

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

IN THE MATTER OF THE PETITION OF :
ELIZABETHTOWN GAS COMPANY :
TO REVISE ITS ENERGY EFFICIENCY : **BPU DOCKET NO. _____**
PROGRAM RIDER RATE :

CASE SUMMARY, PETITION, TESTIMONY AND SCHEDULES

July 22, 2019

**INSERT TAB:
CASE SUMMARY**

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

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In the Matter of the Petition of Elizabethtown	:	Docket No.
Gas Company to Revise Its Energy Efficiency	:	
Program Rider Rate	:	SUMMARY SHEET
-----X		

This Petition presents the request of Elizabethtown Gas Company (“Petitioner”) that the Board of Public Utilities (“Board”) accept the filing of Petitioner’s revised Energy Efficiency Program (“EEP”) Rider rate. The Petition requests authority to implement an EEP Rider rate of \$0.0074 per therm inclusive of taxes effective October 1, 2019. If approved by the Board, the proposed filing would increase the monthly bill of a residential heating customer using 100 therms by \$0.23 or 0.2%.

INSERT TAB:
PETITION AND NOTICE

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

-----X
In the Matter of the Petition of Elizabethtown : **Docket No.**
Gas Company to Revise Its Energy Efficiency :
Program Rider Rate : **PETITION**
-----X

To The Honorable Board of Public Utilities:

Petitioner, Elizabethtown Gas Company (“Petitioner”, “Elizabethtown” or “Company”), a public utility corporation duly organized under the laws of the State of New Jersey subject to the jurisdiction of the Board of Public Utilities (“Board”), respectfully states:

1. Petitioner’s principal business office is located at 520 Green Lane, Union, New Jersey 07083.
2. Communications and correspondence concerning these proceedings should be sent as follows:

Deborah M. Franco, Esq.
Regulatory Affairs Counsel
SJI Utilities
520 Green Lane
Union, New Jersey 07083
Tel No. (908) 662-8448
dfranco@sjindustries.com

Stefany Graham
Manager, Rates and Regulatory
Initiatives
SJI Utilities
1 South Jersey Place
Atlantic City, NJ 08401
Tel No. (609) 561-9000 x4352
sgraham@sjindustries.com

3. Petitioner is engaged in the business of transmission and distribution of natural and mixed gas to approximately 295,000 customers within its service territory located principally in Hunterdon, Mercer, Middlesex, Morris, Sussex, Union and Warren Counties.
4. The purpose of this filing is to revise Petitioner’s Energy Efficiency Program (“EEP”) Rider rate and to reconcile the EEP Rider costs and cost recoveries for the periods identified below.

5. The Company's filing is being made in compliance with the February 27, 2019 Board Order ("February 27 Order") in BPU Docket No. GO18070682, which authorized Elizabethtown to continue implementation of the EEP Rider rate. The EEP Rider rate enables Elizabethtown to recover through a surcharge the costs associated with certain Energy Efficiency Programs ("EE Programs"). This annual filing reconciles the costs and cost recoveries for the period commencing July 1, 2018 through June 30, 2019 ("2019 Recovery Period") and establishes a rate sufficient to recover those costs as well as the projected EE Program rate revenue requirements for the period July 1, 2019 through June 30, 2020 ("2020 Recovery Period"). This filing includes 11 months of actual data through May 2019 as well as forecasted data for June 2019.

6. Pursuant to an Order dated April 18, 2019 ("April 18 Order") issued in BPU Docket No. GR18080860, the EEP Rider rate was increased from \$0.0020 per therm to \$0.0051 per therm, inclusive of taxes, effective May 1, 2019.

7. Annexed hereto and incorporated herein is the testimony of:

Exhibit P-1: Thomas Kaufmann, Manager of Rates and Tariffs for Petitioner;

Exhibit P-2: Gary Marmo, Director, New Business Development for Petitioner; and

Exhibit P-3: Brendon J. Baatz, Vice President, Gabel Associates, Inc.

8. An Index of the MFRs referencing the responsive schedules or testimony sponsored by Mr. Kaufmann, Mr. Marmo and Mr. Baatz accompanies this Petition and is attached hereto as Exhibit A.

9. Elizabethtown's EE Programs include the following:

(i) Residential Gas HVAC and Gas Hot Water Heater Incentive Program;

- (ii) Residential Home Energy Assessment Program;
- (iii) Residential Home Energy Report (Opower) Program;
- (iv) Residential Home Weatherization for Income Qualified Customers Program; and
- (v) Commercial Steam Trap Survey and Repair Program.

Details concerning EE Program actual and estimated expenditures as well as other information are provided in Mr. Marmo's and Mr. Baatz's testimonies and supporting schedules. In accordance with the February 27 Order, Elizabethtown is authorized to offer its currently effective EE Programs through February 29, 2020.

10. Petitioner seeks to reconcile EE Program costs and cost recoveries for the 2019 Recovery Period and to recover the forecast EE Program-related revenue requirements for the 2020 Recovery Period. Information for the 2019 Recovery Period includes eleven months of actuals and one month of estimated data from July 1, 2018 through June 30, 2019. Information for the 2020 Recovery Period reflects forecast data.

11. Petitioner seeks to increase its current EEP Rider rate of \$0.0051 per therm to \$0.0074 per therm, inclusive of taxes, effective October 1, 2019 to recover a balance of \$3,220,675. The proposed rate will be assessed to all customers except those served under special contracts as filed and approved by the Board and those customers exempt from this charge pursuant to the Long-Term Capacity Agreement Pilot Program ("LCAPP"), P.L. 2011, c.9.

12. The proposed EEP Rider rate was calculated by taking the prior year true-up plus current year activity, totaling \$1,420,861, plus projected recoverable amounts for the 2020 Recovery Year of \$1,799,814 and dividing the total amount of \$3,220,675 by the projected volumes for the 2020 Recovery Year for the service classifications and customers subject to

the EEP. The resulting quotient is adjusted for applicable taxes, resulting in an EEP Rider rate of \$0.0074 per therm.

13. The MFRs in this filing contain information concerning job creation, cost/benefit analyses, energy efficiency savings, emission reductions impacts and free ridership and spillover data associated with the Company's EE Program. This information is set forth on Schedules BJB-1 through 7 sponsored by Mr. Baatz.

Overall Impact

14. The overall impact of Petitioner's filing in this proceeding is a proposed increase in the monthly bill of a residential heating customer using 100 therms by \$0.23 from \$95.17 to \$95.40, or an increase of 0.2% as compared to rates currently in effect.

Miscellaneous

15. Petitioner is serving notice and a copy of this Petition, together with a copy of the exhibits and schedules annexed hereto upon Stefanie A. Brand, Director, Rate Counsel, 140 East Front Street, 4th Floor, Trenton, New Jersey and as outlined in *N.J.A.C. 14:1-5.12*. Petitioner is attaching a proposed form of public notice to this filing as Exhibit B for review by Board Staff and Rate Counsel.

WHEREFORE, Petitioner respectfully requests that the Board (1) accept Petitioner's filing, (2) allow the proposed EEP Rider rate to become effective October 1, 2019, (3) grant any waivers of Petitioner's tariff necessitated by this filing as set forth herein and, (4) grant such other relief as the Board may deem just and proper.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Deborah M. Franco".

Deborah M. Franco, Esq.
Regulatory Affairs Counsel
SJI Utilities
520 Green Lane
Union, New Jersey 07083
Tel No. (908) 662-8448

Date: July 22, 2019

**ELIZABETHTOWN GAS COMPANY
ENERGY EFFICIENCY PROGRAM (EEP) RATE FILING
MINIMUM FILING REQUIREMENTS (MFR) INDEX**

Minimum Filing Requirements	Schedule
1. Direct FTE employment impacts as defined in Paragraph 28 of the Stipulation, including a breakdown by sub-program	BJB-5
2. A monthly revenue requirement calculation based on program expenditures, showing the actual monthly revenue requirement for each of the past twelve months or clause-review period, as well as supporting calculations, including the information related to the tax rate and revenue multiplier used in the revenue requirement calculation	TK-3
3. For the review period, actual revenues, by month and by rate class recorded under the programs	TK-5
4. Monthly beginning and ending clause balances, as well as the average balance net of tax for the 12-month period	TK-2
5. The interest rate used each month for over/under recoveries, and all supporting documentation and calculations for the interest rate	TK-6
6. The interest expense to be charged or credited to ratepayers each month	TK-2, TK-6
7. A schedule showing budgeted versus actual program costs by the following categories: administrative (all utility costs), marketing/sales, training, rebates/incentives, including inspections and quality control, program implementation (all contract costs), evaluation, and any other costs	GM-1
8. The monthly journal entries relating to regulatory asset and O&M expenses for the 12 month review period	GM-1 (is a summary of the expenses as recorded in the Company's books; copies of the actual journal entries can be made available)
9. Supporting details for all administrative costs included in the revenue requirement	GM-1
10. Information supporting the carrying cost used for the unamortized costs	TK-6
11. Number of program participants, including a breakdown by sub-program	BJB-1
12. Estimated demand and energy savings, including a breakdown by sub-program	BJB-3
13. Emissions reductions from the Program, including a breakdown by sub-program	BJB-4
14. Estimated free ridership and spillover	Exhibit P-3 - Baatz testimony, page 22
15. Participant costs (net of utility incentives), including a breakdown by sub-program	Exhibit P-3 - Baatz testimony, page 20
16. Results of program evaluations, including a breakdown by sub-program	BJB-6
17. Separate cost and recovery information for each approved program and extension.	TK-7

NOTICE OF PUBLIC HEARINGS

**IN THE MATTER OF THE PETITION OF ELIZABETHTOWN GAS COMPANY
TO REVISE ITS ENERGY EFFICIENCY PROGRAM RIDER RATE
BPU Docket No. _____**

On July 31, 2019, Elizabethtown Gas Company (“the Company”) filed a petition with the New Jersey Board of Public Utilities (“Board” or “BPU”) in BPU Docket No. GR_____ to increase the Energy Efficiency Program (“EEP”) Rider rate from \$0.0051 per therm to \$0.0074 per therm, inclusive of applicable taxes, effective October 1, 2019. The proposed rate is designed to recover the Company’s energy efficiency program costs amounting to \$3.2 million. The proposed rate is subject to Board approval and may be higher or lower depending on the Board’s final determination and the date on which such rate is made effective. A comparison of the Company’s current rate to the proposed rate is as follows:

	Current Rate	Proposed Rate
	<u>Per Therm</u>	<u>Per Therm</u>
EEP	\$0.0051	\$0.0074

The effect of the Company's filing to a typical residential customer using an average of 100 therms per month is as follows as compared to rates currently in effect:

Consumption in Therms	Present Bill July 1, 2019	Proposed Bill October 1, 2019	Proposed Change	Percent Change
100	\$95.17	\$95.40	\$0.23	0.2%

Any assistance required by customers in ascertaining the impact of the proposed rate increase will be furnished by the Company upon request.

Copies of the Petition are available for inspection at the Company’s offices located at 520 Green Lane, Union, New Jersey, online at Elizabethtown’s website: www.elizabethtowngas.com/rates-and-tariff under regulatory information, and at the Board of Public Utilities, 44 South Clinton Avenue, 7th Floor, Trenton, New Jersey.

PLEASE TAKE NOTICE that Public Hearings have been scheduled on the above-mentioned Petition at the following times and places:

Date and Time
Hunterdon County Complex, Route 12, Building #1, Flemington, New Jersey 08822

Date and Time
Liberty Hall Corporate Center, 1085 Morris Avenue, Union, New Jersey 07083

The public is invited to attend and interested persons will be permitted to make a statement of their views on the proposed increase. Information provided at the public hearings will become part of the record of this case and will be considered by the Board in making its decision. In order to encourage full participation in this opportunity for public comment, please submit requests for needed accommodations, including an interpreter, listening devices and/or mobility assistance, 48 hours prior to these hearings. In addition, members of the public may submit written comments concerning the Petition to the Board regardless of whether they attend the hearing by addressing them to: Office of the Secretary, Board of Public Utilities, 44 South Clinton Avenue, 3rd Floor, Suite 314, P.O. Box 350, Trenton, New Jersey 08625-0350.

