1,910	1,910
	CSG		-	-	-	-	-	-	-	-	-	-	-
	Total		49,467	55,664	55,017	44,522	49,741	49,461	49,575	50,037	49,994	49,872	49,693
Industrial	GSG	Heating	689	799	774	649	721	729	762	762	762	762	763
		Non-Heating	113	127	126	121	130	130	131	131	131	131	131
		Total	802	927	901	770	851	860	892	892	893	893	893
	LVG		1,864	2,108	2,426	1,854	2,214	2,225	2,207	2,207	2,192	2,173	2,155
	TSG	Firm	-	-	-	-	-	-	-	-	-	-	-
		Non-Firm	108	109	67	39	22	22	22	22	22	22	22
		Total	108	109	67	39	22	22	22	22	22	22	22
	CIG		564	1,020	695	613	535	535	535	535	535	535	535
	CSG		-	-	-	-	-	-	-	-	-	-	-
	Contract		1,301	-	-	-	-	-	-	-	-	-	-
Total		4,638	4,164	4,089	3,276	3,622	3,641	3,657	3,656	3,642	3,623	3,605	
Lighting	SLG		26	26	24	29	25	25	25	25	25	25	
Total			186,568	210,170	204,435	186,638	205,231	205,267	204,797	206,596	207,765	208,889	209,991

**Supplied Share of Delivered Gas Sales As Billed
2017-2027
(percent)**

Class	Rate	Category	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Residential	RSG	Heating	95%	96%	97%	97%	97%	97%	97%	97%	97%	97%	97%
		Non-Heating	94%	95%	95%	96%	96%	96%	96%	96%	96%	96%	96%
	Total		95%	96%	97%	97%	97%	97%	97%	97%	97%	97%	97%
Commercial	GSG	Heating	77%	77%	79%	79%	79%	79%	79%	79%	79%	79%	79%
		Non-Heating	75%	73%	75%	76%	77%	77%	77%	77%	77%	77%	77%
		Total	77%	76%	78%	78%	79%	79%	79%	79%	79%	79%	79%
	LVG		40%	37%	40%	37%	38%	38%	38%	38%	38%	38%	38%
	TSG	Firm	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
		Non-Firm	9%	6%	6%	12%	7%	7%	7%	7%	7%	8%	8%
		Total	9%	5%	5%	11%	7%	7%	7%	7%	7%	7%	7%
	CIG		100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
	CSG		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Total		42%	39%	44%	43%	43%	43%	43%	43%	43%	43%	43%
Industrial	GSG	Heating	79%	78%	82%	83%	83%	83%	83%	83%	83%	83%	83%
		Non-Heating	74%	75%	79%	82%	83%	83%	83%	83%	83%	83%	83%
		Total	78%	78%	82%	82%	83%	83%	83%	83%	83%	83%	83%
	LVG		26%	25%	29%	27%	28%	28%	28%	28%	28%	28%	28%
	TSG	Firm	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
		Non-Firm	1%	2%	1%	1%	0%	0%	0%	0%	0%	0%	0%
		Total	1%	1%	1%	1%	0%	0%	0%	0%	0%	0%	0%
	CIG		100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
	CSG		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Contract		15%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Total		4%	3%	3%	4%	4%	4%	4%	4%	4%	4%	4%
Lighting	SLG		39%	35%	39%	42%	39%	39%	39%	39%	39%	39%	39%
Total			49%	49%	49%	56%	57%	57%	57%	58%	58%	58%	58%

Delivered Gas Sales Calendar-Year 2017-2027 (MDth)

Class	Rate	Category	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Residential	RSG	Heating	131,801	144,199	146,339	140,696	151,526	152,014	151,316	153,700	153,979	155,321	156,582
		Non-Heating	8,866	9,044	4,065	3,319	3,985	4,051	3,952	3,967	3,920	3,902	3,879
		Total	140,667	153,243	150,404	144,015	155,511	156,065	155,268	157,666	157,899	159,223	160,461
Commercial	GSG	Heating	22,771	25,196	24,676	21,218	23,857	23,706	23,336	23,735	23,277	23,073	22,793
		Non-Heating	4,040	4,256	4,086	3,714	3,720	3,816	3,905	3,926	3,907	3,905	3,902
		Total	26,811	29,453	28,762	24,932	27,577	27,522	27,241	27,661	27,185	26,978	26,695
	LVG		61,513	68,128	67,729	60,455	66,231	66,653	66,888	68,090	68,081	68,142	68,142
	TSG	Firm	951	1,197	924	1,000	1,010	992	962	922	866	809	754
		Non-Firm	9,668	10,972	12,155	9,455	10,783	10,756	10,710	10,643	10,541	10,434	10,330
		Total	10,618	12,169	13,079	10,455	11,793	11,748	11,672	11,566	11,407	11,242	11,084
	CIG		3,408	3,568	3,373	1,376	1,910	1,910	1,910	1,910	1,910	1,910	1,910
	CSG		8,734	18,502	6,131	5,374	10,113	8,297	8,297	8,297	8,297	8,297	8,297
	Total		111,084	131,819	119,074	102,591	117,625	116,129	116,008	117,524	116,880	116,570	116,127
Industrial	GSG	Heating	875	993	943	807	843	880	910	916	910	911	910
		Non-Heating	155	166	161	149	157	158	158	159	158	158	158
		Total	1,030	1,159	1,104	957	1,000	1,037	1,068	1,075	1,068	1,068	1,068
	LVG		7,093	8,258	8,373	6,923	7,816	7,863	7,785	7,823	7,741	7,679	7,622
	TSG	Firm	1,574	1,453	1,499	1,520	1,567	1,540	1,496	1,436	1,351	1,266	1,183
		Non-Firm	15,878	5,486	6,373	5,867	5,815	5,796	5,766	5,721	5,653	5,581	5,512
		Total	17,451	6,939	7,872	7,387	7,381	7,336	7,261	7,157	7,004	6,847	6,695
	CIG		557	657	594	331	535	535	535	535	535	535	535
	CSG		72,331	86,007	99,401	70,866	68,134	68,134	68,134	68,134	68,134	68,134	68,134
	Contract		6,389	-	-	-	-	-	-	-	-	-	-
	Total		104,851	103,020	117,344	86,465	84,867	84,906	84,783	84,725	84,482	84,264	84,055
Lighting	SLG		66	72	62	69	64	64	64	64	64	64	64
Total			356,668	388,153	386,884	333,140	358,067	357,164	356,123	359,979	359,325	360,121	360,707

Supplied Gas Sales Calendar-Year 2017-2027 (MDth)

Class	Rate	Category	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Residential	RSG	Heating	125,315	137,603	141,644	136,807	147,604	148,080	147,399	149,722	149,994	151,302	152,530
		Non-Heating	8,365	8,561	3,859	3,187	3,829	3,893	3,798	3,812	3,767	3,750	3,728
	Total		133,680	146,164	145,502	139,994	151,433	151,973	151,198	153,534	153,761	155,052	156,259
Commercial	GSG	Heating	17,569	19,242	19,479	16,762	18,829	18,745	18,463	18,780	18,427	18,268	18,050
		Non-Heating	2,976	3,083	3,053	2,804	2,856	2,926	2,994	3,010	2,995	2,994	2,991
		Total	20,545	22,325	22,531	19,567	21,685	21,671	21,457	21,790	21,422	21,262	21,041
	LVG		24,708	25,405	26,878	22,105	25,344	25,154	25,264	25,773	25,774	25,811	25,823
	TSG	Firm	-	-	-	-	-	-	-	-	-	-	-
		Non-Firm	892	699	803	1,016	788	788	788	788	788	788	788
		Total	892	699	803	1,016	788	788	788	788	788	788	788
	CIG		3,408	3,568	3,373	1,376	1,910	1,910	1,910	1,910	1,910	1,910	1,910
	CSG		-	-	-	-	-	-	-	-	-	-	-
	Total		49,553	51,997	53,586	44,063	49,727	49,522	49,419	50,261	49,894	49,771	49,562
Industrial	GSG	Heating	692	785	778	663	708	734	759	765	760	760	760
		Non-Heating	115	124	127	122	130	130	130	131	130	130	130
		Total	806	909	905	786	838	864	890	896	890	890	890
	LVG		1,877	2,082	2,428	1,859	2,244	2,225	2,200	2,214	2,187	2,167	2,148
	TSG	Firm	-	-	-	-	-	-	-	-	-	-	-
		Non-Firm	59	82	67	39	22	22	22	22	22	22	22
		Total	59	82	67	39	22	22	22	22	22	22	22
	CIG		557	657	594	331	535	535	535	535	535	535	535
Lighting	CSG		-	-	-	-	-	-	-	-	-	-	-
		Contract	805	-	-	-	-	-	-	-	-	-	-
		Total	4,104	3,731	3,994	3,015	3,639	3,646	3,647	3,667	3,634	3,614	3,596
	SLG		26	26	24	29	25	25	25	25	25	25	25
Total			187,362	201,918	203,107	187,101	204,824	205,166	204,289	207,487	207,314	208,462	209,441

**Supplied Share of Delivered Gas Sales Calendar Year
2017-2027
(percent)**

Class	Rate	Category	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Residential	RSG	Heating	95%	95%	97%	97%	97%	97%	97%	97%	97%	97%	97%
		Non-Heating	94%	95%	95%	96%	96%	96%	96%	96%	96%	96%	96%
	Total		95%	95%	97%	97%	97%	97%	97%	97%	97%	97%	97%
Commercial	GSG	Heating	77%	76%	79%	79%	79%	79%	79%	79%	79%	79%	79%
		Non-Heating	74%	72%	75%	76%	77%	77%	77%	77%	77%	77%	77%
		Total	77%	76%	78%	78%	79%	79%	79%	79%	79%	79%	79%
	LVG		40%	37%	40%	37%	38%	38%	38%	38%	38%	38%	38%
	TSG	Firm	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
		Non-Firm	9%	6%	7%	11%	7%	7%	7%	7%	7%	8%	8%
		Total	8%	6%	6%	10%	7%	7%	7%	7%	7%	7%	7%
	CIG		100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
	CSG		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Total		45%	39%	45%	43%	42%	43%	43%	43%	43%	43%	43%
Industrial	GSG	Heating	79%	79%	83%	82%	84%	83%	83%	83%	83%	83%	83%
		Non-Heating	74%	75%	79%	82%	83%	83%	83%	83%	83%	83%	83%
		Total	78%	78%	82%	82%	84%	83%	83%	83%	83%	83%	83%
	LVG		26%	25%	29%	27%	29%	28%	28%	28%	28%	28%	28%
	TSG	Firm	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
		Non-Firm	0%	1%	1%	1%	0%	0%	0%	0%	0%	0%	0%
		Total	0%	1%	1%	1%	0%	0%	0%	0%	0%	0%	0%
	CIG		100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
	CSG		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Contract		13%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Total		4%	4%	3%	3%	4%	4%	4%	4%	4%	4%	4%
Lighting	SLG		39%	37%	39%	42%	39%	39%	39%	39%	39%	39%	39%
Total			53%	52%	52%	56%	57%	57%	57%	58%	58%	58%	58%

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

**In The Matter of the Petition of
Public Service Electric and Gas Company
for Approval of Changes in its Gas Conservation Incentive
Program
(2022 PSE&G Gas Conservation Incentive Program)**

BPU Docket No. _____

DIRECT TESTIMONY

OF

**KAREN REIF
VICE PRESIDENT, RENEWABLES AND ENERGY
SOLUTIONS**

June 1, 2022

**PUBLIC SERVICE ELECTRIC AND GAS COMPANY
DIRECT TESTIMONY
OF
KAREN REIF
VICE PRESIDENT, RENEWABLES AND ENERGY SOLUTIONS**

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

A. My name is Karen B. Reif and I am the Vice President of Renewables and Energy Solutions for Public Service Electric and Gas Company (“PSE&G” or the “Company”). My principal place of business is 80 Park Plaza, Newark, New Jersey, 07102.

Q. Please describe your education and business experience.

A. I have a Bachelor of Arts degree in International Studies from Emory University, and a Master of Business Administration in Finance and Strategy from Carnegie Melon University. I have worked for PSE&G and its affiliate PSEG Services Corporation in various positions. I have also worked for ScottMadden Management Consultants as a consultant. I joined PSEG in 1995. I have held multiple positions across the organization including various roles in trading, deregulated subsidiaries, information technology and most recently, continuous improvement. I spent 14 years in the Information Technology Department, holding several leadership roles including system implementation, business relationship management and project management/quality support. Prior to becoming Vice President of Renewables and Energy Solutions, I served as the Senior Director of Continuous Improvement for PSEG Services Corporation. I established this function for PSEG, which is responsible for developing sustainable and quantifiable business improvements based on industry best practices. In July of 2018, I was named Vice President of Renewables and Energy Solutions. My professional experience includes finance, strategy, business relationships, application implementation, quality assurance, process management and program management. I have primary management and oversight responsibility for the design, planning and operations of renewable energy, electric vehicles, energy storage and energy efficiency programs.

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

2 A. The purpose of this testimony is to provide a summary of the spending activity related to
3 the Conservation Incentive Program (“CIP”) Shareholder Contribution (“SC”) over the past
4 several months, and an update on the SC expenditures to date,

5 **Q. How is the balance of your testimony organized?**

6 A. The balance of my testimony is organized as follows:

7 I. Shareholder Contribution Background

8 II. Shareholder Contribution Program Activity Summary

9 III. Shareholder Contribution Expenditure Update

10 I. Shareholder Contribution Background

11 **Q. Please describe the Shareholder Contribution funding construct.**

12 A. The Shareholder Contribution construct was established in the Company’s Clean Energy
13 Future – Energy Efficiency (“CEF-EE”) filing, which was approved on September 23, 2020 in
14 Dockets Nos. GO18101112 and EO18101113. Pursuant to the Company’s CEF-EE stipulation,
15 paragraph 38, SC pending activities may include the following:

16 The shareholder contribution will support initiatives designed to aid
17 customers in reducing their costs of natural gas and electricity and
18 to reduce each utility’s peak demand. The initiatives may include
19 efforts such as education and outreach, as well as enhancements to
20 standard incentives to further encourage customer engagement in
21 the CEF-EE Program (e.g., the distribution of free EE kits within
22 low- and moderate-income census tracts), grants to schools and
23 community organizations, and a business EE portal.