**Elizabethtown Gas Company
Christie McMullen – President and Chief Operating Officer**

INSERT TAB:
THOMAS KAUFMANN

**IN THE MATTER OF THE PETITION OF
ELIZABETHTOWN GAS COMPANY TO REVISE
ITS ENERGY EFFICIENCY PROGRAM RIDER RATE**

BPU DOCKET NO. _____

DIRECT TESTIMONY

OF

THOMAS KAUFMANN

**On Behalf Of
Elizabethtown Gas Company**

Exhibit P-1

July 22, 2019

**ELIZABETHTOWN GAS COMPANY
DIRECT TESTIMONY OF
THOMAS KAUFMANN**

1 **I. INTRODUCTION**

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

3 **A.** My name is Thomas Kaufmann. My business address is 520 Green Lane, Union,
4 New Jersey 07083.

5 **Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?**

6 **A.** I am employed by Elizabethtown Gas Company (“Elizabethtown” or “Company”) as
7 Manager of Rates and Tariffs.

8 **Q. WHAT IS THE SCOPE OF YOUR DUTIES AT ELIZABETHTOWN?**

9 **A.** I am responsible for designing and developing rates and rate schedules for regulatory
10 filings with the New Jersey Board of Public Utilities (“Board”) and internal
11 management purposes. I also oversee daily rate department functions, including tariff
12 administration, monthly parity pricing, competitive analyses and preparation of
13 management reports.

14 **Q. PLEASE DESCRIBE YOUR PROFESSIONAL QUALIFICATIONS AND
15 BUSINESS EXPERIENCE.**

16 **A.** In June 1977, I graduated from Rutgers University, Newark, N.J. with a Bachelor of
17 Arts degree in Business Administration, majoring in accounting and economics. In
18 July 1979, I graduated from Fairleigh Dickinson University, Madison, N.J. with a
19 Masters of Business Administration, majoring in finance.

20 My professional responsibilities have encompassed financial analysis,
21 accounting, planning, and pricing in manufacturing and energy services companies in

1 both regulated and unregulated industries. In 1977, I was employed by Allied
2 Chemical Corp. as a staff accountant. In 1980, I was employed by Celanese Corp. as
3 a financial analyst. In 1981, I was employed by Suburban Propane as a Strategic
4 Planning Analyst, promoted to Manager of Rates and Pricing in 1986 and to Director
5 of Acquisitions and Business Analysis in 1990. In 1993, I was employed by
6 Concurrent Computer as a Manager, Pricing Administration. In 1996, I joined NUI
7 Corporation (“NUI”) as a Rate Analyst, was promoted to Manager of Regulatory
8 Support in August 1997 and Manager of Regulatory Affairs in February 1998, and
9 named Manager of Rates and Tariffs in July 1998. NUI was acquired by AGL
10 Resources Inc. (“AGL”) in November 2004. AGL was acquired by Southern
11 Company in July 2016. South Jersey Industries, Inc. (“SJI”) acquired Elizabethtown
12 in July 2018.

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

14 **A.** The purpose of my testimony is to support Elizabethtown’s proposed revisions to its
15 Energy Efficiency Program (“EEP”) Rider rate, formerly the Regional Greenhouse
16 Gas Initiative (“RGGI”) rate, to be assessed to all customers except those served
17 under special contracts as filed and approved by the Board and those customers
18 exempt from this charge pursuant to the Long-Term Capacity Agreement Pilot
19 Program (“LCAPP”), P.L. 2011, c. 9.

20 **Q. DOES YOUR TESTIMONY INCLUDE ANY ILLUSTRATIVE SCHEDULES?**

21 **A.** Yes. My testimony includes schedules and proposed tariff sheets that were prepared
22 under my direction and supervision. These schedules contain information responsive
23 to the Minimum Filing Requirements (“MFRs”) as referenced in the MFR Index
24 attached to the Company’s Petition as Exhibit A. The schedules are as follows:

1 **Q. WHAT EFFECTIVE DATE DOES THE COMPANY PROPOSE FOR THE**
2 **PROPOSED EEP RIDER RATE?**

3 **A.** The Company is proposing that the proposed EEP Rider rate take effect on October 1,
4 2019. The calculation of the proposed rate is based on actual and projected data from
5 July 1, 2018 through June 30, 2019 (“2019 Recovery Year”), and a projected year
6 from July 1, 2019 through June 30, 2020 (“2020 Recovery Year”).

7 **Q. WHAT IS THE BASIS FOR THE COMPANY’S PROPOSED REVISIONS TO**
8 **ITS EEP RATE?**

9 **A.** The Company’s filing is being made in compliance with the February 27, 2019 Board
10 Order (“February 27 Order”) in BPU Docket No. GO18070682, which authorized
11 Elizabethtown to continue implementation of the EEP Rider rate. The EEP Rider rate
12 enables Elizabethtown to recover through a surcharge the costs associated with
13 certain Energy Efficiency Programs (“EE Programs”). This annual filing reconciles
14 the costs and cost recoveries for the 2019 Recovery Year ending June 30, 2019 and
15 establishes a rate sufficient to recover those costs as well as the projected EE Program
16 rate revenue requirements for the 2020 Recovery Year. This filing includes 11
17 months of actual data through May 2019 as well as projected data for June 2019.

18 **III. COST RECOVERY MECHANISM**

19 **Q. PLEASE DESCRIBE THE EEP RIDER AND WHAT IT IS DESIGNED TO**
20 **RECOVER.**

21 **A.** The February 27 Order authorized the continuation of a surcharge by which
22 Elizabethtown recovers the costs associated with its EE Programs. Details
23 concerning actual expenditures and projected spending, as well as other information

1 associated with the EE Programs, are provided in Mr. Marmo's and Mr. Baatz's
2 testimonies and supporting schedules.

3 **Q. PLEASE EXPLAIN HOW THE PROPOSED EEP RATE WAS**
4 **CALCULATED.**

5 **A.** The proposed EEP rate was calculated by taking the sum of (i) the prior period
6 balance, if any, (ii) current year O&M costs, (iii) current year revenue requirements,
7 (iv) current year recoveries and (v) applicable carrying costs for the 2019 Recovery
8 Year, plus (vi) projected recoverable amounts for the 2020 Recovery Year and
9 dividing the total amount by the volumes projected for the 2020 Recovery Year for
10 the service classifications and customers subject to the EEP Rider as shown on Tariff
11 Schedule TK-1. The resulting quotient is adjusted for applicable taxes to arrive at an
12 EEP charge of \$0.0074 per therm inclusive of taxes.

13 **Q. WHAT IS THE METHODOLOGY USED TO PROJECT FIRM SALES AND**
14 **SERVICES FOR THE RECOVERY YEAR IN ORDER TO DERIVE THE**
15 **COMPANY'S PROPOSED EEP RATE?**

16 **A.** The methodology used to derive the Projected Normalized Sales and Services on EEP
17 Schedule TK-1 is the same as that used in developing the demand forecast that
18 supported Elizabethtown's Basic Gas Supply Service rate filing dated May 31, 2019.
19 As I mention above, the EEP rate is applicable to all customers except those served
20 under special contracts as filed and approved by the Board and those customers
21 exempt pursuant to the LCAPP legislation.

1 **Q. PLEASE EXPLAIN HOW INCURRED O&M COSTS AND REVENUE**
2 **REQUIREMENTS FOR PROGRAM EXPENDITURES ARE DETERMINED**
3 **AND CALCULATED.**

4 **A.** Projected O&M amounts are recoverable in the year incurred. EE Program
5 Expenditures are recoverable over a four (4) year period, as noted on EEP Schedule
6 TK-4. The calculation of the allowable monthly revenue requirement for the
7 amortized EE Program expenditures is set forth on EEP Schedule TK-3. The
8 allowable monthly recoverable amount is developed by taking EE Program
9 expenditures less accumulated amortization and accumulated deferred income tax
10 credits to derive a month end rate base. The average of the beginning and end of
11 month balances is multiplied by an after tax weighted average cost of capital
12 (“WACC”), grossed up for a revenue factor and divided by twelve (12) to derive a
13 monthly return on investment. This amount, plus the monthly amortization, results in
14 the allowable monthly revenue. The Company’s WACC rate was revised to 6.063%
15 for Federal Income Tax changes per the March 26, 2018 Board Order in Docket Nos.
16 AX18010001 and GR18030232. The WACC of 5.772% was approved in the
17 Company’s last base rate case by a Board order issued June 30, 2017 (“June 30
18 Order”) in Docket No. GR16090826. The WACC of 5.68% was approved by a
19 Board order issued August 21, 2013 (“August 21 Order”) in Docket No.
20 GO12100946. The previous WACC rate of 6.42% was applied pursuant to the April
21 11 Order. The Board’s August 3, 2009 Order (“August 3 Order”) in BPU Docket
22 Nos. EO09010056 and GO09010060 *et al.*, required the Company to initially utilize
23 the WACC rate of 6.53%.

24 **Q. HOW WERE AMORTIZATION EXPENSES CALCULATED?**

1 **A.** The amortization expenses were calculated by dividing each month's amortizable
2 expenditure by forty-eight (48) months and accumulating the amounts to the total
3 monthly amortization expenses.

4 **Q. HOW WERE DEFERRED INCOME TAXES CALCULATED?**

5 **A.** The deferred income taxes were calculated by multiplying the temporary difference
6 in the Company's tax and book amortization expense by the effective income tax rate.
7 The current income tax rate is 28.11% based on a 21% Federal income tax rate and a
8 9% State corporate business tax rate, effective January 1, 2018.

9 **Q. ARE CARRYING COSTS INCLUDED IN THE EEP CALCULATION?**

10 **A.** Yes. In accordance with the February 27 Order, the Company is permitted to recover
11 carrying costs or issue credits on its EEP over/under recovered balances. The
12 Company will continue to accrue such amounts on its deferred EEP balances for
13 recovery in subsequent years as shown on EEP Schedule TK-2.

14 **Q. HOW WERE THE CARRYING COSTS CALCULATED?**

15 **A.** Carrying cost rates are applied to each year's net prior year balance and current year
16 revenue requirements and recoveries. The interest rate is based on the Company's
17 monthly short-term debt rate on an after-tax basis and is applied monthly to the
18 average monthly EEP balance as shown on EEP Schedule TK-2. Interest on monthly
19 balances is not compounded.

20 **Q. WHAT ARE THE RECOVERIES FOR THE 2019 RECOVERY YEAR?**

21 **A.** EEP Schedule TK-5 presents the recoveries totaling \$868,787 for the 2019 Recovery
22 Year ending June 30, 2019.

23 **Q. WHAT ARE THE EE PROGRAM COSTS REFLECTED IN THE FILING?**

1 **A.** EEP Schedule TK-4 presents the expenditures for the EE Program used in setting the
2 rate. For the 2019 Recovery Year the O&M is \$281,957 and amortizable EE
3 Program Expenditures are \$1,973,305 for a total of \$2,255,262. For the 2020
4 Recovery Year, the Company is projecting an additional \$303,859 in O&M spending
5 and amortizable EE Program expenditures of \$1,400,486, for a total of \$1,704,345.
6 This results in total EE Program cumulative expenditures of \$11,442,062 from
7 inception to June 30, 2020, as shown on EEP Schedule TK-3 Column c. A
8 breakdown of these expenditures can also be found on EEP Schedules GM-1 and
9 GM-2 sponsored by Mr. Marmo.