1 • Community Education and Outreach: This category covers
2 community outreach activities, such as presentations, lunch and
3 learns, outreach tables, trade shows, business conferences, and green
4 fairs. It may also include grants or initiatives with community
5 organizations. Particular emphasis will be placed on low- and
6 moderate-income communities.

7 • Municipal and NGO (non-governmental organization) Outreach:
8 This category includes activities to work with municipalities and
9 other organizations and may include funding for special studies or
10 projects and partnerships to promote EE.

11 • Customer Engagement: This category includes activities to increase
12 customer awareness and engagement in programs, including
13 enhanced incentives for promotional purposes, such as the offering
14 of a flash sale. Particular emphasis will be placed on low- and
15 moderate-income customers. A business engagement portal may be
16 explored to evaluate the potential to provide customized information
17 to this diverse customer segment.

18 • Energy Efficient Economy: This category supports efforts to engage
19 and develop a diverse supplier and workforce base to support the
20 delivery of EE services.

II. Shareholder Contribution Program Activity Summary

Q. Please describe the programs and initiatives that the SC funds support.

A. Consistent with the provisions of the CEF-EE stipulation and order, SC spending activity includes the following initiatives and programs:

- PSE&G's Job's Program Training Site: Funding was used for modifications to a training site that was developed with the Urban League of Essex County to support the PSE&G Clean Energy Jobs program. The site was built to host the BPI Air Leakage Control Installer ("ALCI") training, which is an entry-level training course for an installer position. The common area includes two separate rooms, one that includes four working stations where the majority of the hands-on training will occur, and the other with training tables and a projector to provide general classroom training. A separate room was specifically built out and designed to perform the blow-in insulation portion of the ALCI training.
- Outreach and community events: PSE&G continues to engage a diverse vendor to help drive awareness of our energy efficiency programs through many community events such as participation in the NJ Home & Garden Show, USA Wrestling, Liberty Science Center Community Evening, and Monster Truck Expo. During the December 2021 holiday season we brought an interactive vending machine to high traffic malls around New Jersey. Having a presence at these events gave us the opportunity to promote our energy efficiency Program offerings while engaging with the public to answer any questions they may have. The funding was also used to purchase promotional giveaways to support these events. We also used the funding to promote our energy efficiency programs at community greens fairs such as the North Bergen and Jersey City Green Fair.

- Organizational sponsorships: PSE&G sponsored the Clean Energy and Sustainability Analytics Center (“CESAC”) at Montclair State University’s Third Annual Clean and Sustainable Energy Summit. The summit provided us the opportunity to discuss energy efficiency and the benefits of New Jersey’s plan for a clean and sustainable energy future. This summit also provided a venue for informed participant-driven discussion on clean energy and climate change policies in New Jersey and beyond. A portion of this funding also went toward a sponsorship with the Association of New Jersey Environmental Commissions (“ANJEC”). The Company utilized this engagement to promote the benefits of energy efficiency to the attendees of the ANJEC environmental congress. The sponsorship also included a full-page ad in ANJEC’s four quarterly newsletters, which reach more than 5000 municipal officials and environmental commission members. PSE&G plans to continue to promote and raise awareness of our energy efficiency programs to this audience. The SC funding was used to sponsor the Energy Efficiency Alliance (“EEA”) of NJ Policy Conference. Our energy efficiency programs will be featured during the event through live presentations from PSE&G employees. This conference provides PSE&G with an opportunity to distribute materials, talk about our program offerings and raise awareness. Through this partnership opportunity, EEA will mention our website on social media and newsletters. The funding is also being used for a sponsorship with the New Jersey Clean Communities Council (“NJCCC”), which is a nonprofit organization charged with developing a statewide education program promoting free reusable bag giveaways. We will be sponsoring the BagUpNJ campaign which will give us the opportunity to display the PSE&G logo and Energy Efficiency URL on 5,000 bags for targeted distribution to customers in underserved communities. Another sponsorship we are supporting with SC funding is “Rutgers Day”. This sponsorship gave

us the opportunity to display our logo on information booth signage. We had a space, table and chair for exhibit on the College Avenue Campus. We promoted our program offerings to students and alumni and our logo was included on their “Meet our Sponsors” webpage.

- Marketplace free Shipping: PSE&G continues to use the funding to offer customers free shipping for orders placed in the on-line Marketplace that do not meet the \$49 minimum order amount to receive free shipping. We have seen customers continuing to place smaller orders. We especially see an uptick of this during the LED flash sales when customers are using the free shipping promotion. The continuation of this promotion has increased customer participation and encourages customers to make multiple purchases on small order of energy efficient products.

- Sustainable Jersey: The partnership with Sustainable Jersey (“SJ”) launched at the end of December 2021. PSE&G continues to partner with SJ to help New Jersey local governments make communities more sustainable. The SJ staff was trained on PSE&G’s residential and C&I programs and is in the process of designing a grants/technical assistance program. Additionally, SJ is developing proposals for elements to include in outreach toolkits, and they have developed a contact list for schools in PSE&G service territory for EmPowered Schools program recruitment. Focus group participants from municipalities and schools were selected and sessions have been conducted. Focus group summaries have identified package offerings, grant funding levels and funding for a QHEC audit and next steps.

- Liberty Science Center: This partnership is intended to create and deliver education and outreach programs for students and guests to raise awareness of PSE&G Energy Efficiency programs. These initiatives consisted of purchasing and branding four EVs that will be used by STEM educators to travel around the state to different schools in support of the

Traveling Science Program. This initiative is also designed to drive geographic diversity in raising energy efficiency awareness. The funding is also being used for the renewal of the Energy Quest exhibition, to retrofit consumer conservation messaging at the SURE House, on-going distribution of PSE&G educational pamphlets and materials for guests at the Liberty Science Center and for future community evenings.

- C&I Trade Ally Incentive: The funding provided a 10% “New Trade Ally” bonus (calculated from total incentive per project) paid directly to approved trade allies who bring in projects totaling at least 250K kWh. This bonus supported increased awareness and participation in the CEF EE C&I programs amongst our business customers and our contractor network.
- C&I Small Business Kits: The funding was used to target PSE&G small business customers with a focus on retail, hotels, restaurants and convenience stores, to cover non-incentive costs. The free small business kits introduced the PSE&G Business Energy Saver program, encouraged participation, and increased awareness. Each kit included BR30 and A19 LED bulbs, an advanced tier 1 power strip, a PSE&G EE program brochure and a product guide.

Q. Is the Company considering additional programs and initiative to support with SC funds?

A. Yes, the Company continues to explore additional initiatives and ideas for SC spending that is consistent with the SC goals delineated in the approved CEF-EE stipulation.

1 III. Shareholder Contribution Spending

2 **Q. Please summarize the SC spending the Company to date.**

3 A. As of April 30, 2022, the Company has recorded expenses of approximately \$3.4 million
4 for the initial several months of SC activity. A summary of actual expenses is included in Schedule
5 KR-GCIP-1.

6 **Q. Can you describe how the Company plans to comply with the required annual**
7 **spending, given that the electric CIP and gas CIP deferral periods are different?**

8 A. Pursuant to the CEF-EE stipulation, the Shareholder Contribution funding is to be \$3.3
9 million per year, with 55% allocated to electric distribution and 45% allocated to natural gas
10 distribution. However, the deferral periods for the electric and natural gas CIPs are not aligned;
11 the first electric deferral period is June 2021 – May 2022, and the first natural gas deferral period
12 is October 2021 – September 2022. Given this misalignment within the first year, the Company
13 determined it would be consistent with the intent of the CEF-EE stipulation and order and more
14 straightforward from a reporting standpoint to adjust the \$3.3 million within the first 18 months to
15 account for this misalignment, and then begin to report against the \$3.3 on an annual 12 month
16 basis. Therefore, the Company is targeting to spend \$3,905,000 by September 2022; \$3.3 million
17 to account for the October 2021-September 2022 period, when both electric and gas deferral
18 periods are in effect, plus an additional \$605,000, representing the June 2021-September 2021
19 period, when only the electric deferral period is in effect. Please see Schedule KR-GCIP-2 for the
20 full calculations related to this spending plan. After September 2022, the Company will spend
21 \$3.3 million every 12 months in accordance with the CEF-EE Program approval.

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

23 A. Yes, it does.

1 Schedule KR-GCIP-1

CIP recorded expenses through April 30, 2022										
Activities	Jun-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	Grand Total
PSEG's Job's Program Training Site	\$52,000									
Outreach and community events					\$ 333,180	\$ 67,508	\$ 72,858	\$63,980	\$ 1,185	\$ 538,711
Organizational sponsorships		\$23,529	\$ 2,853	\$ 2,134	\$ 1,754			\$10,612		\$ 12,366
Marketplace free Shipping			\$149,155	\$96,235	\$ 53,190	\$ 15,950	\$ 44,700	\$ 5,185	\$77,370	\$ 196,395
Sustainable Jersey					\$ 812,900					\$ 812,900
Liberty Science Center						\$500,000				\$ 500,000
Trade Allies Incentives					\$ 222,109					\$ 222,109
Small Business Kits					\$ 813,486					\$ 813,486
Total	\$52,000	\$23,529	\$152,008	\$98,369	\$2,236,619	\$583,458	\$117,558	\$79,777	\$78,555	\$3,421,873

2

Total		Percent		Annual	Monthly
\$	3,300,000	E	55%	\$1,815,000	\$151,250
		G	45%	\$1,485,000	\$123,750
Electric Deferral June 2021 - May 2022					
Gas Deferral Oct 2021 - Sep 2022					

	Reporting Time Period Spending		
	6/21-9/22	10/22-9/23	10/23-9/24
Totals			
Electric	\$2,420,000	\$1,815,000	\$1,815,000
Gas	\$1,485,000	\$1,485,000	\$1,485,000
Total	\$3,905,000	\$3,300,000	\$3,300,000

	Electric	Gas
6/1/2021	\$151,250	
7/1/2021	\$151,250	
8/1/2021	\$151,250	
9/1/2021	\$151,250	
10/1/2021	\$ 151,250	\$ 123,750
11/1/2021	\$ 151,250	\$ 123,750
12/1/2021	\$ 151,250	\$ 123,750
1/1/2022	\$ 151,250	\$ 123,750
2/1/2022	\$ 151,250	\$ 123,750
3/1/2022	\$ 151,250	\$ 123,750
4/1/2022	\$ 151,250	\$ 123,750
5/1/2022	\$ 151,250	\$ 123,750
6/1/2022	\$ 151,250	\$ 123,750
7/1/2022	\$ 151,250	\$ 123,750
8/1/2022	\$ 151,250	\$ 123,750
9/1/2022	\$ 151,250	\$ 123,750
10/1/2022	\$ 151,250	\$ 123,750
11/1/2022	\$ 151,250	\$ 123,750
12/1/2022	\$ 151,250	\$ 123,750
1/1/2023	\$ 151,250	\$ 123,750
2/1/2023	\$ 151,250	\$ 123,750
3/1/2023	\$ 151,250	\$ 123,750
4/1/2023	\$ 151,250	\$ 123,750
5/1/2023	\$ 151,250	\$ 123,750
6/1/2023	\$ 151,250	\$ 123,750
7/1/2023	\$ 151,250	\$ 123,750
8/1/2023	\$ 151,250	\$ 123,750
9/1/2023	\$ 151,250	\$ 123,750
10/1/2023	\$ 151,250	\$ 123,750
11/1/2023	\$ 151,250	\$ 123,750
12/1/2023	\$ 151,250	\$ 123,750
1/1/2024	\$ 151,250	\$ 123,750
2/1/2024	\$ 151,250	\$ 123,750
3/1/2024	\$ 151,250	\$ 123,750
4/1/2024	\$ 151,250	\$ 123,750
5/1/2024	\$ 151,250	\$ 123,750
6/1/2024	\$ 151,250	\$ 123,750
7/1/2024	\$ 151,250	\$ 123,750
8/1/2024	\$ 151,250	\$ 123,750
9/1/2024	\$ 151,250	\$ 123,750
10/1/2024	\$ 151,250	\$ 123,750
11/1/2024	\$ 151,250	\$ 123,750
12/1/2024	\$ 151,250	\$ 123,750

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

**In The Matter of the Petition of
Public Service Electric and Gas Company
for Approval of Changes in its Gas Conservation
Incentive Program
(2022 PSE&G Gas Conservation Incentive Program)**

BPU Docket No. _____

DIRECT TESTIMONY

OF

**STEPHEN SWETZ
SENIOR DIRECTOR - CORPORATE RATES AND
REVENUES REQUIREMENTS**

June 1, 2022

ATTACHMENT D

**PUBLIC SERVICE ELECTRIC AND GAS COMPANY
DIRECT TESTIMONY
OF
STEPHEN SWETZ
SENIOR DIRECTOR - CORPORATE RATES AND REVENUES REQUIREMENTS**

Q. Please state your name and business address.

A. My name is Stephen Swetz. My business address is 80 Park Plaza, T-8, Newark, New Jersey 07102.

Q. By whom are you employed and in what capacity?

A. I am the Senior Director - Corporate Rates and Revenues Requirements, PSEG Services Corporation. My credentials are set forth in the attached Schedule SS-GCIP-1.

Q. What is the purpose of your testimony?

A. The purpose of my testimony is to discuss Public Service Electric and Gas Company's ("PSE&G", "the Company") derivation of the Gas Distribution Conservation Incentive Program ("GCIP") rates for the Company's Residential Service ("RSG"), General Service ("GSG") and Large Volume Service ("LVG") rate schedules as well as the results of the Earnings and the BGSS Savings Tests as approved by the Board on September 23, 2020, in the Clean Energy Future – Energy Efficiency ("CEF-EE") Board Order in Docket Nos. GO18101112 and EO18101113 ("CEF-EE Order").

Q. Please describe the GCIP mechanism.

A. As set forth in the Testimony of PSE&G Witness Michael P. McFadden, the GCIP mechanism provides a rate adjustment related to changes in the average use per customer when compared to a baseline use per customer, removing the disincentive for

ATTACHMENT D

1 the Company to encourage customers to conserve energy. The GCIP margin deficiency
2 to be collected from customers or the margin excess to be refunded to customers is
3 calculated each month by applicable rate schedule by subtracting the baseline use per
4 customer from the actual number of customers and multiplying the difference by the
5 actual number of customer and the per therm margin rate for the month.

6 **Q. What rate schedules are included in the GCIP?**

7 A. The GCIP is applicable to each of the following customer groups:

- 8 • Group I – Residential Service Gas (“RSG”)
- 9 • Group II – General Service Gas (“GSG”); and
- 10 • Group III – Large Volume Gas (“LVG”)

11 **Q. What is the current total GCIP deferral balance?**

12 A. As shown in Attachment A, Schedule 5, the Company’s total deferral for the GCIP is
13 \$52,931,565, representing \$24,615,099 of non-weather related gas distribution margin
14 deficiencies and \$28,316,466 representing to weather related gas distribution margin.

15 **Q. Are there any limitations on the amount of margin deficiency that can be collected**
16 **from customers through the GCIP?**

17 A. Yes. There are three specific tests that are part of the GCIP:

- 18 1. Earnings Test;
- 19 2. BGSS Savings Test; and
- 20 3. Variable Margin Test.

21 The three tests are described below.

22 **Q. Please briefly describe PSE&G’s GCIP Earnings Test**

23 A. The earnings test is applicable to the total GCIP deferral, including both weather and
24 non-weather components. If the calculated Gas ROE (“GROE”) exceeds the allowed
25 ROE from the utility's last base rate case by 50 basis points or more, recovery of

ATTACHMENT D

1 revenues through the GCIP shall not be allowed for the applicable filing period and
2 shall not be carried over to subsequent filing periods.

3 **Q. How is the GROE calculated?**

4 A. The earnings test determines actual GROE based on the actual net income of the
5 utility for the most recent 12-month period divided by the average of the beginning
6 and ending common equity balances for the corresponding period.

7 **Q. What time period is utilized for the earnings tests?**

8 A. The earnings test for this filing is based on the latest available twelve month financial
9 statements filed with FERC and/or the BPU, which is October 2021 through September
10 2022 for this filing. The earnings test in this initial filing contains actual results through
11 December 2021 and forecasted results through September 2022. The Company will
12 provide an updated earnings test with all actual results when they are available.

13 **Q. What are the results of the Earnings Test?**

14 A. Please see Attachment A, Schedule 6 for the results of the Earnings Test.

15 **Q. Please describe the BGSS Savings Test.**

16 A. The BGSS Savings Test recognizes opportunities to reduce peak demand and lower
17 commodity costs through reductions in customer usage. As a result, non-weather
18 related margin is limited to the level of BGSS savings achieved when such savings
19 are less than 75 percent of the non-weather related gas distribution margin deficiency,
20 i.e. BGSS Savings Test. Any amount that exceeds the above limitation may be
21 deferred for future recovery and is subject to a recovery test in a future year

ATTACHMENT D

1 consistent with the amount by which the non-weather related gas distribution margin
2 deficiency exceeded the recovery test.

3 **Q. How is the BGSS Savings Test calculated?**

4 A. The BGSS Savings Test recognizes three categories of savings:

5 i. Category One includes the Company's permanent savings realized from its
6 permanent capacity releases or contract terminations on an ongoing basis. The
7 permanent capacity releases and contract terminations are \$45,394,957. These
8 amounts will remain after the re-setting of the GCIP benchmarks in future base rate
9 cases.

10 ii. Category Two includes BGSS gas cost savings from reductions of capacity
11 on a long-term basis, i.e., for periods of at least one (1) year. This category of savings
12 will include, but not limited to: 1) additional contract terminations; 2) release of
13 capacity to an affiliate or non-affiliate; 3) contract restructuring; 4) reductions in the
14 commodity cost of gas supply effectuated through purchasing strategies.

15 iii. Category Three is the Company's savings associated with avoided capacity
16 costs to meet customer growth on a prospective basis beginning with the first annual
17 GCIP filing following implementation of these terms. Avoided capacity costs are
18 calculated on a monthly basis and are equal to the net change in customers for GCIP
19 multiplied by the corresponding Benchmark Use per Customer and by the average
20 fixed capacity cost reflected in the Company's concurrent BGSS filing.

ATTACHMENT D

1 **Q. What are the results of the BGSS Savings Test?**

2 A. Please see Attachment A, Schedule 5 for the results of the BGSS Savings Test. The
3 results of the BGSS Savings Test did not result in a limitation on the Company's GCIP
4 recovery of non-weather related revenues.

5 **Q. Are there any other limitations on setting the GCIP?**

6 A. Yes. As stated in the CEF-EE Order, recovery of non-weather related margin
7 deficiencies is limited by a Variable Margin Revenue Test. Please see the testimony
8 of Michael P. McFadden for a description and the results of the Variable Margin
9 Revenue Test at Attachment A, Schedule 5. The application of the Variable Margin
10 Revenue Test did not result in a limitation on the Company's GCIP recovery of non-
11 weather related revenues.

12 **Q. Are there any other amounts included in the Company's request recovery?**

13 A. Yes. By Order dated September 14, 2021, the Board approved a Provisional Settlement
14 In the Matter of the Petition of Public Service Electric and Gas Company to Revise its
15 Weather Normalization Charge for the 2021-2022 Annual Period (BPU Docket No.
16 GR21060952). In the provisional settlement the parties agreed that as the remaining
17 over/under balance of the Weather Normalization Charge ("WNC") approaches zero,
18 PSE&G will make a compliance filing in the above docket to set the WNC rate to zero
19 and roll any remaining over or under recovery balance, including interest, into the
20 Company's initial Gas Conservation Incentive Program ("CIP") filing, as established
21 in I/M/O the Petition of PSE&G for Approval of its Clean Energy Future – Energy
22 Efficiency Program on a Regulated Basis, Docket Nos. GO18101112 and

ATTACHMENT D

1 EO18101113. In accordance with above, on April 20, 2022, PSE&G made a
2 compliance filing in the Docket No. GR21060952 with the Board setting the WNC rate
3 to \$0.000000 per therm effective May 1, 2022. In May 2022 the Company rolled the
4 remaining WNC balance of \$93,375 into the Company's Gas Conservation Incentive
5 Program ("GCIP") balance. The Company has included this amount in its request for
6 recovery in this matter.

7 **Q. What is the net GCIP balance to be collected from customers over the upcoming**
8 **GCIP Period?**

9 A. The total GCIP amounts to \$53,024,940 million, which represents the total weather
10 impact from October 2021 – April 2022 of \$28,316,466 million from the warmer than
11 normal weather as shown in Attachment A, Schedule 4, the non-weather GCIP deferral
12 subject to the GCIP savings test of \$24,615,099 million as shown in Attachment A,
13 Schedule 5, and \$93,375 relating to the WNC ending balance transferred to GCIP in
14 May of 2022.

ATTACHMENT D

1 **Q. Please show proposed GCIP rates.**

2 A. The GCIP rates calculated in Schedule SS-GCIP-2 are summarized below:

		GCIP Rates w/o SUT	GCIP Rates incl SUT	
Group I	RSG	\$0.027367	\$0.029180	Per Therm
Group II	GSG	\$0.027807	\$0.029649	Per Therm
Group III	LVG	\$0.003779	\$0.004029	Per Therm

3 **Q. What are the annual rate impacts to the typical residential customer?**

4 A. Based upon rates effective May 1, 2022, the annual average bill impacts of the rates
5 requested are set forth in Schedule SS-GCIP-3.

6 The annual impact of the proposed rates to the typical residential gas customer using
7 172 therms in a winter month and 1,040 therms annually would be an increase in the annual
8 bill from \$1,033.30 to \$1,063.68 or \$30.38, or approximately 2.94% (based upon Delivery
9 Rates and BGSS-RSG charges in effect May 1, 2022 and assuming that the customer receives
10 BGSS-RSG service from PSE&G).

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

12 A. Yes.

ATTACHMENT D

SCHEDULE INDEX

Schedule SS-GCIP-1	Qualifications
Schedule SS-GCIP-2	Rate Calculations
Schedule SS-GCIP-3	Residential Bill Impacts
Schedule SS-GCIP-4	Tariff Sheets

1 contributed to other filings including unbundling electric rates and Off-Tariff Rate
2 Agreements. I have had a leadership role in various economic analyses, asset valuations,
3 rate design, pricing efforts and cost of service studies.

4 I am an active member of the American Gas Association's Rate and Strategic
5 Issues Committee, the Edison Electric Institute's Rates and Regulatory Affairs Committee
6 and the New Jersey Utility Association (NJUA) Finance and Regulatory Committee.

7 **EDUCATIONAL BACKGROUND**

8 I hold a B.S. in Mechanical Engineering from Worcester Polytechnic
9 Institute and an MBA from Fairleigh Dickinson University.