10 **Q. WHAT LEVEL OF COSTS IS THE PROPOSED EEP RATE DESIGNED TO**
11 **RECOVER?**

12 **A.** For the 2020 Recovery Year, the EEP rate is designed to recover \$3,220,675 as set
13 forth on EEP Schedule TK-1, line 8. This amount is made up of (i) the 2019
14 Recovery Period estimated under recovery balance of \$1,420,861 as set forth on EEP
15 Schedule TK-1 line 6 and as calculated on EEP Schedule TK-2, and (ii) the 2020
16 Recovery Period projected recoverable amounts of \$1,799,814 as shown on EEP
17 Schedule TK-1 line 7 and as calculated on EEP Schedule TK-3 and TK-4. The rate
18 proposed in this filing includes spending through February 29, 2020, the conclusion
19 of the currently approved programs.

20 **Q. HAS THE COMPANY PROVIDED A SCHEDULE WITH SEPARATE COST**
21 **AND RECOVERY INFORMATION FOR EACH APPROVED PROGRAM**
22 **AND EXTENSION AS REQUIRED BY THE STIPULATION APPROVED IN**
23 **THE BOARD ORDER SIGNED DECEMBER 16, 2015 IN DOCKET NO.**
24 **GO15050504?**

1 **A.** Yes. Please see EEP Schedule TK-7 for recoverable costs by program for the period
2 July 2018 through June 2020.

3 **Q. WHAT IS THE IMPACT OF THE PROPOSED CHANGES IN THESE**
4 **RATES ON TYPICAL RESIDENTIAL CUSTOMERS?**

5 **A.** The impact of the proposed adjustment to the EEP rate for a residential heating
6 customer using 100 therms is an increase to the customer's monthly bill of \$0.23 from
7 \$95.17 to \$95.40, or an increase of 0.2%, as compared to the Company's current
8 rates.

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

10 **A.** Yes, it does.

RIDER "E"

ENERGY EFFICIENCY PROGRAM ("EEP")

Applicable to all customers except those customers under special contracts as filed and approved by the BPU and those customers exempted pursuant to the Long-Term Capacity Agreement Pilot Program ("LCAPP"), P.L. 2011 c.9, codified as N.J.S.A. 48:3-60.1. See the LCAPP Exemption Procedures at the end of the Societal Benefits Charge ("SBC") Rider "D."

The EEP shall be collected on a per therm basis and shall remain in effect until changed by order of the BPU. The applicable EEP rate is as follows:

~~\$0.0054~~ 0.0074 per therm

The rate applicable under this Rider includes provision for the New Jersey Sales and Use Tax, and when billed to customers exempt from this tax shall be reduced by the amount of such tax included therein.

The EEP enables the Company to recover all costs associated with the following energy efficiency programs approved by the Board order dated April 21, 2017 in BPU Docket Nos. GR16070618 and GO15050504:

1. Residential gas HVAC and hot water heater incentive programs;
2. Residential home energy assessment program;
3. Residential home weatherization for income qualified customers program;
4. Commercial steam trap survey and repair program; and
5. Enhanced customer education and outreach initiatives designed to encourage customers to conserve energy and lower their gas bills.

Date of Issue: ~~April 18, 2019~~ April 29, 2019

Effective: Service Rendered
on and after ~~May 1, 2019~~

Issued by: Christie McMullen, President
520 Green Lane
Union, New Jersey 07083

Filed Pursuant to Order of the Board of Public Utilities
Dated ~~April 18, 2019~~ in Docket No. ~~GR18080860~~

CLEAN

RIDER "E"

ENERGY EFFICIENCY PROGRAM ("EEP")

Applicable to all customers except those customers under special contracts as filed and approved by the BPU and those customers exempted pursuant to the Long-Term Capacity Agreement Pilot Program ("LCAPP"), P.L. 2011 c.9, codified as N.J.S.A. 48:3-60.1. See the LCAPP Exemption Procedures at the end of the Societal Benefits Charge ("SBC") Rider "D."

The EEP shall be collected on a per therm basis and shall remain in effect until changed by order of the BPU. The applicable EEP rate is as follows:

\$0.0074 per therm

The rate applicable under this Rider includes provision for the New Jersey Sales and Use Tax, and when billed to customers exempt from this tax shall be reduced by the amount of such tax included therein.

The EEP enables the Company to recover all costs associated with the following energy efficiency programs approved by the Board order dated April 21, 2017 in BPU Docket Nos. GR16070618 and GO15050504:

1. Residential gas HVAC and hot water heater incentive programs;
2. Residential home energy assessment program;
3. Residential home weatherization for income qualified customers program;
4. Commercial steam trap survey and repair program; and
5. Enhanced customer education and outreach initiatives designed to encourage customers to conserve energy and lower their gas bills.

Date of Issue:

Effective: Service Rendered
on and after

Issued by: Christie McMullen, President
520 Green Lane
Union, New Jersey 07083

Filed Pursuant to Order of the Board of Public Utilities
Dated in Docket No.

ELIZABETHTOWN GAS COMPANY
ENERGY EFFICIENCY PROGRAM ("EEP")

CALCULATION OF THE EEP RATE
through September 30, 2020
October 1, 2019 RECOVERY YEAR - 2020
Based on actuals through May 2019

1	Prior Year Balance - (Sch. TK-2)	June 30, 2018		\$957,513
	<u>Actual/Estimated Amounts Through:</u>	June 30, 2019		
2	Current Year O&M Costs (Sch. TK-2)			\$281,957
3	Current Year Revenue Requirements (Sch. TK-2)			\$1,018,743
4	Current Year Recovery Credits (Sch. TK-2)			(\$868,787)
5	Current Year Carrying Costs (Sch. TK-2)			<u>\$31,435</u>
6	Proforma Current Year TK-2 Ending Balance (Sum L1-L5)			\$1,420,861
7	<u>Projected Recoverables :</u>	June 30, 2020		
	- Revenue Requirements (Sch. TK-3)		\$1,495,955	
	- O&M Costs (Sch. TK-4)		<u>\$303,859</u>	<u>\$1,799,814</u>
8	Total Proposed Recoveries (L6+L7)			\$3,220,675
9	<u>12 Month Projected Normalized Sales and Services:</u>			
	- Residential and GLS		225,193,000	
	- Commercial		146,549,524	
	- Industrial		96,643,784	
	- NGV		161,250	
	- Cogeneration		0	468,547,558 therms
10	EEP Rate, before taxes (L8/L9)			\$0.0069 /therm
11	Sales & Use Tax @	6.625%		<u>\$0.0005</u>
12	EEP Rate (L10+L11)			<u><u>\$0.0074</u></u> /therm

ELIZABETHTOWN GAS COMPANY
ENERGY EFFICIENCY PROGRAM ("EEP")

EEP Schedule
TK-1a

CALCULATION OF THE EEP RATE
PROFROMA RATES PER KNOWN ACTUALS
Data to June 30th to Set Rate For
Based on actuals through May 2019

Before Rate Date Implementation Adjustments

	October 1, 2019 June-19	October 1, 2020 June-20	October 1, 2021 June-21	October 1, 2022 June-22	October 1, 2023 June-23	October 1, 2024 June-24
1 Prior Year (Over)/ Under Balance (Sch. TK-2)	\$1,420,861	\$107,821	(\$151,662)	(\$62,575)	(\$46,087)	(\$65,202)
2 Monthly Revenue Requirement (Sch. TK-2)	\$1,495,955	\$1,446,918	\$1,127,089	\$618,660	\$78,004	(\$13,140)
3 O&M Expenditures (Sch. TK-2)	\$303,859	\$0	\$0	\$0	\$0	\$0
4 Total Proposed Recoveries (Sum L1+L2+L3)	<u>\$3,220,675</u>	<u>\$1,554,739</u>	<u>\$975,427</u>	<u>\$556,085</u>	<u>\$31,917</u>	<u>(\$78,342)</u>
5 Projected Firm Sales (1) (Sch. TK-5) Therms	468,547,558	468,547,558	468,547,558	468,547,558	468,547,558	468,547,558
6 Rate, before taxes (L4/L5)	\$0.0069	\$0.0033	\$0.0021	\$0.0012	\$0.0001	(\$0.0002)
7 Sales & Use Tax @ 6.625%	<u>\$0.0005</u>	<u>\$0.0002</u>	<u>\$0.0001</u>	<u>\$0.0001</u>	<u>\$0.0000</u>	<u>\$0.0000</u>
8 Rate (L6+L7) per Therm	<u>\$0.0074</u>	<u>\$0.0035</u>	<u>\$0.0022</u>	<u>\$0.0013</u>	<u>\$0.0001</u>	<u>(\$0.0002)</u>

(1) All therms excluding NJBPU approved special contracts.

<u>Average Billing Changes:</u>							
Determinates	Rates 7/1/19	October 1, 2019 Prj. Billed Amt	October 1, 2020 Prj. Billed Amt	October 1, 2021 Prj. Billed Amt	October 1, 2022 Prj. Billed Amt	October 1, 2023 Prj. Billed Amt	October 1, 2024 Prj. Billed Amt
Effective EEP Rate >	\$0.0051						
<u>Residential Sales Service</u>							
12 Service Charge	\$8.19						
1,000 Volumetric Charge	\$0.8698						
Bill	\$968.08	\$970.38	\$966.48	\$965.18	\$964.28	\$963.08	\$962.78
Annual Bill Change		\$2.30	(\$3.90)	(\$1.30)	(\$0.90)	(\$1.20)	(\$0.30)
Percent Change		0.2%	(0.4%)	(0.1%)	(0.1%)	(0.1%)	0.0%
Bill Change from Base		\$2.30	(\$1.60)	(\$2.90)	(\$3.80)	(\$5.00)	(\$5.30)
Cumulative Billed							(\$16.30)
<u>Small General Service</u>							
12 Service Charge	\$21.92						
1,000 Volumetric Charge	\$0.8248						
Bill	\$1,087.84	\$1,090.14	\$1,086.24	\$1,084.94	\$1,084.04	\$1,082.84	\$1,082.54
Annual Bill Change		\$2.30	(\$3.90)	(\$1.30)	(\$0.90)	(\$1.20)	(\$0.30)
Percent Change		0.2%	(0.4%)	(0.1%)	(0.1%)	(0.1%)	0.0%
Bill Change from Base		\$2.30	(\$1.60)	(\$2.90)	(\$3.80)	(\$5.00)	(\$5.30)
Cumulative Billed							(\$16.30)
<u>General Delivery Service</u>							
12 Service Charge	\$28.90						
1,300 Demand Charge	\$0.806						
13,000 Volumetric Charge	\$0.6436						
Bill	\$9,761.40	\$9,791.30	\$9,740.60	\$9,723.70	\$9,712.00	\$9,696.40	\$9,692.50
Annual Bill Change		\$29.90	(\$50.70)	(\$16.90)	(\$11.70)	(\$15.60)	(\$3.90)
Percent Change		0.3%	(0.5%)	(0.2%)	(0.1%)	(0.2%)	0.0%
Bill Change from Base		\$29.90	(\$20.80)	(\$37.70)	(\$49.40)	(\$65.00)	(\$68.90)
Cumulative Billed							(\$211.90)

ELIZABETHTOWN GAS COMPANY
ENERGY EFFICIENCY PROGRAM ("EEP")