LIST OF PRIOR TESTIMONIES

Company	Utility	Docket	Testimony	Date	Case / Topic
Public Service Electric & Gas Company	G		written	Jun-22	Conservation Incentive Program (GCIP)
Public Service Electric & Gas Company	E/G	GR22030152	written	Mar-22	Remediation Adjustment Charge-RAC 29
Public Service Electric & Gas Company	E	ER22020035	written	Feb-22	Electric Conservation Incentive Program (ECIP)
Public Service Electric & Gas Company	G	GR21121256	written	Dec-21	Gas System Modernization Program II (GSMPII)
Public Service Electric & Gas Company	E	ER21121242	written	Dec-21	Solar Successor Incentive Program (SuSI)
Public Service Electric & Gas Company	E/G	EO21111211 & GO21111212	written	Nov-21	Infrastructure Advancement Program (IAP)
Public Service Electric & Gas Company	E/G	ER21111209 & GR21111210	written	Nov-21	The Second Energy Strong Program (Energy Strong II)
Public Service Electric & Gas Company	E/G	ER21101201 and GR21101202	written	Oct-21	Tax Adjustment Clauses (TACs)
Public Service Electric & Gas Company	E/G	ER21070965 & GR21070966	written	Jul-21	Green Programs Recovery Charge (GPRC)-Including CA, DR, EEE, EEE Ext, EE17, S4All, S4AEXT, S4AEXT II, SLII, SLIII / Cost Recovery
Public Service Electric & Gas Company	G	ER21060952	written	Jun-21	Weather Normalization Charge / Cost Recovery
Public Service Electric & Gas Company	G	GR21060949	written	Jun-21	Gas System Modernization Program II (GSMPII) - Fifth Roll-In
Public Service Electric & Gas Company	E	ER21060948	written	Jun-21	SPRC 2021
PSEG New Haven LLC	PSEG New Haven LLC	21-06-40	written	Jun-21	PSEG 2022 AFRR
Public Service Electric & Gas Company	G	GR21060882	written	Jun-21	Margin Adjustment Charge (MAC) / Cost Recovery
Public Service Electric & Gas Company	E	ER21050859	written	May-21	Community Solar Cost Recovery
Public Service Electric & Gas Company	G	GR20120771	written	Dec-20	Gas System Modernization Program II (GSMPII) - Forth Roll-In
Public Service Electric & Gas Company	E/G	GR20120763	written	Dec-20	Remediation Adjustment Charge-RAC 28
Public Service Electric & Gas Company	E	ER20120736	written	Nov-20	The Second Energy Strong Program (Energy Strong II)
Public Service Electric & Gas Company	E/G	ER20100685 & GR20100686	written	Oct-20	Tax Adjustment Clauses (TACs)
Public Service Electric & Gas Company	E	ER20100658	written	Oct-20	Non-Utility Generation Charge (NGC) / Cost Recovery
Public Service Electric & Gas Company	E/G	ER20060467 & GR20060468	written	Jun-20	Green Programs Recovery Charge (GPRC)-Including CA, DR, EEE, EEE Ext, EE17, S4All, S4AEXT, S4AEXT II, SLII, SLIII / Cost Recovery
Public Service Electric & Gas Company	G	GR20060464	written	Jun-20	Gas System Modernization Program II (GSMPII) - Third Roll-In
Public Service Electric & Gas Company	E	ER20060454	written	Jun-20	Solar Pilot Recovery Charge (SPRC-Solar Loan I) / Cost Recovery
Public Service Electric & Gas Company	G	GR20060470	written	Jun-20	Weather Normalization Charge / Cost Recovery
Public Service Electric & Gas Company	G	GR20060384	written	Jun-20	Margin Adjustment Charge (MAC) / Cost Recovery
Public Service Electric & Gas Company	E	ER20040324	written	Apr-20	Transitional Renewable Energy Certificate Program (TREC)
Public Service Electric & Gas Company	E/G	GR20010073	written	Jan-20	Remediation Adjustment Charge-RAC 27
Public Service Electric & Gas Company	G	GR19120002	written	Dec-19	Gas System Modernization Program II (GSMPII) - Second Roll-In
Public Service Electric & Gas Company	E/G	ER19091302 & GR19091303	written	Aug-19	Tax Adjustment Clauses (TACs)
Public Service Electric & Gas Company	E/G	ER19070850	written	Jul-19	Societal Benefits Charge (SBC) / Cost Recovery
Public Service Electric & Gas Company	E/G	ER19060764 & GR19060765	written	Jun-19	Green Programs Recovery Charge (GPRC)-Including CA, DR, EEE, EEE Ext, S4All, S4AEXT, S4AEXT II, SLII, SLIII / Cost Recovery
Public Service Electric & Gas Company	G	GR19060766	written	Jun-19	Gas System Modernization Program II (GSMPII) - First Roll-In
Public Service Electric & Gas Company	G	GR19060761	written	Jun-19	Weather Normalization Charge / Cost Recovery
Public Service Electric & Gas Company	E	ER19060741	written	Jun-19	Solar Pilot Recovery Charge (SPRC-Solar Loan I) / Cost Recovery
Public Service Electric & Gas Company	E/G	EO18060629 - GO18060630	oral	Jun-19	Energy Strong II / Revenue Requirements & Rate Design
Public Service Electric & Gas Company	G	GR19060698	written	May-19	Margin Adjustment Charge (MAC) / Cost Recovery
Public Service Electric & Gas Company	E	ER19040523	written	May-19	Non-Utility Generation Charge (NGC) / Cost Recovery
Public Service Electric & Gas Company	E/G	EO18101113 - GO18101112	oral	May-19	Clean Energy Future - Energy Efficiency Program Approval
Public Service Electric & Gas Company	E	ER19040530	written	Apr-19	Madison 4kV Substation Project (Madison & Marshall)
Public Service Electric & Gas Company	E/G	EO18101113 - GO18101112	written	Dec-18	Clean Energy Future - Energy Efficiency Program Approval
Public Service Electric & Gas Company	E/G	GR18121258	written	Nov-18	Remediation Adjustment Charge-RAC 26
Public Service Electric & Gas Company	E	EO18101115	written	Oct-18	Clean Energy Future - Energy Cloud Program (EC)
Public Service Electric & Gas Company	E	EO18101111	written	Oct-18	Clean Energy Future-Electric Vehicle And Energy Storage Programs (EVES)
Public Service Electric & Gas Company	G	GR18070831	written	Jul-18	Gas System Modernization Program (GSMP) - Third Roll-In
Public Service Electric & Gas Company	E/G	ER18070688 - GR18070689	written	Jun-18	Green Programs Recovery Charge (GPRC)-Including CA, DR, EEE, EEE Ext, S4All, S4AEXT, S4AEXT II, SLII, SLIII / Cost Recovery
Public Service Electric & Gas Company	E	ER18060681	written	Jun-18	Solar Pilot Recovery Charge (SPRC-Solar Loan I) / Cost Recovery
Public Service Electric & Gas Company	G	GR18060675	written	Jun-18	Weather Normalization Charge / Cost Recovery
Public Service Electric & Gas Company	E/G	EO18060629 - GO18060630	written	Jun-18	Energy Strong II / Revenue Requirements & Rate Design
Public Service Electric & Gas Company	G	GR18060605	written	Jun-18	Margin Adjustment Charge (MAC) / Cost Recovery
Public Service Electric & Gas Company	E/G	ER18040358 - GR18040359	written	Mar-18	Energy Strong / Revenue Requirements & Rate Design - Eighth Roll-in
Public Service Electric & Gas Company	E/G	ER18030231	written	Mar-18	Tax Cuts and Job Acts of 2017
Public Service Electric & Gas Company	E/G	GR18020093	written	Feb-18	Remediation Adjustment Charge-RAC 25
Public Service Electric & Gas Company	E/G	ER18010029 and GR18010030	written	Jan-18	Base Rate Proceeding / Cost of Service & Rate Design
Public Service Electric & Gas Company	E	ER17101027	written	Sep-17	Energy Strong / Revenue Requirements & Rate Design - Seventh Roll-in
Public Service Electric & Gas Company	G	GR17070776	written	Jul-17	Gas System Modernization Program II (GSMP II)
Public Service Electric & Gas Company	G	GR17070775	written	Jul-17	Gas System Modernization Program (GSMP) - Second Roll-In
Public Service Electric & Gas Company	G	GR17060720	written	Jul-17	Weather Normalization Charge / Cost Recovery
Public Service Electric & Gas Company	E/G	ER17070724 - GR17070725	written	Jul-17	Green Programs Recovery Charge (GPRC)-Including CA, DR, EEE, EEE Ext, S4All, S4AEXT, S4AEXT II, SLII, SLIII / Cost Recovery
Public Service Electric & Gas Company	E	ER17070723	written	Jul-17	Solar Pilot Recovery Charge (SPRC-Solar Loan I) / Cost Recovery
Public Service Electric & Gas Company	G	GR17060593	written	Jun-17	Margin Adjustment Charge (MAC) / Cost Recovery
Public Service Electric & Gas Company	E/G	ER17030324 - GR17030325	written	Mar-17	Energy Strong / Revenue Requirements & Rate Design - Sixth Roll-in
Public Service Electric & Gas Company	E/G	EO14080897	written	Mar-17	Energy Efficiency 2017 Program
Public Service Electric & Gas Company	E/G	ER17020136	written	Feb-17	Societal Benefits Charge (SBC) / Cost Recovery

LIST OF PRIOR TESTIMONIES

Company	Utility	Docket	Testimony	Date	Case / Topic
Public Service Electric & Gas Company	E/G	GR16111064	written	Nov-16	Remediation Adjustment Charge-RAC 24
Public Service Electric & Gas Company	E	ER16090918	written	Sep-16	Energy Strong / Revenue Requirements & Rate Design - Fifth Roll-in
Public Service Electric & Gas Company	E	EO16080788	written	Aug-16	Construction of Mason St Substation
Public Service Electric & Gas Company	E	ER16080785	written	Aug-16	Non-Utility Generation Charge (NGC) / Cost Recovery
Public Service Electric & Gas Company	G	GR16070711	written	Jul-16	Gas System Modernization Program (GSMP) - First Roll-In
Public Service Electric & Gas Company	G	GR16070617	written	Jul-16	Weather Normalization Charge / Cost Recovery
Public Service Electric & Gas Company	E/G	ER16070613 - GR16070614	written	Jul-16	Green Programs Recovery Charge (GPRC)-Including CA, DR, EEE, EEE Ext, S4All, S4AEXT, SLII, SLIII / Cost Recovery
Public Service Electric & Gas Company	E	ER16070616	written	Jul-16	Solar Pilot Recovery Charge (SPRC-Solar Loan I) / Cost Recovery
Public Service Electric & Gas Company	G	GR16060484	written	Jun-16	Margin Adjustment Charge (MAC) / Cost Recovery
Public Service Electric & Gas Company	E	EO16050412	written	May-16	Solar 4 All Extension II (S4AllExt II) / Revenue Requirements & Rate Design
Public Service Electric & Gas Company	E/G	ER16030272 - GR16030273	written	Mar-16	Energy Strong / Revenue Requirements & Rate Design - Fourth Roll-in
Public Service Electric & Gas Company	E/G	GR15111294	written	Nov-15	Remediation Adjustment Charge-RAC 23
Public Service Electric & Gas Company	E	ER15101180	written	Sep-15	Energy Strong / Revenue Requirements & Rate Design - Third Roll-in
Public Service Electric & Gas Company	E/G	ER15070757-GR15070758	written	Jul-15	Green Programs Recovery Charge (GPRC)-Including CA, DR, EEE, EEE Ext, S4All, S4AEXT, SLII, SLIII / Cost Recovery
Public Service Electric & Gas Company	E	ER15060754	written	Jul-15	Solar Pilot Recovery Charge (SPRC-Solar Loan I) / Cost Recovery
Public Service Electric & Gas Company	G	GR15060748	written	Jul-15	Weather Normalization Charge / Cost Recovery
Public Service Electric & Gas Company	G	GR15060646	written	Jun-15	Margin Adjustment Charge (MAC) / Cost Recovery
Public Service Electric & Gas Company	E/G	ER15050558	written	May-15	Societal Benefits Charge (SBC) / Cost Recovery
Public Service Electric & Gas Company	E	ER15050558	written	May-15	Non-Utility Generation Charge (NGC) / Cost Recovery
Public Service Electric & Gas Company	E/G	ER15030389-GR15030390	written	Mar-15	Energy Strong / Revenue Requirements & Rate Design - Second Roll-in
Public Service Electric & Gas Company	G	GR15030272	written	Feb-15	Gas System Modernization Program (GSMP)
Public Service Electric & Gas Company	E/G	GR14121411	written	Dec-14	Remediation Adjustment Charge-RAC 22
Public Service Electric & Gas Company	E/G	ER14091074	written	Sep-14	Energy Strong / Revenue Requirements & Rate Design - First Roll-in
Public Service Electric & Gas Company	E/G	EO14080897	written	Aug-14	EEE Ext II
Public Service Electric & Gas Company	G	ER14070656	written	Jul-14	Weather Normalization Charge / Cost Recovery
Public Service Electric & Gas Company	E/G	ER14070651-GR14070652	written	Jul-14	Green Programs Recovery Charge (GPRC)-Including CA, DR, EEE, EEE Ext, S4All, S4AEXT, SLII, SLIII / Cost Recovery
Public Service Electric & Gas Company	E	ER14070650	written	Jul-14	Solar Pilot Recovery Charge (SPRC-Solar Loan I) / Cost Recovery
Public Service Electric & Gas Company	G	GR14050511	written	May-14	Margin Adjustment Charge (MAC) / Cost Recovery
Public Service Electric & Gas Company	E/G	GR14040375	written	Apr-14	Remediation Adjustment Charge-RAC 21
Public Service Electric & Gas Company	E/G	ER13070603-GR13070604	written	Jun-13	Green Programs Recovery Charge (GPRC)-Including DR, EEE, EEE Ext, CA, S4All, SLII / Cost Recovery
Public Service Electric & Gas Company	E	ER13070605	written	Jul-13	Solar Pilot Recovery Charge (SPRC-Solar Loan I) / Cost Recovery
Public Service Electric & Gas Company	G	GR13070615	written	Jun-13	Weather Normalization Charge / Cost Recovery
Public Service Electric & Gas Company	G	GR13060445	written	May-13	Margin Adjustment Charge (MAC) / Cost Recovery
Public Service Electric & Gas Company	E/G	EO13020155-GO13020156	written/oral	Mar-13	Energy Strong / Revenue Requirements & Rate Design - Program Approval
Public Service Electric & Gas Company	G	GO12030188	written/oral	Mar-13	Appliance Service / Tariff Support
Public Service Electric & Gas Company	E	ER12070599	written	Jul-12	Solar Pilot Recovery Charge (SPRC-Solar Loan I) / Cost Recovery
Public Service Electric & Gas Company	E/G	ER12070606-GR12070605	written	Jul-12	RGGI Recovery Charges (RRC)-Including DR, EEE, EEE Ext, CA, S4All, SLII / Cost Recovery
Public Service Electric & Gas Company	E	EO12080721	written/oral	Jul-12	Solar Loan III (SLIII) / Revenue Requirements & Rate Design - Program Approval
Public Service Electric & Gas Company	E	EO12080721	written/oral	Jul-12	Solar 4 All Extension(S4AllExt) / Revenue Requirements & Rate Design - Program Approval
Public Service Electric & Gas Company	G	GR12060489	written	Jun-12	Margin Adjustment Charge (MAC) / Cost Recovery
Public Service Electric & Gas Company	G	GR12060583	written	Jun-12	Weather Normalization Charge / Cost Recovery
Public Service Electric & Gas Company	E/G	ER12030207	written	Mar-12	Societal Benefits Charge (SBC) / Cost Recovery
Public Service Electric & Gas Company	E	ER12030207	written	Mar-12	Non-Utility Generation Charge (NGC) / Cost Recovery
Public Service Electric & Gas Company	G	GR11060338	written	Jun-11	Margin Adjustment Charge (MAC) / Revenue Requirements & Rate Design - Program Approval
Public Service Electric & Gas Company	G	GR11060395	written	Jun-11	Weather Normalization Charge / Revenue Requirements & Rate Design - Program Approval
Public Service Electric & Gas Company	E	EO11010030	written	Jan-11	Economic Energy Efficiency Extension (EEEExt) / Revenue Requirements & Rate Design - Program Approval
Public Service Electric & Gas Company	E/G	ER10100737	written	Oct-10	RGGI Recovery Charges (RRC)-Including DR, EEE, CA, S4All, SLII / Cost Recovery
Public Service Electric & Gas Company	E/G	ER10080550	written	Aug-10	Societal Benefits Charge (SBC) / Cost Recovery
Public Service Electric & Gas Company	E	ER10080550	written	Aug-10	Non-Utility Generation Charge (NGC) / Cost Recovery
Public Service Electric & Gas Company	E/G	GR09050422	written/oral	Mar-10	Base Rate Proceeding / Cost of Service & Rate Design
Public Service Electric & Gas Company	E	ER10030220	written	Mar-10	Solar Pilot Recovery Charge (SPRC-Solar Loan I) / Cost Recovery
Public Service Electric & Gas Company	E	EO09030249	written	Mar-09	Solar Loan II(SLII) / Revenue Requirements & Rate Design - Program Approval
Public Service Electric & Gas Company	E/G	EO09010056	written	Feb-09	Economic Energy Efficiency(EEE) / Revenue Requirements & Rate Design - Program Approval
Public Service Electric & Gas Company	E	EO09020125	written	Feb-09	Solar 4 All (S4All) / Revenue Requirements & Rate Design - Program Approval
Public Service Electric & Gas Company	E	EO08080544	written	Aug-08	Demand Response (DR) / Revenue Requirements & Rate Design - Program Approval
Public Service Electric & Gas Company	E/G	ER10100737	written	Jun-08	Carbon Abatement (CA) / Revenue Requirements & Rate Design - Program Approval