Carrying Costs

Based on actuals through May 2019

	Beginning <u>Balance</u>	Revenue Requirement <u>TK-3</u>	O&M <u>TK-4</u>	Recoveries <u>TK-5</u>	Ending <u>Balance</u>	Average <u>Balance</u>	Interest Rate <u>TK-6</u>	Carrying Cost <u>i=g*h/12</u>	Ending Balance plus Cum. (O)/U <u>Carrying Cost</u> <u>j=f+ cum of i</u>
<u>a</u>	<u>b</u>	<u>c</u>	<u>d</u>	<u>e</u>	<u>f=b+c+d-e</u>	<u>g=(b+f)/2</u>	<u>h</u>		
Jun-10		\$153,488	\$522,139	\$2,991,884	(\$2,316,257)	(\$2,271,904)		(\$4,351)	(\$2,320,608)
Jun-11		\$470,672	\$1,314,822	\$2,061,741	(\$2,596,855)	(\$2,712,974)		(\$7,577)	(\$2,604,432)
Jun-12		\$1,016,105	\$1,610,350	\$4,416	\$17,607	(\$49,611)		(\$2,436)	\$15,171
Jun-13		\$1,326,760	\$348,053	\$817	\$1,689,167	\$1,620,408		\$2,233	\$1,691,400
Jun-14		\$1,259,659	\$462,362	\$1,120,717	\$2,292,704	\$2,262,365		\$4,375	\$2,297,079
Jun-15		\$1,043,900	\$447,774	\$3,449,216	\$339,537	\$368,708		\$3,845	\$343,382
Jun-16		\$660,990	\$206,306	\$2,147,607	(\$936,929)	(\$917,797)		(\$904)	(\$937,833)
Jun-17		\$437,843	\$177,035	(\$12,305)	(\$310,650)	(\$339,156)		(\$4,114)	(\$314,764)
Jun-18		\$591,632	\$365,264	(\$311,656)	\$953,788	\$903,999		\$3,725	\$957,513
Jun-19	*	\$1,018,743	\$281,957	\$868,787	\$1,389,426	\$1,373,451		\$31,435	\$1,420,861
Jun-20	*	\$1,495,955	\$303,859	\$3,139,099	\$81,576	\$70,503		\$26,245	\$107,821
Jun-21	*	\$1,446,918	\$0	\$1,707,147	(\$152,408)	(\$184,949)		\$746	(\$151,662)
Jun-22	*	\$1,127,089	\$0	\$1,037,596	(\$62,169)	(\$82,622)		(\$406)	(\$62,575)
Jun-23	*	\$618,660	\$0	\$602,492	(\$46,407)	(\$51,560)		\$320	(\$46,087)
Jun-24	*	\$78,004	\$0	\$96,031	(\$64,114)	(\$62,804)		(\$1,088)	(\$65,202)
Jun-25	*	(\$13,140)	\$0	(\$80,298)	\$3,044	\$2,066		(\$1,084)	\$872
Jun-26	*	(\$13,140)	\$0	(\$8,941)	(\$1,155)	(\$608)		\$113	(\$3,214)
Total		\$12,720,138	\$6,039,921	\$18,814,350				\$51,077	

* Projected

ELIZABETHTOWN GAS COMPANY
ENERGY EFFICIENCY PROGRAM ("EEP")

Monthly Recoverable Investment
Program Expenditures - Amortized Over Four Years
Based on actuals through May 2019

	Amortizable Expenditures	Cumulative Expenditures	Average Expenditures	Amort. Months	Monthly Amortization	Accum. Amort.	Accum. Deferred Income Tax	Earnings / Rate Base	Average Rate Base	Wtd. Avg. Cost of Capital (1) After-tax	Revenue Factor	Monthly Return on Rate Base	Monthly Revenue Requirement	YTD ending June
a	b	c	d	e	f	g	h	i=c-g-h	i	k	l	m=(j)*k ¹² /12	n=m*f	
Begin Balance		\$0				\$0		\$0						
Aug-09	\$415	\$415	\$208	48	\$9	\$9	\$167	\$239	\$120	6.87%	1.71702	\$1	\$10	
Sep-09	\$58,552	\$58,967	\$29,691	48	\$1,228	\$1,237	\$23,715	\$34,015	\$17,127	6.87%	1.71702	\$168	\$1,396	
Oct-09	\$503,469	\$562,436	\$310,702	48	\$11,717	\$12,954	\$225,727	\$323,755	\$178,885	6.87%	1.71702	\$1,758	\$13,475	
Nov-09	\$9,154	\$571,590	\$567,013	48	\$11,908	\$24,862	\$224,596	\$322,132	\$322,944	6.87%	1.71702	\$3,175	\$15,083	
Dec-09	\$6,648	\$578,238	\$574,914	48	\$12,047	\$36,909	\$222,378	\$318,951	\$320,542	6.71%	1.72388	\$3,090	\$15,137	
Jan-10	\$29,746	\$607,984	\$593,111	48	\$12,666	\$49,575	\$229,394	\$329,015	\$323,983	6.53%	1.73120	\$3,052	\$15,718	
Feb-10	\$22,212	\$630,196	\$619,090	48	\$13,129	\$62,704	\$233,125	\$334,367	\$331,691	6.53%	1.73120	\$3,125	\$16,254	
Mar-10	\$67,165	\$697,361	\$663,779	48	\$14,528	\$77,232	\$254,749	\$365,380	\$349,874	6.53%	1.73120	\$3,296	\$17,824	
Apr-10	\$25,100	\$722,461	\$709,911	48	\$15,051	\$92,283	\$258,877	\$371,301	\$368,341	6.53%	1.73120	\$3,470	\$18,521	
May-10	\$45,518	\$767,979	\$745,220	48	\$16,000	\$108,283	\$271,003	\$388,693	\$379,997	6.53%	1.73120	\$3,580	\$19,580	
Jun-10	\$37,061	\$805,040	\$786,510	48	\$16,772	\$125,055	\$279,338	\$400,647	\$394,670	6.53%	1.73120	\$3,718	\$20,490	11 mos.
Jul-10	\$66,161	\$871,201	\$838,121	48	\$18,150	\$143,205	\$298,950	\$429,046	\$414,847	6.53%	1.72431	\$3,893	\$22,043	\$153,488
Aug-10	\$38,308	\$909,509	\$890,355	48	\$18,948	\$162,153	\$306,859	\$440,497	\$434,772	6.53%	1.72431	\$4,080	\$23,028	
Sep-10	\$102,354	\$1,011,863	\$960,686	48	\$21,080	\$183,233	\$340,059	\$488,571	\$464,534	6.53%	1.72431	\$4,359	\$25,439	
Oct-10	\$115,476	\$1,127,339	\$1,069,601	48	\$23,486	\$206,719	\$377,637	\$542,983	\$515,777	6.53%	1.72431	\$4,840	\$28,326	
Nov-10	\$160,103	\$1,287,442	\$1,207,391	48	\$26,822	\$233,541	\$432,082	\$621,819	\$582,401	6.53%	1.72431	\$5,465	\$32,287	
Dec-10	\$121,085	\$1,408,527	\$1,347,985	48	\$29,344	\$262,885	\$469,558	\$676,084	\$648,952	6.53%	1.72431	\$6,089	\$35,433	
Jan-11	\$316,793	\$1,725,320	\$1,566,924	48	\$35,944	\$298,829	\$584,285	\$842,206	\$759,145	6.53%	1.72431	\$7,123	\$43,067	
Feb-11	\$69,466	\$1,794,786	\$1,760,053	48	\$37,391	\$336,220	\$597,387	\$861,179	\$851,693	6.53%	1.72431	\$7,992	\$45,383	
Mar-11	\$145,466	\$1,940,252	\$1,867,519	48	\$40,422	\$376,642	\$640,298	\$923,312	\$892,246	6.53%	1.72431	\$8,372	\$48,794	
Apr-11	\$123,753	\$2,064,005	\$2,002,129	48	\$43,000	\$419,642	\$673,285	\$971,078	\$947,195	6.53%	1.72431	\$8,888	\$51,888	
May-11	\$181,299	\$2,245,304	\$2,154,655	48	\$46,777	\$466,419	\$728,238	\$1,050,647	\$1,010,863	6.53%	1.72431	\$9,485	\$56,262	
Jun-11	\$94,109	\$2,339,413	\$2,292,359	48	\$48,738	\$515,157	\$746,772	\$1,077,484	\$1,064,066	6.53%	1.72431	\$9,984	\$58,722	\$470,672
Jul-11	\$151,612	\$2,491,025	\$2,415,219	48	\$51,896	\$567,053	\$787,506	\$1,136,466	\$1,106,975	6.53%	1.72431	\$10,387	\$62,283	
Aug-11	\$225,652	\$2,716,677	\$2,603,851	48	\$56,597	\$623,650	\$856,564	\$1,236,463	\$1,186,465	6.53%	1.72431	\$11,133	\$67,730	
Sep-11	\$217,236	\$2,933,913	\$2,825,295	48	\$61,123	\$684,773	\$920,336	\$1,328,804	\$1,282,634	6.53%	1.72431	\$12,035	\$73,158	
Oct-11	\$223,848	\$3,157,761	\$3,045,837	48	\$65,787	\$750,560	\$984,905	\$1,422,296	\$1,375,550	6.53%	1.72431	\$12,907	\$78,694	
Nov-11	(\$250,636)	\$2,907,125	\$3,032,443	48	\$60,565	\$811,125	\$857,779	\$1,238,221	\$1,330,259	6.53%	1.72431	\$12,482	\$73,047	
Dec-11	\$200,118	\$3,107,243	\$3,007,184	48	\$64,734	\$875,859	\$913,083	\$1,318,301	\$1,278,261	6.53%	1.72431	\$11,994	\$76,728	
Jan-12	\$279,326	\$3,386,569	\$3,246,906	48	\$70,554	\$946,413	\$998,367	\$1,441,789	\$1,380,045	6.53%	1.72431	\$12,949	\$83,503	
Feb-12	\$256,311	\$3,642,880	\$3,514,725	48	\$75,893	\$1,022,306	\$1,072,067	\$1,548,507	\$1,495,148	6.53%	1.72431	\$14,029	\$89,922	
Mar-12	\$249,404	\$3,892,284	\$3,767,582	48	\$81,089	\$1,103,395	\$1,140,824	\$1,648,065	\$1,598,286	6.53%	1.72431	\$14,997	\$96,086	
Apr-12	\$198,955	\$4,091,239	\$3,991,762	48	\$85,234	\$1,188,629	\$1,187,279	\$1,715,331	\$1,681,698	6.49%	1.72431	\$15,683	\$100,917	
May-12	\$238,126	\$4,329,365	\$4,210,302	48	\$90,195	\$1,278,824	\$1,247,709	\$1,802,832	\$1,759,082	6.42%	1.72431	\$16,228	\$106,423	
Jun-12	\$43,972	\$4,373,337	\$4,351,351	48	\$91,111	\$1,369,935	\$1,228,452	\$1,774,950	\$1,788,891	6.42%	1.72431	\$16,503	\$107,614	\$1,016,105
Jul-12	\$8,900	\$4,382,237	\$4,377,787	48	\$91,297	\$1,461,232	\$1,194,793	\$1,726,212	\$1,750,581	6.42%	1.72431	\$16,149	\$107,446	
Aug-12	\$54,599	\$4,436,836	\$4,409,537	48	\$92,434	\$1,553,666	\$1,179,338	\$1,703,832	\$1,715,022	6.42%	1.72431	\$15,821	\$108,255	
Sep-12	\$13,890	\$4,450,726	\$4,443,781	48	\$92,723	\$1,646,389	\$1,147,134	\$1,657,203	\$1,680,518	6.42%	1.72431	\$15,503	\$108,226	
Oct-12	\$64,306	\$4,515,032	\$4,482,879	48	\$94,063	\$1,740,452	\$1,134,978	\$1,639,602	\$1,648,403	6.42%	1.72431	\$15,207	\$109,270	
Nov-12	\$25,868	\$4,540,900	\$4,527,966	48	\$94,602	\$1,835,054	\$1,106,901	\$1,598,945	\$1,619,274	6.42%	1.72431	\$14,938	\$109,540	
Dec-12	\$38,951	\$4,579,851	\$4,560,376	48	\$95,414	\$1,930,468	\$1,083,836	\$1,565,547	\$1,582,246	6.42%	1.72431	\$14,596	\$110,010	\$652,747
Jan-13	\$11,653	\$4,591,504	\$4,585,678	48	\$95,656	\$2,026,124	\$1,049,520	\$1,515,860	\$1,540,704	6.42%	1.72431	\$14,213	\$109,869	