**PUBLIC SERVICE ELECTRIC AND GAS
CONSERVATION INCENTIVE PROGRAM
CALCULATION OF GCIP RATES**

	GCIP Rate	RSG	GSG	LVG	Total	
(1)	CIP Carry-Forward	\$0	\$0	\$0	\$0	See Attachment A, Schedule 1 - 3, Page 1
(2)	CIP Weather	\$24,093,641	\$2,852,400	\$1,370,425	\$28,316,466	See Attachment A, Schedule 5, Page 1
(3)	CIP Non-Weather	\$18,112,177	\$5,055,691	\$1,447,231	\$24,615,099	See Attachment A, Schedule 5, Page 1
(4)	Total CIP Deferral	\$42,205,818	\$7,908,091	\$2,817,656	\$52,931,565	(4) = (1) + (2) + (3)
(5)	CIP Non-Weather Savings Recovery				\$24,615,099	See Attachment A, Schedule 5, Page 2
(6)	CIP Allocation of Non-Weather Savings Cap	74%	21%	6%	100%	(6) = (3) / Total (3)
(7)	CIP Non-Weather Allocation	\$18,112,177	\$5,055,691	\$1,447,231	\$24,615,099	(7) = Total (5) * (6)
(8)	CIP Weather	\$24,093,641	\$2,852,400	\$1,370,425	\$28,316,466	(2)
(9)	WNC Ending Balance				\$93,375	
(10)	CIP Allocation of Weather	85%	10%	5%	100%	(10) = (2) / Total (2)
(11)	CIP Allocation of WNC Ending Balance	\$79,450	\$9,406	\$4,519	\$93,375	(11) = Total (9) * (10)
(12)	CIP (Refund) / Charge	\$42,285,268	\$7,917,497	\$2,822,175	\$53,024,940	(12) = (7) + (8) + (11)
(13)	CIP Carry-Forward	\$0	\$0	\$0	\$0	(13) = (4) + (11) - (9)
(14)	Projected Use (000) *	1,549,741	285,582	748,896		Attachment A Schedules 1 - 3, Page 1
		RSG	GSG	LVG		
(15)	CIP Rate	0.027285	0.027724	0.003768		(15) = (12) / ((14) * 1000)
(16)	CIP Rate w/ Assessment	0.027367	0.027807	0.003779		(16) = (15) * (1 / (1 - (0.25% + 0.05%)))
(17)	CIP Rate w/SUT	0.029180	0.029649	0.004029		(17) = (16) * 1.06625

TYPICAL RESIDENTIAL GAS BILL IMPACTS

The effect of the proposed changes in the Gas Conservation Incentive Program (GCIP) on typical residential gas bills, if approved by the Board, is illustrated below:

Residential Gas Service					
If Your Monthly Winter Therm Use Is:	And Your Annual Therm Use Is:	Then Your Present Annual Bill (1) Would Be:	And Your Proposed Annual Bill (2) Would Be:	Your Annual Bill Change Would Be:	And Your Percent Change Would Be:
25	170	\$252.88	\$257.82	\$4.94	1.95%
50	340	402.38	412.32	9.94	2.47
100	610	648.78	666.62	17.84	2.75
159	1,000	1,002.90	1,032.09	29.19	2.91
172	1,040	1,033.30	1,063.68	30.38	2.94
200	1,210	1,185.04	1,220.36	35.32	2.98
300	1,816	1,726.66	1,779.64	52.98	3.07

- (1) Based upon Delivery Rates and Basic Gas Supply Service (BGSS-RSG) charges in effect May 1, 2022, and assumes that the customer receives commodity service from Public Service.
(2) Same as (1) except includes the proposed change in the GCIP.

Residential Gas Service					
If Your Annual Therm Use Is:	And Your Monthly Winter Therm Use Is:	Then Your Present Monthly Winter Bill (3) Would Be:	And Your Proposed Monthly Winter Bill (4) Would Be:	Your Monthly Winter Bill Change Would Be:	And Your Percent Change Would Be:
170	25	\$31.09	\$31.82	\$0.73	2.35%
340	50	53.59	55.05	1.46	2.72
610	100	99.57	102.49	2.92	2.93
1,040	172	165.08	170.10	5.02	3.04
1,210	200	190.52	196.36	5.84	3.07
1,816	300	281.46	290.21	8.75	3.11

- (3) Based upon Delivery Rates and Basic Gas Supply Service (BGSS-RSG) charges in effect May 1, 2022, and assumes that the customer receives commodity service from Public Service.
(4) Same as (3) except includes proposed change in the GCIP.

PUBLIC SERVICE ELECTRIC AND GAS COMPANY

B.P.U.N.J. No. 16 GAS

XXX Revised Sheet No. 2
Superseding
XXX Revised Sheet No. 2

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Delivery Rate Schedules as listed below:

	Rate Schedule	Sheet Nos.
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PUBLIC SERVICE ELECTRIC AND GAS COMPANY

B.P.U.N.J. No. 16 GAS

XXX Revised Sheet No. 48
Superseding
Original Sheet No. 48

CONSERVATION INCENTIVE PROGRAM

**CHARGE APPLICABLE TO
RATE SCHEDULES RSG, GSG, LVG
(Per Therm)**

	<u>Conservation Incentive Program</u>	<u>Conservation Incentive Program including SUT</u>
<u>RSG</u>	<u>\$0.027367</u>	<u>\$0.029180</u>
<u>GSG</u>	<u>\$0.027807</u>	<u>\$0.029649</u>
<u>LVG</u>	<u>\$0.003779</u>	<u>\$0.004029</u>

Conservation Incentive Program

This charge shall be applicable to the rate schedules listed above. The Conservation Incentive Program shall be based on the differences between actual and allowed usage per customer during the preceding annual period. The Conservation Incentive Mechanism shall be determined as follows:

I. DEFINITION OF TERMS AS USED HEREIN

1. Actual Number of Customers

– the Actual Number of Customers (“ANC”) shall be determined on a monthly basis for each of the Customer Class Groups to which the Conservation Incentive Program (“CIP”) Clause applies. The ANC shall equal the aggregate actual monthly Service Charge revenue for each class of customers subject to the CIP as recorded on the Company’s books, divided by the service charge rate applicable to such class of customers in each Customer Class Group.

2. Actual Usage Per Customer

– the Actual Usage per Customer (“AUC”) shall be determined in terms on a monthly basis for each of the Customer Class Groups to which the CIP applies. The AUC shall equal the aggregate actual booked sales for the month as recorded on the Company’s books divided by the ANC for the corresponding month.

3. Adjustment Period

– shall be the year beginning immediately following the conclusion of the Annual Period.

4. Annual Period

– shall be the twelve consecutive months from October 1 of one calendar year through September 30 of the following calendar year.

5. Average 13 Month Common Equity Balance

– shall be the average of the beginning and ending common equity balances based on the latest publicly available financials available before the end of the Annual Period. The Company shall provide the most recently available actual months plus forecasted data at the time of each Initial Filing. The forecasted data will be updated with actuals once the financial statements for the months have been disclosed.

6. Baseline Usage per Customer

– the Baseline Usage per Customer (“BUC”) shall be stated in terms on a monthly basis for each of the Customer Class Groups to which the CIP applies. The BUC shall be rounded to the nearest one tenth of one therm.

The BUC shall be reset each time new base rates are placed into effect through a base rate case.

Date of Issue:

Effective:

Issued by SCOTT S. JENNINGS, SVP - Corporate Planning, Strategy and Utility Finance – PSE&G

80 Park Plaza, Newark, New Jersey 07102

Filed pursuant to Order of Board of Public Utilities dated
in Docket No.

PUBLIC SERVICE ELECTRIC AND GAS COMPANY

B.P.U.N.J. No. 16 GAS

Original Sheet No. 48A

CONSERVATION INCENTIVE PROGRAM
(Continued)

7. Customer Class Group

– For purposes of determining and applying the CIP, customers shall be aggregated into three separate recovery class groups. The Customer Class Groups shall be as follows:

Group I: RSG
Group II: GSG
Group III: LVG

8. Forecast Annual Usage

– the Forecast Annual Usage (“FAU”) shall be the projected total annual throughput for all customers within the applicable Customer Class Group. The FAU shall be estimated based on normal weather.

9. Margin Revenue Factor

– the Margin Revenue Factor (“MRF”) shall be the weighted-average margin rate as quoted in the individual service classes to which the CIP applies. The MRFs by Customer Class Group are as follows:

Group I (RSG): \$0.418421
Group II (GSG): \$0.318561
Group III (LVG): \$0.045162

The MRF shall be reset each time new base rates are placed into effect, including Infrastructure Investment Program (“IIP”) or all other future base rate changes.

10. Degree Days (DD)

– the difference between 65°F and the mean daily temperature for the day. The mean daily temperature is the simple average of the 24 hourly temperature observations for a day.

11. Actual Calendar Month Degree Days

– the accumulation of the actual Degree Days for each day of a calendar month.

12. Normal Calendar Month Degree Days

– the level of calendar month degree days to which the weather portion of the CIP applies.

The normal calendar month Degree Days will be the twenty-year average of the National Oceanic and Atmospheric Administration (NOAA) First Order Weather Observation Station at the Newark airport and will be updated annually. The base level of normal HDD for the defined winter period months for the 2022-2023 Winter Period are set forth in the table below:

<u>Month</u>	<u>Normal Heating Degree Days</u>
<u>October 2022</u>	<u>227.51</u>
<u>November 2022</u>	<u>522.85</u>
<u>December 2022</u>	<u>816.04</u>
<u>January 2023</u>	<u>989.30</u>
<u>February 2023</u>	<u>837.70</u>
<u>March 2023</u>	<u>684.17</u>
<u>April 2023</u>	<u>354.26</u>
<u>May 2023</u>	<u>127.88</u>

13. Winter Period

– shall be the eight consecutive calendar months from October of one calendar year through May of the following calendar year.

Date of Issue: Issued by SCOTT S. JENNINGS, SVP - Corporate Planning, Strategy and Utility Finance –PSE&G
80 Park Plaza, Newark, New Jersey 07102
Filed pursuant to Order of Board of Public Utilities dated in Docket No. Effective:

PUBLIC SERVICE ELECTRIC AND GAS COMPANY

B.P.U.N.J. No. 16 GAS

Original Sheet No. 48B

CONSERVATION INCENTIVE PROGRAM
(Continued)

14. Degree Day Consumption Factors

– the use per degree day component of the gas sales equations by month used in forecasting firm gas sales for the applicable rate schedules. Degree day Consumption Factors for the 2022-2023 Winter Period are set forth below and presented as therms per degree day:

	<u>RSG-Residential</u>		<u>Commercial</u>			<u>Industrial</u>		
<u>Month</u>			<u>GSG</u>		<u>LVG</u>	<u>GSG</u>		<u>LVG</u>
	<u>Heating</u>	<u>Non-Heating</u>	<u>Heating</u>	<u>Non-Heating</u>		<u>Heating</u>	<u>Non-Heating</u>	
<u>Oct.-22</u>	<u>160,811</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>89,348</u>	<u>-</u>	<u>-</u>	<u>7,928</u>
<u>Nov.-22</u>	<u>244,433</u>	<u>5,658</u>	<u>37,013</u>	<u>2,590</u>	<u>89,348</u>	<u>1,219</u>	<u>142</u>	<u>7,923</u>
<u>Dec.-22</u>	<u>272,345</u>	<u>6,946</u>	<u>51,766</u>	<u>3,693</u>	<u>89,348</u>	<u>2,163</u>	<u>207</u>	<u>7,918</u>
<u>Jan.-23</u>	<u>297,514</u>	<u>8,083</u>	<u>51,990</u>	<u>3,887</u>	<u>88,519</u>	<u>2,467</u>	<u>235</u>	<u>7,781</u>
<u>Feb.-23</u>	<u>285,968</u>	<u>7,641</u>	<u>54,048</u>	<u>3,995</u>	<u>88,519</u>	<u>1,935</u>	<u>138</u>	<u>7,774</u>
<u>Mar.-23</u>	<u>285,699</u>	<u>7,871</u>	<u>54,105</u>	<u>4,008</u>	<u>88,519</u>	<u>2,217</u>	<u>239</u>	<u>7,767</u>
<u>Apr.-23</u>	<u>283,018</u>	<u>8,577</u>	<u>55,742</u>	<u>4,082</u>	<u>88,519</u>	<u>1,746</u>	<u>232</u>	<u>7,758</u>
<u>May-23</u>	<u>203,907</u>	<u>8,809</u>	<u>21,407</u>	<u>3,758</u>	<u>88,519</u>	<u>1,112</u>	<u>150</u>	<u>7,747</u>

II. BASELINE USE PER CUSTOMER

– The BUC for each Customer Class Group by month are as follows:

<u>Month</u>	<u>RSG</u>	<u>GSG</u>	<u>LVG</u>
<u>Oct.</u>	<u>38.7</u>	<u>110.8</u>	<u>2,350.0</u>
<u>Nov.</u>	<u>87.6</u>	<u>172.0</u>	<u>3,486.2</u>
<u>Dec.</u>	<u>144.9</u>	<u>320.4</u>	<u>5,220.9</u>
<u>Jan.</u>	<u>180.6</u>	<u>421.1</u>	<u>6,506.4</u>
<u>Feb.</u>	<u>153.5</u>	<u>351.6</u>	<u>5,940.9</u>
<u>Mar.</u>	<u>124.5</u>	<u>275.8</u>	<u>5,478.7</u>
<u>Apr.</u>	<u>70.4</u>	<u>170.7</u>	<u>3,703.5</u>
<u>May</u>	<u>37.0</u>	<u>80.1</u>	<u>2,037.8</u>
<u>Jun.</u>	<u>21.0</u>	<u>49.2</u>	<u>1,477.0</u>
<u>Jul.</u>	<u>18.0</u>	<u>58.5</u>	<u>1,374.6</u>
<u>Aug.</u>	<u>18.0</u>	<u>50.5</u>	<u>1,379.9</u>
<u>Sep.</u>	<u>19.5</u>	<u>52.6</u>	<u>1,322.8</u>
<u>Total Annual</u>	<u>913.7</u>	<u>2,113.3</u>	<u>40,278.7</u>

Date of Issue:

Issued by SCOTT S. JENNINGS, SVP – Corporate Planning, Strategy and Utility Finance – PSE&G
80 Park Plaza, Newark, New Jersey 07102

Filed pursuant to Order of Board of Public Utilities dated
in Docket No.

Effective:

PUBLIC SERVICE ELECTRIC AND GAS COMPANY

B.P.U.N.J. No. 16 GAS

Original Sheet No. 48C

CONSERVATION INCENTIVE PROGRAM
(Continued)

III. DETERMINATION OF THE CONSERVATION INCENTIVE PROGRAM

1. At the end of the Annual Period, a calculation shall be made that determines for each Customer Class Group the deficiency or excess to be surcharged or credited to customers pursuant to the CIP mechanism. The deficiency or excess shall be calculated each month by multiplying the result obtained from subtracting the Baseline Usage per Customer from the Actual Usage per Customer by the Actual Number of Customers and then multiplying the resulting therms by the Margin Revenue Factor.

2. The weather related change in customer usage shall be calculated as the difference between actual degree days and the above normal degree days multiplied by the consumption factors, and multiplying the result by the margin revenue factors as defined in Section I.9. of this rate schedule to determine the weather-related deficiency or excess. The weather-related amount will be subtracted from the total deficiency or excess to determine the non-weather related deficiency or excess.

3. Recovery of margin deficiency associated with non-weather related deficiency in customer usage will be subject to a BGSS savings test and a Variable Margin Revenue recovery limitation ("recovery tests"). Recovery of non-weather related margin deficiency will be limited to the smaller of (1) the level of BGSS savings achieved when such savings are less than 75 percent of the non-weather related margin deficiency, i.e. BGSS savings test, and (2) 4.0 percent of variable margins for the CIP Annual Period, i.e., Margin Revenue recovery limitation. Any amount that exceeds the above limitations may be deferred for future recovery and is subject to either or both of the recovery tests in a future year consistent with the amount by which either or both of the non-weather related margin deficiency exceeded the recovery tests. For the purposes of this calculation, the value of the weather related portion shall be calculated as set forth in Section III.2. of this rate schedule.

4. In addition, if the calculated ROE exceeds the allowed ROE from the utility's last base rate case by 50 basis points or more, recovery of lost revenues through the CIP shall not be allowed for the applicable filing period. For purposes of this section, the Company's rate of return on common equity shall be calculated by dividing the Company's net income for the applicable period as defined in the Average 13 Month Common Equity Balance by the Company's average common equity balance for the same period, all as reflected in the Company's monthly reports to the Board of Public Utilities. The Company's net income shall be calculated by subtracting from total operating income, any clause related Net Income, such as the Green Program's Recovery Charge and interest expenses. The Company's Average 13 Month Common Equity Balance shall be the ratio of Gas Net Plant (including the Gas allocation of Common Plant) to total PSE&G Net Plant for the Average 13 Month Common Equity Balance period multiplied by the Company's total common equity for the same period.

5. The amount to be surcharged or credited shall equal the eligible aggregate deficiency or excess for all months during the Annual Period determined in accordance with the provisions herein, divided by the Forecast Annual Usage for the Customer Class Group.

IV. TRACKING THE OPERATION OF THE CONSERVATION INCENTIVE PROGRAM

The revenues billed, or credits applied, net of taxes and assessments, through the application of the Conservation Incentive Program Rate shall be accumulated for each month of the Adjustment Period and applied against the CIP excess or deficiency from the Annual Period and any cumulative balances remaining from prior periods.

Date of Issue:

Effective:

Issued by SCOTT S. JENNINGS, SVP - Corporate Planning, Strategy and Utility Finance – PSE&G
80 Park Plaza, Newark, New Jersey 07102

Filed pursuant to Order of Board of Public Utilities dated
in Docket No.

PUBLIC SERVICE ELECTRIC AND GAS COMPANY

B.P.U.N.J. No. 16 GAS

XXX Revised Sheet No. 65
Superseding
XXX Revised Sheet No. 65

**RATE SCHEDULE RSG
RESIDENTIAL SERVICE**

APPLICABLE TO USE OF SERVICE FOR:

Firm delivery service for residential purposes. Customers may either purchase gas supply from a Third Party Supplier (TPS) or from Public Service's Basic Gas Supply Service default service as detailed in this rate schedule.

DELIVERY CHARGES:

Service Charge:

\$8.08 in each month [\$8.62 including New Jersey Sales and Use Tax (SUT)].

Distribution Charges:

<u>Charge</u>	<u>Charge Including SUT</u>	
\$0.405733	\$0.432613	per therm

Balancing Charge:

<u>Charge</u>	<u>Charge Including SUT</u>	
\$0.087669	\$0.093477	per Balancing Use Therm

Societal Benefits Charge:

This charge shall recover costs associated with activities that are required to be accomplished to achieve specific public policy determinations mandated by Government. Societal Benefits include: 1) Social Programs, 2) Demand Side Management Programs, 3) Manufactured Gas Plant Remediation, 4) Consumer Education, and 5) Universal Service Fund. Refer to the Societal Benefits Charge sheet of this Tariff for the current charge.

Margin Adjustment Charge:

This charge shall credit net revenue associated with Rate Schedule Non-Firm Transportation Gas Service (TSG-NF) to customers on Rate Schedules RSG, GSG, LVG, SLG and TSG-F. Refer to the Margin Adjustment Charge sheet of this Tariff for the current charge.

Green Programs Recovery Charge:

This charge is designed to recover the revenue requirements associated with the PSE&G Green Programs as approved by the Board. Refer to the Green Programs Recovery Charge sheet of this Tariff for the current charge.

~~Weather Normalization Charge:~~

~~This charge is designed to adjust base rate recoveries to offset the effects of abnormal weather on sales. The weather normalization charge applied in each winter period shall be based on the differences between actual and normal weather during the preceding winter period. Refer to the Weather Normalization Charge sheet of this Tariff for the current charge.~~

~~The Weather Normalization Charge will be combined with the Balancing Charge for billing.~~

Date of Issue:

Issued by SCOTT S. JENNINGS, SVP - Corporate Planning, Strategy and Utility Finance – PSE&G
80 Park Plaza, Newark, New Jersey 07102

Filed pursuant to Order of Board of Public Utilities dated
in Docket No.

Effective:

PUBLIC SERVICE ELECTRIC AND GAS COMPANY

XXX Revised Sheet No. 66

B.P.U.N.J. No. 16 GAS

Superseding
Original Sheet No. 66

**RATE SCHEDULE RSG
RESIDENTIAL SERVICE
(Continued)**

Tax Adjustment Credit

This mechanism is designed to return net tax benefits from the Tax Cuts and Jobs Act of 2017, and other income tax related adjustments to customers. The charge will be reset on an annual basis. Interest at the weighted average of the interest rates on PSE&G's commercial paper and bank credit lines utilized in the prior month will be accrued monthly on any under or over recovered balances. The interest rate shall be reset each month. Refer to the Tax Adjustment Credit sheet of this Tariff for the current charge.

Conservation Incentive Program Charge:

This mechanism removes the Company's disincentive for promoting conservation by truing up actual usage to a baseline per customer established in its last approved base rate case. Refer to the Conservation Incentive Program sheet of this Tariff for the current charge.

The Societal Benefits Charge, the Margin Adjustment Charge, the Green Programs Recovery Charge, ~~and~~ the Tax Adjustment Credit and the Conservation Incentive Program Charge will be combined with the Distribution Charge for billing.

COMMODITY CHARGES:

A customer may choose to receive gas supply from either:

- a) A TPS who has agreed to the terms and conditions of the Third Party Supplier Requirements portion of this Tariff, or
- b) Public Service through its Basic Gas Supply Service default service. Public Service may also supply Emergency Sales Service in certain instances where a customer selected TPS does not deliver sufficient quantities of gas.

Third Party Supply:

A customer that receives gas supply from a TPS will be charged for gas supply according to any agreement between the customer and the TPS. The customer will not be charged for commodity by Public Service, except as provided for in Emergency Sales Service below.

Emergency Sales Service:

In the event that, during any month, a customer's chosen TPS does not deliver the quantities of gas required, or if Public Service cannot confirm that the customer has an eligible TPS, Public Service may supply the deficiencies as Emergency Sales Service.

Emergency Sales Service will be offered at the sole discretion of Public Service, after taking into consideration its other firm supply obligations. Public Service reserves the right to curtail service to any customer if deliveries from customer's TPS pursuant to Third Party Supplier Requirements are curtailed.

If a customer is receiving Emergency Sales Service and does not wish to designate a TPS for future deliveries or customer, for any reason, no longer desires to receive gas supply from a TPS, the customer may receive gas supply pursuant to Public Service's Basic Gas Supply Service- RSG.

The conditions under which Emergency Sales Service will apply are detailed in Section 14 - Third Party Supplier Service Provisions of the Standard Terms and Conditions of this Tariff, and the charges for this service are defined on the Emergency Sales Service sheet of this Tariff.

Date of Issue:

Effective:

Issued by SCOTT S. JENNINGS, SVP - Corporate Planning, Strategy and Utility Finance – PSE&G
80 Park Plaza, Newark, New Jersey 07102

Filed pursuant to Order of Board of Public Utilities dated
in Docket No.

PUBLIC SERVICE ELECTRIC AND GAS COMPANY
B.P.U.N.J. No. 16 GAS

XXX Revised Sheet No. 73
Superseding
Original Sheet No. 73

**RATE SCHEDULE GSG
GENERAL SERVICE
(Continued)**

~~Weather Normalization Charge:~~

~~This charge is designed to adjust base rate recoveries to offset the effects of abnormal weather on sales. The weather normalization charge applied in each winter period shall be based on the differences between actual and normal weather during the preceding winter period. Refer to the Weather Normalization Charge sheet of this Tariff for the current charge.~~

~~The Weather Normalization Charge will be combined with the Balancing Charge for billing.~~

Tax Adjustment Credit

This mechanism is designed to return net tax benefits from the Tax Cuts and Jobs Act of 2017, and other income tax related adjustments to customers. The charge will be reset on an annual basis. Interest at the weighted average of the interest rates on PSE&G's commercial paper and bank credit lines utilized in the prior month will be accrued monthly on any under or over recovered balances. The interest rate shall be reset each month. Refer to the Tax Adjustment Credit sheet of this Tariff for the current charge.

The Tax Adjustment Credit will be combined with the distribution charge for billing.

Conservation Incentive Program Charge:

This mechanism removes the Company's disincentive for promoting conservation by truing up actual usage to a baseline per customer established in its last approved base rate case. Refer to the Conservation Incentive Program sheet of this Tariff for the current charge.

The Societal Benefits Charge, the Margin Adjustment Charge, ~~and~~ the Green Programs Recovery Charge and the Conservation Incentive Program Charge will be combined for billing.

COMMODITY CHARGES:

A customer may choose to receive gas supply from either:

- a) A TPS who has agreed to the terms and conditions of the Third Party Supplier Requirements portion of this Tariff, or
- b) Public Service through its Basic Gas Supply Service default service. Public Service may also supply Emergency Sales Service in certain instances where a customer selected TPS does not deliver sufficient quantities of gas.

Third Party Supply:

A customer that receives gas supply from a TPS will be charged for gas supply according to any agreement between the customer and the TPS. The customer will not be charged for commodity by Public Service, except as provided for in Emergency Sales Service below.

Emergency Sales Service:

In the event that, during any month, a customer's chosen TPS does not deliver the quantities of gas required, or if Public Service cannot confirm that the customer has an eligible TPS, Public Service may supply the deficiencies as Emergency Sales Service.

Emergency Sales Service will be offered at the sole discretion of Public Service, after taking into consideration its other firm supply obligations. Public Service reserves the right to curtail service to any customer if deliveries from customer's TPS pursuant to Third Party Supplier Requirements are curtailed.

Date of Issue:

Effective:

Issued by SCOTT S. JENNINGS, SVP - Corporate Planning, Strategy and Utility Finance – PSE&G
80 Park Plaza, Newark, New Jersey 07102

Filed pursuant to Order of Board of Public Utilities dated
in Docket No.

PUBLIC SERVICE ELECTRIC AND GAS COMPANY

XXX Revised Sheet No. 80

B.P.U.N.J. No. 16 GAS

Superseding
Original Sheet No. 80

**RATE SCHEDULE LVG
LARGE VOLUME SERVICE
(Continued)**

Margin Adjustment Charge:

This charge shall credit net revenue associated with Rate Schedule Non-Firm Transportation Gas Service (TSG-NF) to customers on Rate Schedules RSG, GSG, LVG, SLG and TSG-F. Refer to the Margin Adjustment Charge sheet of this Tariff for the current charge.

Green Programs Recovery Charge:

This charge is designed to recover the revenue requirements associated with the PSE&G Green Programs as approved by the Board. Refer to the Green Programs Recovery Charge sheet of this Tariff for the current charge.

~~**Weather Normalization Charge:**~~

~~This charge is designed to adjust base rate recoveries to offset the effects of abnormal weather on sales. The weather normalization charge applied in each winter period shall be based on the differences between actual and normal weather during the preceding winter period. Refer to the Weather Normalization Charge sheet of this Tariff for the current charge.~~

~~The Weather Normalization Charge will be combined with the Balancing Charge for billing.~~

Tax Adjustment Credit

This mechanism is designed to return net tax benefits from the Tax Cuts and Jobs Act of 2017, and other income tax related adjustments to customers. The charge will be reset on an annual basis. Interest at the weighted average of the interest rates on PSE&G's commercial paper and bank credit lines utilized in the prior month will be accrued monthly on any under or over recovered balances. The interest rate shall be reset each month. Refer to the Tax Adjustment Credit sheet of this Tariff for the current charge.