ELIZABETHTOWN GAS COMPANY
ENERGY EFFICIENCY PROGRAM ("EEP")

Monthly Recoverable Investment
Program Expenditures - Amortized Over Four Years
Based on actuals through May 2019

	Amortizable Expenditures	Cumulative Expenditures	Average Expenditures	Amort. Months	Monthly Amortization	Accum. Amort.	Accum. Deferred Income Tax	Earnings / Rate Base	Average Rate Base	Wtd. Avg. Cost of Capital (1) After-tax	Revenue Factor	Monthly Return on Rate Base $m = (i) * k^* / 12$	Monthly Revenue Requirement $n = m * f$	YTD ending June
a	b	c	d	e	f	g	h	i=c-g-h	j	k	l	m	n	
Feb-13	\$39,889	\$4,631,393	\$4,611,449	48	\$96,487	\$2,122,611	\$1,026,400	\$1,482,382	\$1,499,121	6.42%	1.72431	\$13,829	\$110,316	
Mar-13	\$61,254	\$4,692,647	\$4,662,020	48	\$97,763	\$2,220,374	\$1,011,486	\$1,460,787	\$1,471,585	6.42%	1.72431	\$13,575	\$111,338	
Apr-13	\$115,134	\$4,807,781	\$4,750,214	48	\$100,162	\$2,320,536	\$1,017,602	\$1,469,643	\$1,465,215	6.42%	1.72431	\$13,517	\$113,679	
May-13	\$33,163	\$4,840,944	\$4,824,363	48	\$100,853	\$2,421,389	\$989,950	\$1,429,605	\$1,449,624	6.42%	1.72431	\$13,373	\$114,226	
Jun-13	\$34,827	\$4,875,771	\$4,858,358	48	\$101,579	\$2,522,968	\$962,682	\$1,390,121	\$1,409,863	6.42%	1.72431	\$13,006	\$114,585	\$1,326,760
Jul-13	\$38,889	\$4,914,660	\$4,895,216	48	\$102,389	\$2,625,357	\$936,743	\$1,352,560	\$1,371,341	6.42%	1.72431	\$12,651	\$115,040	
Aug-13	\$35,900	\$4,950,560	\$4,932,610	48	\$103,128	\$2,728,485	\$909,280	\$1,312,795	\$1,332,678	6.42%	1.72431	\$12,294	\$115,422	
Sep-13	\$19,751	\$4,970,311	\$4,960,436	48	\$102,320	\$2,830,805	\$875,551	\$1,263,955	\$1,288,375	5.68%	1.71565	\$10,463	\$112,783	
Oct-13	\$23,954	\$4,994,265	\$4,982,288	48	\$92,330	\$2,923,135	\$847,619	\$1,223,511	\$1,243,733	5.68%	1.71565	\$10,100	\$102,430	
Nov-13	\$35,053	\$5,029,318	\$5,011,792	48	\$92,869	\$3,016,004	\$824,001	\$1,189,313	\$1,206,412	5.68%	1.71565	\$9,797	\$102,666	
Dec-13	\$13,937	\$5,043,255	\$5,036,287	48	\$93,021	\$3,109,025	\$791,695	\$1,142,535	\$1,165,924	5.68%	1.71565	\$9,468	\$102,489	
Jan-14	\$45,466	\$5,088,721	\$5,065,988	48	\$93,349	\$3,202,374	\$772,135	\$1,114,212	\$1,128,374	5.68%	1.71565	\$9,163	\$102,512	
Feb-14	\$37,678	\$5,126,399	\$5,107,560	48	\$93,671	\$3,296,045	\$749,262	\$1,081,092	\$1,097,652	5.68%	1.71565	\$8,914	\$102,585	
Mar-14	\$1,330	\$5,127,729	\$5,127,064	48	\$92,299	\$3,388,344	\$712,101	\$1,027,284	\$1,054,188	5.68%	1.71565	\$8,561	\$100,860	
Apr-14	\$56,891	\$5,184,620	\$5,156,175	48	\$92,962	\$3,481,306	\$697,366	\$1,005,948	\$1,016,616	5.68%	1.71565	\$8,256	\$101,218	
May-14	\$41,786	\$5,226,406	\$5,205,513	48	\$92,884	\$3,574,190	\$676,493	\$975,723	\$990,836	5.68%	1.71565	\$8,046	\$100,930	
Jun-14	\$39,235	\$5,265,641	\$5,246,024	48	\$92,929	\$3,667,119	\$654,559	\$943,963	\$959,843	5.68%	1.71565	\$7,795	\$100,724	\$1,259,659
Jul-14	\$4,676	\$5,270,317	\$5,267,979	48	\$91,648	\$3,758,767	\$619,030	\$892,520	\$918,242	5.68%	1.71565	\$7,457	\$99,105	
Aug-14	\$40,208	\$5,310,525	\$5,290,421	48	\$91,688	\$3,850,455	\$598,001	\$862,069	\$877,295	5.68%	1.71565	\$7,124	\$98,812	
Sep-14	\$27,556	\$5,338,081	\$5,324,303	48	\$90,130	\$3,940,585	\$572,440	\$825,056	\$843,563	5.68%	1.71565	\$6,850	\$96,980	
Oct-14	\$32,072	\$5,370,153	\$5,354,117	48	\$88,392	\$4,028,977	\$549,433	\$791,743	\$808,400	5.68%	1.71565	\$6,565	\$94,957	
Nov-14	\$75	\$5,370,228	\$5,370,191	48	\$85,058	\$4,114,035	\$514,717	\$741,476	\$766,610	5.68%	1.71565	\$6,225	\$91,283	
Dec-14	\$60,029	\$5,430,257	\$5,400,243	48	\$83,786	\$4,197,821	\$505,013	\$727,423	\$734,450	5.68%	1.71565	\$5,964	\$89,750	
Jan-15	\$33,078	\$5,463,335	\$5,446,796	48	\$77,875	\$4,275,696	\$486,713	\$700,926	\$714,175	5.68%	1.71565	\$5,800	\$83,675	
Feb-15	\$35,129	\$5,498,464	\$5,480,900	48	\$77,160	\$4,352,856	\$469,543	\$676,065	\$688,496	5.68%	1.71565	\$5,591	\$82,751	
Mar-15	\$32,917	\$5,531,381	\$5,514,923	48	\$74,815	\$4,427,671	\$452,428	\$651,282	\$663,674	5.68%	1.71565	\$5,390	\$80,205	
Apr-15	\$1,697	\$5,533,078	\$5,532,230	48	\$72,272	\$4,499,943	\$423,598	\$609,537	\$630,410	5.68%	1.71565	\$5,119	\$77,391	
May-15	\$60,423	\$5,593,501	\$5,563,290	48	\$69,754	\$4,569,697	\$419,786	\$604,018	\$606,778	5.68%	1.71565	\$4,927	\$74,681	
Jun-15	\$76,527	\$5,670,028	\$5,631,765	48	\$69,388	\$4,639,085	\$422,702	\$608,241	\$606,130	5.68%	1.71565	\$4,922	\$74,310	\$1,043,900
Jul-15	\$17,591	\$5,687,619	\$5,678,824	48	\$66,596	\$4,705,681	\$402,684	\$579,254	\$593,748	5.68%	1.71565	\$4,822	\$71,418	
Aug-15	\$2,706	\$5,690,325	\$5,688,972	48	\$61,951	\$4,767,632	\$378,482	\$544,211	\$561,733	5.68%	1.71565	\$4,562	\$66,513	
Sep-15	\$22,340	\$5,712,665	\$5,701,495	48	\$57,891	\$4,825,523	\$363,960	\$523,182	\$533,697	5.68%	1.71565	\$4,334	\$62,225	
Oct-15	\$32,451	\$5,745,116	\$5,728,891	48	\$53,903	\$4,879,426	\$355,197	\$510,493	\$516,838	5.68%	1.71565	\$4,197	\$58,100	
Nov-15	\$27,056	\$5,772,172	\$5,758,644	48	\$59,689	\$4,939,115	\$341,866	\$491,191	\$500,842	5.68%	1.71565	\$4,067	\$63,756	
Dec-15	\$67,554	\$5,839,726	\$5,805,949	48	\$56,927	\$4,996,042	\$346,207	\$497,477	\$494,334	5.68%	1.71565	\$4,014	\$60,941	
Jan-16	\$5,366	\$5,845,092	\$5,842,409	48	\$51,219	\$5,047,261	\$327,476	\$470,355	\$483,916	5.68%	1.71565	\$3,930	\$55,149	
Feb-16	\$139,111	\$5,984,203	\$5,914,648	48	\$48,778	\$5,096,039	\$364,378	\$523,786	\$497,071	5.68%	1.71565	\$4,037	\$52,815	
Mar-16	\$26,827	\$6,011,030	\$5,997,617	48	\$44,141	\$5,140,180	\$357,305	\$513,545	\$518,666	5.68%	1.71565	\$4,212	\$48,353	
Apr-16	\$1,132	\$6,012,162	\$6,011,596	48	\$40,019	\$5,180,199	\$341,419	\$490,544	\$502,045	5.68%	1.71565	\$4,077	\$44,096	
May-16	\$4,007	\$6,016,169	\$6,014,166	48	\$35,142	\$5,215,341	\$328,701	\$472,127	\$481,336	5.68%	1.71565	\$3,909	\$39,051	
Jun-16	\$25,675	\$6,041,844	\$6,029,007	48	\$34,761	\$5,250,102	\$324,989	\$466,753	\$469,440	5.68%	1.71565	\$3,812	\$38,573	\$660,990
Jul-16	\$53,903	\$6,095,747	\$6,068,796	48	\$35,698	\$5,285,800	\$332,426	\$477,521	\$472,137	5.68%	1.71565	\$3,834	\$39,532	
Aug-16	\$1,929	\$6,097,676	\$6,096,712	48	\$34,601	\$5,320,401	\$319,080	\$458,195	\$467,858	5.68%	1.71565	\$3,799	\$38,400	
Sep-16	\$31,675	\$6,129,351	\$6,113,514	48	\$34,971	\$5,355,372	\$317,733	\$456,246	\$457,221	5.68%	1.71565	\$3,713	\$38,684	

ELIZABETHTOWN GAS COMPANY
ENERGY EFFICIENCY PROGRAM ("EEP")