The Tax Adjustment Credit will be combined with the distribution charge for billing.

Conservation Incentive Program Charge:

This mechanism removes the Company's disincentive for promoting conservation by truing up actual usage to a baseline per customer established in its last approved base rate case. Refer to the Conservation Incentive Program sheet of this Tariff for the current charge.

The Societal Benefits Charge, the Margin Adjustment Charge, ~~and~~ the Green Programs Recovery Charge and the Conservation Incentive Program Charge will be combined for billing.

COMMODITY CHARGES:

A customer may choose to receive gas supply from either:

- a) A TPS who has agreed to the terms and conditions of the Third Party Supplier Requirements portion of this Tariff, or
- b) Public Service through its Basic Gas Supply Service default service. Public Service may also supply Emergency Sales Service in certain instances where a customer selected TPS does not deliver sufficient quantities of gas.

Third Party Supply:

A customer that receives gas supply from a TPS will be charged for gas supply according to any agreement between the customer and the TPS. The customer will not be charged for commodity by Public Service, except as provided for in Emergency Sales Service below.

Date of Issue:

Effective:

Issued by SCOTT S. JENNINGS, SVP - Corporate Planning, Strategy and Utility Finance – PSE&G
80 Park Plaza, Newark, New Jersey 07102

Filed pursuant to Order of Board of Public Utilities dated
in Docket No.

PUBLIC SERVICE ELECTRIC AND GAS COMPANY

XXX Revised Sheet No. 2

B.P.U.N.J. No. 16 GAS

Superseding

XXX Revised Sheet No. 2

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Delivery Rate Schedules as listed below:

	Rate Schedule	Sheet Nos.
Residential Service	RSG	65-69
General Service	GSG	72-77
Large Volume Service.....	LVG	79-84
Street Lighting Service.....	SLG	87-90
Firm Transportation Gas Service	TSG-F	93-96
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Date of Issue:

Effective:

Issued by SCOTT S. JENNINGS, SVP - Corporate Planning, Strategy and Utility Finance – PSE&G

80 Park Plaza, Newark, New Jersey 07102

Filed pursuant to Order of Board of Public Utilities dated
in Docket No.

PUBLIC SERVICE ELECTRIC AND GAS COMPANY

B.P.U.N.J. No. 16 GAS

XXX Revised Sheet No. 48
Superseding
Original Sheet No. 48

CONSERVATION INCENTIVE PROGRAM

**CHARGE APPLICABLE TO
RATE SCHEDULES RSG, GSG, LVG
(Per Therm)**

	Conservation Incentive Program	Conservation Incentive Program including SUT
RSG	\$0.027367	\$0.029180
GSG	\$0.027807	\$0.029649
LVG	\$0.003779	\$0.004029

Conservation Incentive Program

This charge shall be applicable to the rate schedules listed above. The Conservation Incentive Program shall be based on the differences between actual and allowed usage per customer during the preceding annual period. The Conservation Incentive Mechanism shall be determined as follows:

I. DEFINITION OF TERMS AS USED HEREIN

1. Actual Number of Customers

– the Actual Number of Customers (“ANC”) shall be determined on a monthly basis for each of the Customer Class Groups to which the Conservation Incentive Program (“CIP”) Clause applies. The ANC shall equal the aggregate actual monthly Service Charge revenue for each class of customers subject to the CIP as recorded on the Company’s books, divided by the service charge rate applicable to such class of customers in each Customer Class Group.

2. Actual Usage Per Customer

– the Actual Usage per Customer (“AUC”) shall be determined in therms on a monthly basis for each of the Customer Class Groups to which the CIP applies. The AUC shall equal the aggregate actual booked sales for the month as recorded on the Company’s books divided by the ANC for the corresponding month.

3. Adjustment Period

– shall be the year beginning immediately following the conclusion of the Annual Period.

4. Annual Period

– shall be the twelve consecutive months from October 1 of one calendar year through September 30 of the following calendar year.

5. Average 13 Month Common Equity Balance

– shall be the average of the beginning and ending common equity balances based on the latest publicly available financials available before the end of the Annual Period. The Company shall provide the most recently available actual months plus forecasted data at the time of each Initial Filing. The forecasted data will be updated with actuals once the financial statements for the months have been disclosed.

6. Baseline Usage per Customer

– the Baseline Usage per Customer (“BUC”) shall be stated in therms on a monthly basis for each of the Customer Class Groups to which the CIP applies. The BUC shall be rounded to the nearest one tenth of one therm.

The BUC shall be reset each time new base rates are placed into effect through a base rate case.

Date of Issue:

Effective:

Issued by SCOTT S. JENNINGS, SVP - Corporate Planning, Strategy and Utility Finance – PSE&G

80 Park Plaza, Newark, New Jersey 07102

Filed pursuant to Order of Board of Public Utilities dated
in Docket No.

PUBLIC SERVICE ELECTRIC AND GAS COMPANY

B.P.U.N.J. No. 16 GAS

Original Sheet No. 48A

**CONSERVATION INCENTIVE PROGRAM
(Continued)**

7. Customer Class Group

– For purposes of determining and applying the CIP, customers shall be aggregated into three separate recovery class groups. The Customer Class Groups shall be as follows:

Group I: RSG
Group II: GSG
Group III: LVG

8. Forecast Annual Usage

– the Forecast Annual Usage (“FAU”) shall be the projected total annual throughput for all customers within the applicable Customer Class Group. The FAU shall be estimated based on normal weather.

9. Margin Revenue Factor

– the Margin Revenue Factor (“MRF”) shall be the weighted-average margin rate as quoted in the individual service classes to which the CIP applies. The MRFs by Customer Class Group are as follows:

Group I (RSG): \$0.418421
Group II (GSG): \$0.318561
Group III (LVG): \$0.045162

The MRF shall be reset each time new base rates are placed into effect, including Infrastructure Investment Program (“IIP”) or all other future base rate changes.

10. Degree Days (DD)

– the difference between 65°F and the mean daily temperature for the day. The mean daily temperature is the simple average of the 24 hourly temperature observations for a day.

11. Actual Calendar Month Degree Days

– the accumulation of the actual Degree Days for each day of a calendar month.

12. Normal Calendar Month Degree Days

– the level of calendar month degree days to which the weather portion of the CIP applies.

The normal calendar month Degree Days will be the twenty-year average of the National Oceanic and Atmospheric Administration (NOAA) First Order Weather Observation Station at the Newark airport and will be updated annually. The base level of normal HDD for the defined winter period months for the 2022-2023 Winter Period are set forth in the table below:

Month	Normal Heating Degree Days
October 2022	227.51
November 2022	522.85
December 2022	816.04
January 2023	989.30
February 2023	837.70
March 2023	684.17
April 2023	354.26
May 2023	127.88

13. Winter Period

– shall be the eight consecutive calendar months from October of one calendar year through May of the following calendar year.

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80 Park Plaza, Newark, New Jersey 07102
Filed pursuant to Order of Board of Public Utilities dated
in Docket No. Effective:

PUBLIC SERVICE ELECTRIC AND GAS COMPANY

B.P.U.N.J. No. 16 GAS

Original Sheet No. 48B

**CONSERVATION INCENTIVE PROGRAM
(Continued)**

14. Degree Day Consumption Factors

– the use per degree day component of the gas sales equations by month used in forecasting firm gas sales for the applicable rate schedules. Degree day Consumption Factors for the 2022-2023 Winter Period are set forth below and presented as therms per degree day:

Month	RSG-Residential		Commercial			Industrial		
	Heating	Non-Heating	Heating	Non-Heating	LVG	Heating	Non-Heating	LVG
Oct.-22	160,811	-	-	-	89,348	-	-	7,928
Nov.-22	244,433	5,658	37,013	2,590	89,348	1,219	142	7,923
Dec.-22	272,345	6,946	51,766	3,693	89,348	2,163	207	7,918
Jan.-23	297,514	8,083	51,990	3,887	88,519	2,467	235	7,781
Feb.-23	285,968	7,641	54,048	3,995	88,519	1,935	138	7,774
Mar.-23	285,699	7,871	54,105	4,008	88,519	2,217	239	7,767
Apr.-23	283,018	8,577	55,742	4,082	88,519	1,746	232	7,758
May-23	203,907	8,809	21,407	3,758	88,519	1,112	150	7,747

II. BASELINE USE PER CUSTOMER

– The BUC for each Customer Class Group by month are as follows:

Month	RSG	GSG	LVG
Oct.	38.7	110.8	2,350.0
Nov.	87.6	172.0	3,486.2
Dec.	144.9	320.4	5,220.9
Jan.	180.6	421.1	6,506.4
Feb.	153.5	351.6	5,940.9
Mar.	124.5	275.8	5,478.7
Apr.	70.4	170.7	3,703.5
May	37.0	80.1	2,037.8
Jun.	21.0	49.2	1,477.0
Jul.	18.0	58.5	1,374.6
Aug.	18.0	50.5	1,379.9
Sep.	19.5	52.6	1,322.8
Total Annual	913.7	2,113.3	40,278.7

Date of Issue:

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Filed pursuant to Order of Board of Public Utilities dated
in Docket No.

Effective:

PUBLIC SERVICE ELECTRIC AND GAS COMPANY

B.P.U.N.J. No. 16 GAS

Original Sheet No. 48C

**CONSERVATION INCENTIVE PROGRAM
(Continued)**

III. DETERMINATION OF THE CONSERVATION INCENTIVE PROGRAM

1. At the end of the Annual Period, a calculation shall be made that determines for each Customer Class Group the deficiency or excess to be surcharged or credited to customers pursuant to the CIP mechanism. The deficiency or excess shall be calculated each month by multiplying the result obtained from subtracting the Baseline Usage per Customer from the Actual Usage per Customer by the Actual Number of Customers and then multiplying the resulting therms by the Margin Revenue Factor.

2. The weather related change in customer usage shall be calculated as the difference between actual degree days and the above normal degree days multiplied by the consumption factors, and multiplying the result by the margin revenue factors as defined in Section I.9. of this rate schedule to determine the weather-related deficiency or excess. The weather-related amount will be subtracted from the total deficiency or excess to determine the non-weather related deficiency or excess.

3. Recovery of margin deficiency associated with non-weather related deficiency in customer usage will be subject to a BGSS savings test and a Variable Margin Revenue recovery limitation ("recovery tests"). Recovery of non-weather related margin deficiency will be limited to the smaller of (1) the level of BGSS savings achieved when such savings are less than 75 percent of the non-weather related margin deficiency, i.e. BGSS savings test, and (2) 4.0 percent of variable margins for the CIP Annual Period, i.e., Margin Revenue recovery limitation. Any amount that exceeds the above limitations may be deferred for future recovery and is subject to either or both of the recovery tests in a future year consistent with the amount by which either or both of the non-weather related margin deficiency exceeded the recovery tests. For the purposes of this calculation, the value of the weather related portion shall be calculated as set forth in Section III.2. of this rate schedule.

4. In addition, if the calculated ROE exceeds the allowed ROE from the utility's last base rate case by 50 basis points or more, recovery of lost revenues through the CIP shall not be allowed for the applicable filing period. For purposes of this section, the Company's rate of return on common equity shall be calculated by dividing the Company's net income for the applicable period as defined in the Average 13 Month Common Equity Balance by the Company's average common equity balance for the same period, all as reflected in the Company's monthly reports to the Board of Public Utilities. The Company's net income shall be calculated by subtracting from total operating income, any clause related Net Income, such as the Green Program's Recovery Charge and interest expenses. The Company's Average 13 Month Common Equity Balance shall be the ratio of Gas Net Plant (including the Gas allocation of Common Plant) to total PSE&G Net Plant for the Average 13 Month Common Equity Balance period multiplied by the Company's total common equity for the same period.

5. The amount to be surcharged or credited shall equal the eligible aggregate deficiency or excess for all months during the Annual Period determined in accordance with the provisions herein, divided by the Forecast Annual Usage for the Customer Class Group.

IV. TRACKING THE OPERATION OF THE CONSERVATION INCENTIVE PROGRAM

The revenues billed, or credits applied, net of taxes and assessments, through the application of the Conservation Incentive Program Rate shall be accumulated for each month of the Adjustment Period and applied against the CIP excess or deficiency from the Annual Period and any cumulative balances remaining from prior periods.

Date of Issue:

Effective:

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Filed pursuant to Order of Board of Public Utilities dated
in Docket No.

PUBLIC SERVICE ELECTRIC AND GAS COMPANY

B.P.U.N.J. No. 16 GAS

XXX Revised Sheet No. 65
Superseding
XXX Revised Sheet No. 65

RATE SCHEDULE RSG
RESIDENTIAL SERVICE

APPLICABLE TO USE OF SERVICE FOR:

Firm delivery service for residential purposes. Customers may either purchase gas supply from a Third Party Supplier (TPS) or from Public Service's Basic Gas Supply Service default service as detailed in this rate schedule.

DELIVERY CHARGES:

Service Charge:

\$8.08 in each month [\$8.62 including New Jersey Sales and Use Tax (SUT)].

Distribution Charges:

<u>Charge</u>	<u>Charge</u> <u>Including SUT</u>	
\$0.405733	\$0.432613	per therm

Balancing Charge:

<u>Charge</u>	<u>Charge</u> <u>Including SUT</u>	
\$0.087669	\$0.093477	per Balancing Use Therm

Societal Benefits Charge:

This charge shall recover costs associated with activities that are required to be accomplished to achieve specific public policy determinations mandated by Government. Societal Benefits include: 1) Social Programs, 2) Demand Side Management Programs, 3) Manufactured Gas Plant Remediation, 4) Consumer Education, and 5) Universal Service Fund. Refer to the Societal Benefits Charge sheet of this Tariff for the current charge.