Monthly Recoverable Investment
Program Expenditures - Amortized Over Four Years
Based on actuals through May 2019

a	Amortizable	Cumulative	Average	Amort.	Monthly	Accum.	Accum.	Earnings /	Average	Wtd. Avg.	Revenue	Monthly	Monthly	YTD ending
	Expenditures													
b	TK-4	c	d	e	f	g	h	i=c-g-h	j	k	l	m=(j)*k ¹ /12	n=m*f	
Oct-16	\$17,197	\$6,146,548	\$6,137,950	48	\$33,990	\$5,389,362	\$310,873	\$446,313	\$451,280	5.68%	1.71565	\$3,665	\$37,655	
Nov-16	\$19,566	\$6,166,114	\$6,156,331	48	\$33,859	\$5,423,221	\$305,035	\$437,858	\$442,086	5.68%	1.71565	\$3,590	\$37,449	
Dec-16	\$19,860	\$6,185,974	\$6,176,044	48	\$33,461	\$5,456,682	\$299,479	\$429,813	\$433,836	5.68%	1.71565	\$3,523	\$36,984	
Jan-17	\$20,031	\$6,206,005	\$6,195,990	48	\$33,635	\$5,490,317	\$293,921	\$421,767	\$425,790	5.68%	1.71565	\$3,458	\$37,093	
Feb-17	\$1,301	\$6,207,306	\$6,206,656	48	\$32,832	\$5,523,149	\$281,041	\$403,116	\$412,442	5.68%	1.71565	\$3,349	\$36,181	
Mar-17	\$50,755	\$6,258,061	\$6,232,684	48	\$32,613	\$5,555,762	\$288,452	\$413,847	\$408,482	5.68%	1.71565	\$3,317	\$35,930	
Apr-17	\$15,518	\$6,273,579	\$6,265,820	48	\$30,537	\$5,586,299	\$282,317	\$404,963	\$409,405	5.68%	1.71565	\$3,325	\$33,862	
May-17	\$12,094	\$6,285,673	\$6,279,626	48	\$30,099	\$5,616,398	\$274,962	\$394,313	\$399,638	5.68%	1.71565	\$3,245	\$33,344	
Jun-17	\$9,676	\$6,295,349	\$6,290,511	48	\$29,575	\$5,645,973	\$266,833	\$382,543	\$388,428	5.68%	1.71565	\$3,154	\$32,729	\$437,843
Jul-17	\$11,721	\$6,307,070	\$6,301,210	48	\$29,009	\$5,674,982	\$259,771	\$372,317	\$377,430	5.772%	1.71370692	\$3,111	\$32,120	
Aug-17	\$10,292	\$6,317,362	\$6,312,216	48	\$28,475	\$5,703,457	\$252,343	\$361,562	\$366,940	5.772%	1.71370692	\$3,025	\$31,500	
Sep-17	\$300,856	\$6,618,218	\$6,467,790	48	\$34,331	\$5,737,788	\$361,219	\$519,211	\$440,387	5.772%	1.71370692	\$6,330	\$37,961	
Oct-17	\$82,233	\$6,700,451	\$6,659,335	48	\$35,546	\$5,773,334	\$380,290	\$546,827	\$533,019	5.772%	1.71370692	\$4,394	\$39,940	
Nov-17	\$239,392	\$6,939,843	\$6,820,147	48	\$39,803	\$5,813,137	\$461,823	\$664,883	\$605,855	5.772%	1.71370692	\$4,994	\$44,797	
Dec-17	\$110,560	\$7,050,403	\$6,995,123	48	\$41,816	\$5,854,953	\$489,905	\$705,545	\$685,214	5.772%	1.71370692	\$5,648	\$47,464	
Jan-18	\$181,033	\$7,231,436	\$7,140,920	48	\$44,640	\$5,899,593	\$528,245	\$803,598	\$754,572	6.063%	1.40828098	\$5,369	\$50,009	
Feb-18	\$278,475	\$7,509,911	\$7,370,674	48	\$49,657	\$5,949,250	\$592,566	\$968,095	\$885,847	6.063%	1.40828098	\$6,303	\$55,960	
Mar-18	\$77,229	\$7,587,140	\$7,548,526	48	\$51,238	\$6,000,488	\$599,872	\$986,780	\$977,438	6.063%	1.40828098	\$6,955	\$58,193	
Apr-18	\$145,737	\$7,732,877	\$7,660,009	48	\$53,089	\$6,053,577	\$625,915	\$1,053,385	\$1,020,083	6.063%	1.40828098	\$7,258	\$60,347	
May-18	\$288,397	\$8,021,274	\$7,877,076	48	\$58,226	\$6,111,803	\$690,616	\$1,218,855	\$1,136,120	6.063%	1.40828098	\$8,084	\$66,310	
Jun-18	\$46,997	\$8,068,271	\$8,044,773	48	\$58,388	\$6,170,191	\$687,414	\$1,210,666	\$1,214,761	6.063%	1.40828098	\$8,643	\$67,031	\$591,632
Jul-18	\$0	\$8,068,271	\$8,068,271	48	\$58,291	\$6,228,482	\$671,029	\$1,168,760	\$1,189,713	6.063%	1.40828098	\$8,465	\$66,756	
Aug-18	\$102,223	\$8,170,494	\$8,119,383	48	\$59,583	\$6,288,065	\$683,015	\$1,199,414	\$1,184,087	6.063%	1.40828098	\$8,425	\$68,008	
Sep-18	\$400,259	\$8,570,753	\$8,370,624	48	\$67,347	\$6,355,412	\$776,596	\$1,438,745	\$1,319,080	6.063%	1.40828098	\$9,386	\$76,733	
Oct-18	\$85,123	\$8,655,876	\$8,613,315	48	\$68,453	\$6,423,865	\$781,282	\$1,450,729	\$1,444,737	6.063%	1.40828098	\$10,280	\$78,733	
Nov-18	\$39,507	\$8,695,383	\$8,675,630	48	\$69,274	\$6,493,139	\$772,915	\$1,429,329	\$1,440,029	6.063%	1.40828098	\$10,246	\$79,520	
Dec-18	\$246,194	\$8,941,577	\$8,818,480	48	\$73,153	\$6,566,292	\$821,557	\$1,553,728	\$1,491,529	6.063%	1.40828098	\$10,613	\$83,766	
Jan-19	\$32,819	\$8,974,396	\$8,957,987	48	\$73,147	\$6,639,439	\$810,221	\$1,524,736	\$1,539,232	6.063%	1.40828098	\$10,952	\$84,099	
Feb-19	\$90,666	\$9,065,062	\$9,019,729	48	\$74,304	\$6,713,743	\$814,820	\$1,536,499	\$1,530,618	6.063%	1.40828098	\$10,891	\$85,195	
Mar-19	\$329,788	\$9,394,850	\$9,229,956	48	\$80,489	\$6,794,232	\$884,898	\$1,715,720	\$1,626,110	6.063%	1.40828098	\$11,570	\$92,059	
Apr-19	\$107,407	\$9,502,257	\$9,448,554	48	\$82,691	\$6,876,923	\$891,846	\$1,733,488	\$1,724,604	6.063%	1.40828098	\$12,271	\$94,962	
May-19	\$434,918	\$9,937,175	\$9,719,716	48	\$90,493	\$6,967,416	\$988,663	\$1,981,096	\$1,857,292	6.063%	1.40828098	\$13,215	\$103,708	
Jun-19	\$104,401	\$10,041,576	\$9,989,376	48	\$91,074	\$7,058,490	\$992,410	\$1,990,676	\$1,985,886	6.063%	1.40828098	\$14,130	\$105,204	\$1,018,743
Jul-19	\$129,750	\$10,171,326	\$10,106,451	48	\$93,411	\$7,151,901	\$1,002,625	\$2,016,800	\$2,003,738	6.063%	1.40828098	\$14,257	\$107,668	
Aug-19	\$334,750	\$10,506,076	\$10,338,701	48	\$100,328	\$7,252,229	\$1,068,521	\$2,185,326	\$2,101,063	6.063%	1.40828098	\$14,950	\$115,278	
Sep-19	\$129,750	\$10,635,826	\$10,570,951	48	\$102,566	\$7,354,795	\$1,076,162	\$2,204,869	\$2,195,098	6.063%	1.40828098	\$15,619	\$118,185	
Oct-19	\$129,750	\$10,765,576	\$10,700,701	48	\$104,593	\$7,459,388	\$1,083,234	\$2,222,954	\$2,213,912	6.063%	1.40828098	\$15,753	\$120,346	
Nov-19	\$334,750	\$11,100,326	\$10,932,951	48	\$111,003	\$7,570,391	\$1,146,129	\$2,383,806	\$2,303,380	6.063%	1.40828098	\$16,389	\$127,392	
Dec-19	\$129,750	\$11,230,076	\$11,165,201	48	\$112,299	\$7,682,690	\$1,151,034	\$2,396,352	\$2,390,079	6.063%	1.40828098	\$17,006	\$129,305	
Jan-20	\$129,750	\$11,359,826	\$11,294,951	48	\$114,890	\$7,797,580	\$1,155,211	\$2,407,035	\$2,401,694	6.063%	1.40828098	\$17,089	\$131,979	
Feb-20	\$82,236	\$11,442,062	\$11,400,944	48	\$113,705	\$7,911,285	\$1,146,365	\$2,384,412	\$2,395,724	6.063%	1.40828098	\$17,046	\$130,751	
Mar-20	\$0	\$11,442,062	\$11,442,062	48	\$113,147	\$8,024,432	\$1,114,560	\$2,303,070	\$2,343,741	6.063%	1.40828098	\$16,677	\$129,824	
Apr-20	\$0	\$11,442,062	\$11,442,062	48	\$113,123	\$8,137,555	\$1,082,761	\$2,221,746	\$2,262,408	6.063%	1.40828098	\$16,098	\$129,221	
May-20	\$0	\$11,442,062	\$11,442,062	48	\$113,039	\$8,250,594	\$1,050,986	\$2,140,482	\$2,181,114	6.063%	1.40828098	\$15,519	\$128,558	

ELIZABETHTOWN GAS COMPANY
ENERGY EFFICIENCY PROGRAM ("EEP")

Monthly Recoverable Investment
Program Expenditures - Amortized Over Four Years
Based on actuals through May 2019

	Amortizable	Cumulative	Average	Amort.	Monthly	Accum.	Accum.	Earnings /	Average	Wtd. Avg.	Revenue	Monthly	Monthly	YTD ending
	Expenditures	Expenditures	Expenditures	Months	Amortization	Amort.	Deferred	Rate Base	Rate Base	Cost of	Factor	Return on	Revenue	YTD ending
<u>a</u>	<u>b</u>	<u>c</u>	<u>d</u>	<u>e</u>	<u>f</u>	<u>g</u>	<u>h</u>	<u>i=c-g-h</u>	<u>i</u>	<u>k</u>	<u>l</u>	<u>m=(j)*k¹²/12</u>	<u>n=m*f</u>	June
Jun-20	\$0	\$11,442,062	\$11,442,062	48	\$112,505	\$8,363,099	\$1,019,361	\$2,059,602	\$2,100,042	6.063%	1.40828098	\$14,943	\$127,448	\$1,495,955
Jul-20	\$0	\$11,442,062	\$11,442,062	48	\$111,382	\$8,474,481	\$988,051	\$1,979,530	\$2,019,566	6.063%	1.40828098	\$14,370	\$125,752	
Aug-20	\$0	\$11,442,062	\$11,442,062	48	\$111,341	\$8,585,822	\$956,753	\$1,899,487	\$1,939,509	6.063%	1.40828098	\$13,800	\$125,141	
Sep-20	\$0	\$11,442,062	\$11,442,062	48	\$110,682	\$8,696,504	\$925,640	\$1,819,918	\$1,859,703	6.063%	1.40828098	\$13,232	\$123,914	
Oct-20	\$0	\$11,442,062	\$11,442,062	48	\$110,323	\$8,806,827	\$894,629	\$1,740,606	\$1,780,262	6.063%	1.40828098	\$12,667	\$122,990	
Nov-20	\$0	\$11,442,062	\$11,442,062	48	\$109,916	\$8,916,743	\$863,731	\$1,661,588	\$1,701,097	6.063%	1.40828098	\$12,104	\$122,020	
Dec-20	\$0	\$11,442,062	\$11,442,062	48	\$109,502	\$9,026,245	\$832,950	\$1,582,867	\$1,622,228	6.063%	1.40828098	\$11,543	\$121,045	
Jan-21	\$0	\$11,442,062	\$11,442,062	48	\$109,085	\$9,135,330	\$802,287	\$1,504,445	\$1,543,656	6.063%	1.40828098	\$10,984	\$120,069	
Feb-21	\$0	\$11,442,062	\$11,442,062	48	\$109,057	\$9,244,387	\$771,631	\$1,426,044	\$1,465,245	6.063%	1.40828098	\$10,426	\$119,483	
Mar-21	\$0	\$11,442,062	\$11,442,062	48	\$108,000	\$9,352,387	\$741,272	\$1,348,403	\$1,387,224	6.063%	1.40828098	\$9,871	\$117,871	
Apr-21	\$0	\$11,442,062	\$11,442,062	48	\$107,677	\$9,460,064	\$711,004	\$1,270,994	\$1,309,699	6.063%	1.40828098	\$9,319	\$116,996	
May-21	\$0	\$11,442,062	\$11,442,062	48	\$107,425	\$9,567,489	\$680,807	\$1,193,766	\$1,232,380	6.063%	1.40828098	\$8,769	\$116,194	
Jun-21	\$0	\$11,442,062	\$11,442,062	48	\$107,223	\$9,674,712	\$650,666	\$1,116,684	\$1,155,225	6.063%	1.40828098	\$8,220	\$115,443	\$1,446,918
Jul-21	\$0	\$11,442,062	\$11,442,062	48	\$106,979	\$9,781,691	\$620,595	\$1,039,776	\$1,078,230	6.063%	1.40828098	\$7,672	\$114,651	
Aug-21	\$0	\$11,442,062	\$11,442,062	48	\$106,765	\$9,888,456	\$590,583	\$963,023	\$1,001,400	6.063%	1.40828098	\$7,125	\$113,890	
Sep-21	\$0	\$11,442,062	\$11,442,062	48	\$100,497	\$9,988,953	\$562,333	\$890,776	\$926,900	6.063%	1.40828098	\$6,595	\$107,092	
Oct-21	\$0	\$11,442,062	\$11,442,062	48	\$98,784	\$10,087,737	\$534,565	\$819,760	\$855,268	6.063%	1.40828098	\$6,086	\$104,870	
Nov-21	\$0	\$11,442,062	\$11,442,062	48	\$93,796	\$10,181,533	\$508,199	\$752,330	\$786,045	6.063%	1.40828098	\$5,593	\$99,389	
Dec-21	\$0	\$11,442,062	\$11,442,062	48	\$91,493	\$10,273,026	\$482,481	\$686,555	\$719,443	6.063%	1.40828098	\$5,119	\$96,612	
Jan-22	\$0	\$11,442,062	\$11,442,062	48	\$87,721	\$10,360,747	\$457,822	\$623,493	\$655,024	6.063%	1.40828098	\$4,661	\$92,382	
Feb-22	\$0	\$11,442,062	\$11,442,062	48	\$81,920	\$10,442,667	\$434,794	\$564,601	\$594,047	6.063%	1.40828098	\$4,227	\$86,147	
Mar-22	\$0	\$11,442,062	\$11,442,062	48	\$80,311	\$10,522,978	\$412,219	\$506,865	\$535,733	6.063%	1.40828098	\$3,812	\$84,123	
Apr-22	\$0	\$11,442,062	\$11,442,062	48	\$77,275	\$10,600,253	\$390,497	\$451,312	\$479,089	6.063%	1.40828098	\$3,409	\$80,684	
May-22	\$0	\$11,442,062	\$11,442,062	48	\$71,266	\$10,671,519	\$370,464	\$400,079	\$425,696	6.063%	1.40828098	\$3,029	\$74,295	
Jun-22	\$0	\$11,442,062	\$11,442,062	48	\$70,287	\$10,741,806	\$350,706	\$349,550	\$374,815	6.063%	1.40828098	\$2,667	\$72,954	\$1,127,089
Jul-22	\$0	\$11,442,062	\$11,442,062	48	\$70,287	\$10,812,093	\$330,948	\$299,021	\$324,286	6.063%	1.40828098	\$2,307	\$72,594	
Aug-22	\$0	\$11,442,062	\$11,442,062	48	\$68,158	\$10,880,251	\$311,789	\$250,022	\$274,522	6.063%	1.40828098	\$1,953	\$70,111	
Sep-22	\$0	\$11,442,062	\$11,442,062	48	\$59,819	\$10,940,070	\$294,974	\$207,018	\$228,520	6.063%	1.40828098	\$1,626	\$61,445	
Oct-22	\$0	\$11,442,062	\$11,442,062	48	\$58,046	\$10,998,116	\$278,658	\$165,288	\$186,153	6.063%	1.40828098	\$1,325	\$59,371	
Nov-22	\$0	\$11,442,062	\$11,442,062	48	\$57,223	\$11,055,339	\$262,572	\$124,151	\$144,720	6.063%	1.40828098	\$1,030	\$58,253	
Dec-22	\$0	\$11,442,062	\$11,442,062	48	\$52,093	\$11,107,432	\$247,929	\$86,701	\$105,426	6.063%	1.40828098	\$750	\$52,843	
Jan-23	\$0	\$11,442,062	\$11,442,062	48	\$51,410	\$11,158,842	\$233,478	\$49,742	\$68,222	6.063%	1.40828098	\$485	\$51,895	
Feb-23	\$0	\$11,442,062	\$11,442,062	48	\$49,521	\$11,208,363	\$219,557	\$14,142	\$31,942	6.063%	1.40828098	\$227	\$49,748	
Mar-23	\$0	\$11,442,062	\$11,442,062	48	\$42,650	\$11,251,013	\$207,568	(\$16,519)	(\$1,189)	6.063%	1.40828098	(\$8)	\$42,642	
Apr-23	\$0	\$11,442,062	\$11,442,062	48	\$40,413	\$11,291,426	\$196,208	(\$45,572)	(\$31,046)	6.063%	1.40828098	(\$221)	\$40,192	
May-23	\$0	\$11,442,062	\$11,442,062	48	\$31,352	\$11,322,778	\$187,395	(\$68,111)	(\$56,842)	6.063%	1.40828098	(\$404)	\$30,948	
Jun-23	\$0	\$11,442,062	\$11,442,062	48	\$29,177	\$11,351,955	\$179,194	(\$89,087)	(\$78,599)	6.063%	1.40828098	(\$559)	\$28,618	\$618,660
Jul-23	\$0	\$11,442,062	\$11,442,062	48	\$26,474	\$11,378,429	\$171,752	(\$108,119)	(\$98,603)	6.063%	1.40828098	(\$702)	\$25,772	
Aug-23	\$0	\$11,442,062	\$11,442,062	48	\$19,500	\$11,397,929	\$166,271	(\$122,138)	(\$115,129)	6.063%	1.40828098	(\$819)	\$18,681	
Sep-23	\$0	\$11,442,062	\$11,442,062	48	\$16,797	\$11,414,726	\$161,549	(\$134,213)	(\$128,176)	6.063%	1.40828098	(\$912)	\$15,885	
Oct-23	\$0	\$11,442,062	\$11,442,062	48	\$14,093	\$11,428,819	\$157,587	(\$144,344)	(\$139,279)	6.063%	1.40828098	(\$991)	\$13,102	
Nov-23	\$0	\$11,442,062	\$11,442,062	48	\$7,120	\$11,435,939	\$155,586	(\$149,463)	(\$146,904)	6.063%	1.40828098	(\$1,045)	\$6,075	
Dec-23	\$0	\$11,442,062	\$11,442,062	48	\$4,416	\$11,440,355	\$154,345	(\$152,638)	(\$151,051)	6.063%	1.40828098	(\$1,075)	\$3,341	
Jan-24	\$0	\$11,442,062	\$11,442,062	48	\$1,713	\$11,442,068	\$153,863	(\$153,869)	(\$153,254)	6.063%	1.40828098	(\$1,090)	\$623	

ELIZABETHTOWN GAS COMPANY
ENERGY EFFICIENCY PROGRAM ("EEP")

Monthly Recoverable Investment
Program Expenditures - Amortized Over Four Years
Based on actuals through May 2019

	Amortizable Expenditures	Cumulative Expenditures	Average Expenditures	Amort. Months	Monthly Amortization	Accum. Amort.	Accum. Deferred Income Tax	Earnings / Rate Base	Average Rate Base	Wtd. Avg. Cost of Capital (1) After-tax	Revenue Factor	Monthly Return on Rate Base $m=(j)*k^1/12$	Monthly Revenue Requirement $n=m+f$	YTD ending June
a	b	c	d	e	f	g	h	i=c-g-h	j	k	l			
Feb-24	\$0	\$11,442,062	\$11,442,062	48	\$0	\$11,442,068	\$153,863	(\$153,869)	(\$153,869)	6.063%	1.40828098	(\$1,095)	(\$1,095)	
Mar-24	\$0	\$11,442,062	\$11,442,062	48	\$0	\$11,442,068	\$153,863	(\$153,869)	(\$153,869)	6.063%	1.40828098	(\$1,095)	(\$1,095)	
Apr-24	\$0	\$11,442,062	\$11,442,062	48	\$0	\$11,442,068	\$153,863	(\$153,869)	(\$153,869)	6.063%	1.40828098	(\$1,095)	(\$1,095)	
May-24	\$0	\$11,442,062	\$11,442,062	48	\$0	\$11,442,068	\$153,863	(\$153,869)	(\$153,869)	6.063%	1.40828098	(\$1,095)	(\$1,095)	
Jun-24	\$0	\$11,442,062	\$11,442,062	48	\$0	\$11,442,068	\$153,863	(\$153,869)	(\$153,869)	6.063%	1.40828098	(\$1,095)	(\$1,095)	
Jul-24	\$0	\$11,442,062	\$11,442,062	48	\$0	\$11,442,068	\$153,863	(\$153,869)	(\$153,869)	6.063%	1.40828098	(\$1,095)	(\$1,095)	
Aug-24	\$0	\$11,442,062	\$11,442,062	48	\$0	\$11,442,068	\$153,863	(\$153,869)	(\$153,869)	6.063%	1.40828098	(\$1,095)	(\$1,095)	
Sep-24	\$0	\$11,442,062	\$11,442,062	48	\$0	\$11,442,068	\$153,863	(\$153,869)	(\$153,869)	6.063%	1.40828098	(\$1,095)	(\$1,095)	
Oct-24	\$0	\$11,442,062	\$11,442,062	48	\$0	\$11,442,068	\$153,863	(\$153,869)	(\$153,869)	6.063%	1.40828098	(\$1,095)	(\$1,095)	
Nov-24	\$0	\$11,442,062	\$11,442,062	48	\$0	\$11,442,068	\$153,863	(\$153,869)	(\$153,869)	6.063%	1.40828098	(\$1,095)	(\$1,095)	
Dec-24	\$0	\$11,442,062	\$11,442,062	48	\$0	\$11,442,068	\$153,863	(\$153,869)	(\$153,869)	6.063%	1.40828098	(\$1,095)	(\$1,095)	
Jan-25	\$0	\$11,442,062	\$11,442,062	48	\$0	\$11,442,068	\$153,863	(\$153,869)	(\$153,869)	6.063%	1.40828098	(\$1,095)	(\$1,095)	
Feb-25	\$0	\$11,442,062	\$11,442,062	48	\$0	\$11,442,068	\$153,863	(\$153,869)	(\$153,869)	6.063%	1.40828098	(\$1,095)	(\$1,095)	
Mar-25	\$0	\$11,442,062	\$11,442,062	48	\$0	\$11,442,068	\$153,863	(\$153,869)	(\$153,869)	6.063%	1.40828098	(\$1,095)	(\$1,095)	
Apr-25	\$0	\$11,442,062	\$11,442,062	48	\$0	\$11,442,068	\$153,863	(\$153,869)	(\$153,869)	6.063%	1.40828098	(\$1,095)	(\$1,095)	
May-25	\$0	\$11,442,062	\$11,442,062	48	\$0	\$11,442,068	\$153,863	(\$153,869)	(\$153,869)	6.063%	1.40828098	(\$1,095)	(\$1,095)	
Jun-25	\$0	\$11,442,062	\$11,442,062	48	\$0	\$11,442,068	\$153,863	(\$153,869)	(\$153,869)	6.063%	1.40828098	(\$1,095)	(\$1,095)	
Jul-25	\$0	\$11,442,062	\$11,442,062	48	\$0	\$11,442,068	\$153,863	(\$153,869)	(\$153,869)	6.063%	1.40828098	(\$1,095)	(\$1,095)	
Aug-25	\$0	\$11,442,062	\$11,442,062	48	\$0	\$11,442,068	\$153,863	(\$153,869)	(\$153,869)	6.063%	1.40828098	(\$1,095)	(\$1,095)	
Sep-25	\$0	\$11,442,062	\$11,442,062	48	\$0	\$11,442,068	\$153,863	(\$153,869)	(\$153,869)	6.063%	1.40828098	(\$1,095)	(\$1,095)	
Oct-25	\$0	\$11,442,062	\$11,442,062	48	\$0	\$11,442,068	\$153,863	(\$153,869)	(\$153,869)	6.063%	1.40828098	(\$1,095)	(\$1,095)	
Nov-25	\$0	\$11,442,062	\$11,442,062	48	\$0	\$11,442,068	\$153,863	(\$153,869)	(\$153,869)	6.063%	1.40828098	(\$1,095)	(\$1,095)	
Dec-25	\$0	\$11,442,062	\$11,442,062	48	\$0	\$11,442,068	\$153,863	(\$153,869)	(\$153,869)	6.063%	1.40828098	(\$1,095)	(\$1,095)	
Jan-26	\$0	\$11,442,062	\$11,442,062	48	\$0	\$11,442,068	\$153,863	(\$153,869)	(\$153,869)	6.063%	1.40828098	(\$1,095)	(\$1,095)	
Feb-26	\$0	\$11,442,062	\$11,442,062	48	\$0	\$11,442,068	\$153,863	(\$153,869)	(\$153,869)	6.063%	1.40828098	(\$1,095)	(\$1,095)	
Mar-26	\$0	\$11,442,062	\$11,442,062	48	\$0	\$11,442,068	\$153,863	(\$153,869)	(\$153,869)	6.063%	1.40828098	(\$1,095)	(\$1,095)	
Apr-26	\$0	\$11,442,062	\$11,442,062	48	\$0	\$11,442,068	\$153,863	(\$153,869)	(\$153,869)	6.063%	1.40828098	(\$1,095)	(\$1,095)	
May-26	\$0	\$11,442,062	\$11,442,062	48	\$0	\$11,442,068	\$153,863	(\$153,869)	(\$153,869)	6.063%	1.40828098	(\$1,095)	(\$1,095)	
Jun-26	\$0	\$11,442,062	\$11,442,062	48	\$0	\$11,442,068	\$153,863	(\$153,869)	(\$153,869)	6.063%	1.40828098	(\$1,095)	(\$1,095)	