Margin Adjustment Charge:

This charge shall credit net revenue associated with Rate Schedule Non-Firm Transportation Gas Service (TSG-NF) to customers on Rate Schedules RSG, GSG, LVG, SLG and TSG-F. Refer to the Margin Adjustment Charge sheet of this Tariff for the current charge.

Green Programs Recovery Charge:

This charge is designed to recover the revenue requirements associated with the PSE&G Green Programs as approved by the Board. Refer to the Green Programs Recovery Charge sheet of this Tariff for the current charge.

Date of Issue:

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Filed pursuant to Order of Board of Public Utilities dated
in Docket No.

Effective:

PUBLIC SERVICE ELECTRIC AND GAS COMPANY

XXX Revised Sheet No. 66

B.P.U.N.J. No. 16 GAS

**Superseding
Original Sheet No. 66**

**RATE SCHEDULE RSG
RESIDENTIAL SERVICE
(Continued)**

Tax Adjustment Credit

This mechanism is designed to return net tax benefits from the Tax Cuts and Jobs Act of 2017, and other income tax related adjustments to customers. The charge will be reset on an annual basis. Interest at the weighted average of the interest rates on PSE&G's commercial paper and bank credit lines utilized in the prior month will be accrued monthly on any under or over recovered balances. The interest rate shall be reset each month. Refer to the Tax Adjustment Credit sheet of this Tariff for the current charge.

Conservation Incentive Program Charge:

This mechanism removes the Company's disincentive for promoting conservation by truing up actual usage to a baseline per customer established in its last approved rate case. Refer to the Conservation Incentive Program sheet of this Tariff for the current charge.

The Societal Benefits Charge, the Margin Adjustment Charge, the Green Programs Recovery Charge, the Tax Adjustment Credit and the Conservation Incentive Program Charge will be combined with the Distribution Charge for billing.

COMMODITY CHARGES:

A customer may choose to receive gas supply from either:

- a) A TPS who has agreed to the terms and conditions of the Third Party Supplier Requirements portion of this Tariff, or
- b) Public Service through its Basic Gas Supply Service default service. Public Service may also supply Emergency Sales Service in certain instances where a customer selected TPS does not deliver sufficient quantities of gas.

Third Party Supply:

A customer that receives gas supply from a TPS will be charged for gas supply according to any agreement between the customer and the TPS. The customer will not be charged for commodity by Public Service, except as provided for in Emergency Sales Service below.

Emergency Sales Service:

In the event that, during any month, a customer's chosen TPS does not deliver the quantities of gas required, or if Public Service cannot confirm that the customer has an eligible TPS, Public Service may supply the deficiencies as Emergency Sales Service.

Emergency Sales Service will be offered at the sole discretion of Public Service, after taking into consideration its other firm supply obligations. Public Service reserves the right to curtail service to any customer if deliveries from customer's TPS pursuant to Third Party Supplier Requirements are curtailed.

If a customer is receiving Emergency Sales Service and does not wish to designate a TPS for future deliveries or customer, for any reason, no longer desires to receive gas supply from a TPS, the customer may receive gas supply pursuant to Public Service's Basic Gas Supply Service- RSG.

The conditions under which Emergency Sales Service will apply are detailed in Section 14 - Third Party Supplier Service Provisions of the Standard Terms and Conditions of this Tariff, and the charges for this service are defined on the Emergency Sales Service sheet of this Tariff.

Date of Issue:

Effective:

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Filed pursuant to Order of Board of Public Utilities dated
in Docket No.

PUBLIC SERVICE ELECTRIC AND GAS COMPANY
B.P.U.N.J. No. 16 GAS

XXX Revised Sheet No. 73
Superseding
Original Sheet No. 73

RATE SCHEDULE GSG
GENERAL SERVICE
(Continued)

Tax Adjustment Credit

This mechanism is designed to return net tax benefits from the Tax Cuts and Jobs Act of 2017, and other income tax related adjustments to customers. The charge will be reset on an annual basis. Interest at the weighted average of the interest rates on PSE&G's commercial paper and bank credit lines utilized in the prior month will be accrued monthly on any under or over recovered balances. The interest rate shall be reset each month. Refer to the Tax Adjustment Credit sheet of this Tariff for the current charge.

The Tax Adjustment Credit will be combined with the distribution charge for billing.

Conservation Incentive Program Charge:

This mechanism removes the Company's disincentive for promoting conservation by truing up actual usage to a baseline per customer established in its last approved rate case. Refer to the Conservation Incentive Program sheet of this Tariff for the current charge.

The Societal Benefits Charge, the Margin Adjustment Charge, the Green Programs Recovery Charge and the Conservation Incentive Program Charge will be combined for billing.

COMMODITY CHARGES:

A customer may choose to receive gas supply from either:

- a) A TPS who has agreed to the terms and conditions of the Third Party Supplier Requirements portion of this Tariff, or
- b) Public Service through its Basic Gas Supply Service default service. Public Service may also supply Emergency Sales Service in certain instances where a customer selected TPS does not deliver sufficient quantities of gas.

Third Party Supply:

A customer that receives gas supply from a TPS will be charged for gas supply according to any agreement between the customer and the TPS. The customer will not be charged for commodity by Public Service, except as provided for in Emergency Sales Service below.

Emergency Sales Service:

In the event that, during any month, a customer's chosen TPS does not deliver the quantities of gas required, or if Public Service cannot confirm that the customer has an eligible TPS, Public Service may supply the deficiencies as Emergency Sales Service.

Emergency Sales Service will be offered at the sole discretion of Public Service, after taking into consideration its other firm supply obligations. Public Service reserves the right to curtail service to any customer if deliveries from customer's TPS pursuant to Third Party Supplier Requirements are curtailed.

Date of Issue:

Effective:

Issued by SCOTT S. JENNINGS, SVP - Corporate Planning, Strategy and Utility Finance – PSE&G
80 Park Plaza, Newark, New Jersey 07102

Filed pursuant to Order of Board of Public Utilities dated
in Docket No.

PUBLIC SERVICE ELECTRIC AND GAS COMPANY

XXX Revised Sheet No. 80

B.P.U.N.J. No. 16 GAS

**Superseding
Original Sheet No. 80**

**RATE SCHEDULE LVG
LARGE VOLUME SERVICE
(Continued)**

Margin Adjustment Charge:

This charge shall credit net revenue associated with Rate Schedule Non-Firm Transportation Gas Service (TSG-NF) to customers on Rate Schedules RSG, GSG, LVG, SLG and TSG-F. Refer to the Margin Adjustment Charge sheet of this Tariff for the current charge.

Green Programs Recovery Charge:

This charge is designed to recover the revenue requirements associated with the PSE&G Green Programs as approved by the Board. Refer to the Green Programs Recovery Charge sheet of this Tariff for the current charge.

Tax Adjustment Credit

This mechanism is designed to return net tax benefits from the Tax Cuts and Jobs Act of 2017, and other income tax related adjustments to customers. The charge will be reset on an annual basis. Interest at the weighted average of the interest rates on PSE&G's commercial paper and bank credit lines utilized in the prior month will be accrued monthly on any under or over recovered balances. The interest rate shall be reset each month. Refer to the Tax Adjustment Credit sheet of this Tariff for the current charge.

The Tax Adjustment Credit will be combined with the distribution charge for billing.

Conservation Incentive Program Charge:

This mechanism removes the Company's disincentive for promoting conservation by truing up actual usage to a baseline per customer established in its last approved rate case. Refer to the Conservation Incentive Program sheet of this Tariff for the current charge.

The Societal Benefits Charge, the Margin Adjustment Charge, the Green Programs Recovery Charge and the Conservation Incentive Program Charge will be combined for billing.

COMMODITY CHARGES:

A customer may choose to receive gas supply from either:

- a) A TPS who has agreed to the terms and conditions of the Third Party Supplier Requirements portion of this Tariff, or
- b) Public Service through its Basic Gas Supply Service default service. Public Service may also supply Emergency Sales Service in certain instances where a customer selected TPS does not deliver sufficient quantities of gas.

Third Party Supply:

A customer that receives gas supply from a TPS will be charged for gas supply according to any agreement between the customer and the TPS. The customer will not be charged for commodity by Public Service, except as provided for in Emergency Sales Service below.

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80 Park Plaza, Newark, New Jersey 07102

Filed pursuant to Order of Board of Public Utilities dated
in Docket No.

NOTICE TO PUBLIC SERVICE ELECTRIC AND GAS COMPANY GAS CUSTOMERS

In The Matter of the Petition of Public Service Electric and Gas Company for Approval of Changes in its Gas Conservation Incentive Program (2022 PSE&G Gas Conservation Incentive Program)

Notice of Filing and Notice of Public Hearings

BPU Docket No. XXXXXXXXXX

TAKE NOTICE that, on June 1, 2022, Public Service Electric and Gas Company ("PSE&G," or "Company") filed a Petition and supporting documentation with the New Jersey Board of Public Utilities ("Board" or "BPU") seeking Board approval for cost recovery associated with the Gas Conservation Incentive Program ("GCIP" or "Program").

On September 23, 2020, the Board issued an Order approving the Clean Energy Future – Energy Efficiency Program in Docket Nos. GO18101112 and EO18101113 ("Order"). In this Order, the Board approved a Conservation Incentive Program ("CIP") that removes the Company's disincentive for promoting conservation by truing up actual usage to a baseline per customer established in its last approved base rate case.

Under the Company's proposal, PSE&G seeks Board approval to recover approximately \$53.0 million which represents the total weather impact of \$28.3 million from the warmer than normal weather, the non-weather GCIP deferral subject to the GCIP savings test of \$24.6 million and \$0.093 million relating to the WNC ending balance transferred to GCIP in May of 2022. The CIP deferral is calculated by applicable rate schedule and thus some rate schedules can receive a credit while others a charge based on the difference between actual usage and the baseline by rate schedule.

The proposed Gas CIP charges, if approved by the Board, are shown in Table #1.

The approximate effect of the proposed impact on typical gas residential monthly bills, if approved by the Board, is illustrated in Table #2.

Based on the filing, a typical residential gas heating customer using 172 therms per month during the winter months and 1,040 therms on an annual basis would see an increase in the annual bill from \$1,033.30 to \$1,063.68, or \$30.38 or approximately 2.94%.

The Board has the statutory authority pursuant to N.J.S.A. 48:2-21, to establish the GCIP at levels it finds just and reasonable. Therefore, the Board may establish the GCIP at a level other than that proposed by PSE&G. As a result, the described charges may increase or decrease based upon the Board's decision.

A copy of the Company's filing is available for review online at the PSEG website at <http://www.pseg.com/pseandgfilings>.

PLEASE TAKE FURTHER NOTICE that due to the COVID-19 pandemic, virtual public hearings have been scheduled for the following date and times so that members of the public may present their views on the Company's GCIP filing.

Date:

Time:

Dial In:

Meeting ID:

Passcode:

Representatives from the Company, Board Staff, and the New Jersey Division of Rate Counsel will participate in the telephonic public hearings. Members of the public are invited to participate by utilizing the link or Dial-In number set forth above and may express their views on the GCIP filing. All comments will be made part of the final record of the proceeding and will be considered by the Board. In order to encourage full participation in this opportunity for public comment, please submit any requests for needed accommodations, such as interpreters or listening assistance, 48 hours prior to the above hearings to the Board Secretary at board.secretary@bpu.nj.gov.

The Board will also accept written and/or electronic comments. While all comments will be given equal consideration and will be made part of the final record of this proceeding, the preferred method of transmittal is via the Board's Public Document Search Tool (<https://publicaccess.bpu.state.nj.us/>). Search for the specific docket listed above, and then post the comment by utilizing the "Post Comments" button. Emailed comments may be filed with the Secretary of the Board, in PDF or Word format, to board.secretary@bpu.nj.gov.

Written comments may be submitted to the Acting Board Secretary at the Board of Public Utilities, 44 South Clinton Avenue, 1st Floor, P.O. Box 350, Trenton, New Jersey 08625-0350. All mailed or emailed comments should include the name of the petitioner and the docket number.

All comments are considered “public documents” for purposes of the State’s Open Public Records Act. Commenters may identify information that they seek to

keep confidential by submitting them in accordance with the confidentiality procedures set forth in N.J.A.C. 14:1-12.3.

Table # 1
Gas CIP Charges

Rate Schedule	GCIP Charges per Therm	
	Present Charge (Including SUT)	Proposed Charge (Including SUT)
RSG	\$0.000000	\$0.029180
GSG	0.000000	0.029649
LVG	0.000000	0.004029

Table # 2
Residential Gas Service

If Your Annual Therm Use Is:	And Your Monthly Winter Therm Use Is:	Then Your Present Monthly Winter Bill (1) Would Be:	And Your Proposed Monthly Winter Bill (2) Would Be:	Your Monthly Winter Bill Change Would Be:	And Your Monthly Percent Change Would Be:
170	25	\$31.09	\$31.82	\$0.73	2.35%
340	50	53.59	55.05	1.46	2.72
610	100	99.57	102.49	2.92	2.93
1,040	172	165.08	170.10	5.02	3.04
1,210	200	190.52	196.36	5.84	3.07
1,816	300	281.46	290.21	8.75	3.11

- (1) Based upon current Delivery Rates and Basic Gas Supply Service (BGSS-RSG) charges in effect May 1, 2022, and assumes that the customer receives commodity service from Public Service Electric and Gas Company.
(2) Same as (1) except includes the proposed GCIP.

Danielle Lopez
Associate Counsel-Regulatory

PUBLIC SERVICE ELECTRIC AND GAS COMPANY