(1) The Company's Weighted Average After Tax Cost of Capital from its most recent rate case thru April 19, 2012.

ELIZABETHTOWN GAS COMPANY
ENERGY EFFICIENCY PROGRAM ("EEP")

Schedule of Expenditures
Based on actuals through May 2019

	O&M Recoverable In Period Expended				Program Expenditures - Amortized Over Four Years				
	Labor (1)	Customer Education	Dashboard	Prog Eval/ Consultant	Total O&M	Cust Fin & Opower	Program Expenditures	Program Total	Total
Jun-10	\$99,464	\$204,988	\$217,687	\$0	\$522,139	\$500,000	\$305,040	\$805,040	\$1,327,179
Jun-11	\$451,985	\$801,775	\$61,062	\$0	\$1,314,822	\$0	\$1,534,373	\$1,534,373	\$2,849,195
Jun-12	\$884,924	\$693,368	\$32,058	\$0	\$1,610,350	(\$500,000)	\$2,533,924	\$2,033,924	\$3,644,274
Jun-13	\$126,113	\$134,040	\$87,900	\$0	\$348,053	\$0	\$502,434	\$502,434	\$850,487
Jun-14	\$119,181	\$302,681	\$40,500	\$0	\$462,362	\$0	\$389,870	\$389,870	\$852,232
Jun-15	\$92,172	\$268,202	\$54,000	\$33,400	\$447,774	\$0	\$404,387	\$404,387	\$852,161
Jun-16	\$122,039	\$30,267	\$54,000	\$0	\$206,306	\$0	\$371,816	\$371,816	\$578,122
Jun-17	\$130,568	\$19,467	\$27,000	\$0	\$177,035	\$0	\$253,505	\$253,505	\$430,540
Jun-18	\$233,862	\$131,402	\$0	\$0	\$365,264	\$874,382	\$898,540	\$1,772,922	\$2,138,186
Jun-19	* \$202,036	\$43,051	\$0	\$36,870	\$281,957	\$738,269	\$1,235,036	\$1,973,305	\$2,255,262
Jun-20	* \$217,344	\$86,515	\$0	\$0	\$303,859	\$364,428	\$1,036,058	\$1,400,486	\$1,704,345
Jun-21	* \$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Jun-22	* \$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Jun-23	* \$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Jun-24	* \$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Jun-25	* \$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Jun-26	* \$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total	\$2,679,688	\$2,715,756	\$574,207	\$70,270	\$6,039,921	\$1,977,079	\$9,464,983	\$11,442,062	\$17,481,983

* Projected

(1) Excludes AIP and includes external Auditor and Temporary Labor costs

ELIZABETHTOWN GAS COMPANY
ENERGY EFFICIENCY PROGRAM ("EEP")

Recoveries

Based on actuals through May 2019

	Therm Sales and Services					Recoveries						Total Recoveries	
	Res & GLS	Commercial	Industrial	NGV	Cogen.	Total Therms	Res & GLS	Commercial	Industrial	NGV	Cogen.		
Jun-10	199,789,349	121,568,200	81,414,763	0	853,170	403,625,482	\$1,488,554	\$900,379	\$599,096	\$0	\$3,855	\$2,991,884	
Jun-11	222,140,703	135,002,697	90,445,144	0	2,637,430	450,225,974	\$1,019,635	\$608,929	\$410,115	\$0	\$23,062	\$2,061,741	
Jun-12	181,189,654	115,394,478	82,175,908	0	0	378,760,040	\$1,780	\$2,636	\$0	\$0	\$0	\$4,416	
Jun-13	217,455,912	135,113,439	80,848,839	0	0	433,418,190	\$270	\$547	\$0	\$0	\$0	\$817	
Jun-14	246,136,102	151,372,547	77,878,792	0	0	475,387,441	\$597,818	\$363,514	\$159,385	\$0	\$0	\$1,120,717	
Jun-15	249,592,203	153,487,646	79,638,706	32,390	0	482,750,945	\$1,815,568	\$1,104,482	\$528,934	\$232	\$0	\$3,449,216	
Jun-16	200,899,928	125,876,408	77,353,883	146,807	0	404,277,026	\$1,055,138	\$664,641	\$427,000	\$828	\$0	\$2,147,607	
Jun-17	218,031,693	136,194,120	77,887,388	178,567	0	432,291,768	(\$44,126)	(\$12,440)	\$44,072	\$189	\$0	(\$12,305)	
Jun-18	240,063,694	150,005,625	74,884,188	151,681	0	465,105,188	(\$160,562)	(\$100,390)	(\$50,601)	(\$103)	\$0	(\$311,656)	
Jun-19 *	237,505,198	145,953,997	84,910,492	69,497	0	468,439,184	\$445,422	\$272,777	\$150,447	\$141	\$0	\$868,787	
Jun-20 *	225,193,000	146,549,524	96,643,784	161,250	0	468,547,558	\$1,530,718	\$984,907	\$622,448	\$1,026	\$0	\$3,139,099	
Jun-21 *	225,193,000	146,549,524	96,643,784	161,250	0	468,547,558	\$782,764	\$528,673	\$395,032	\$678	\$0	\$1,707,147	
Jun-22 *	225,193,000	146,549,524	96,643,784	161,250	0	468,547,558	\$486,114	\$322,775	\$228,320	\$387	\$0	\$1,037,596	
Jun-23 *	225,193,000	146,549,524	96,643,784	161,250	0	468,547,558	\$280,140	\$187,124	\$134,998	\$230	\$0	\$602,492	
Jun-24 *	225,193,000	146,549,524	96,643,784	161,250	0	468,547,558	\$34,630	\$28,423	\$32,918	\$60	\$0	\$96,031	
Jun-25 *	225,193,000	146,549,524	96,643,784	161,250	0	468,547,558	(\$41,735)	(\$25,554)	(\$12,987)	(\$22)	\$0	(\$80,298)	
Jun-26 *	225,193,000	146,549,524	96,643,784	161,250	0	468,547,558	(\$2,202)	(\$2,503)	(\$4,227)	(\$9)	\$0	(\$8,941)	
Total	3,789,155,436	2,395,815,825	1,483,944,591	1,707,692	3,490,600	7,674,114,144	0	\$9,289,926	\$5,828,920	\$3,664,950	\$3,637	\$26,917	\$18,814,350

* Projected

** Billing at the tariff rate yields the dollars recovered, inclusive of rate proration, if any. The rate presented is derived from dividing that amount by the therms, as such rounding differences to the tariff / billing rate

**ELIZABETHTOWN GAS COMPANY
ENERGY EFFICIENCY PROGRAM ("EEP")**

**Over / Under Recovered Carrying Cost Rate
Weighted Average Cost of Borrowing
Based on actuals through May 2019**

<u>a</u>	<u>Rates:</u>		<u>Ratio:</u>		<u>After Tax Wtd. Avg. Cost of Borrowing. (1) f=(b*d+c*e)*(1-Tax Rate)</u>
	<u>Commercial Paper b</u>	<u>Bank Credit Lines c</u>	<u>Commercial Paper d</u>	<u>Bank Credit Lines e</u>	
Jul-18	0.00%	3.22%	0.00%	100.00%	2.31%
Aug-18	0.00%	3.04%	0.00%	100.00%	2.19%
Sep-18	0.00%	3.25%	0.00%	100.00%	2.34%
Oct-18	0.00%	3.43%	0.00%	100.00%	2.47%
Nov-18	0.00%	3.43%	0.00%	100.00%	2.47%
Dec-18	0.00%	3.49%	0.00%	100.00%	2.51%
Jan-19	0.00%	3.61%	0.00%	100.00%	2.60%
Feb-19	0.00%	3.61%	0.00%	100.00%	2.60%
Mar-19	0.00%	3.61%	0.00%	100.00%	2.60%
Apr-19	0.00%	3.61%	0.00%	100.00%	2.60%
May-19	0.00%	3.61%	0.00%	100.00%	2.60%
Jun-19	*	0.00%	3.61%	100.00%	2.60%

* Projected

(1) The Company's weighted average interest rate obtained on its commercial paper and bank credit lines, when utilized. The projected months are based on the last actual rate. The tax rate of 40.85% changed to 28.11% effective January 1, 2018.

**ELIZABETHTOWN GAS COMPANY
ENERGY EFFICIENCY PROGRAM ("EEP")
RATE IMPACT**

Based on actuals through May 2019

	2019 True-Up	
(Over)/Under Balance at June *	\$120,161	
Recoverable Program Costs 7/18 - 6/20: **		
Original filing - 8/09 - 12/10	\$0	
Extension 1/11 - 3/12	\$0	
Extension 4/12 - 8/13	\$0	
Extension 9/13 - 4/17 ***	\$627,438	
Extension 5/17 - 2/20 ****	<u>\$2,473,076</u>	
Total Amount to be Recovered	<u>\$3,220,675</u>	
<u>Per Therm Recovery - Incl. Tax</u>		
Firm Throughput - therms	468,547,558	
(Over)/Under Recovery	\$0.0004	
Original filing - 8/09 - 12/10	\$0.0000	
Extension 1/11 - 3/12	\$0.0000	
Extension 4/12 - 8/13	\$0.0000	
Extension 9/13 - 4/17 ***	\$0.0014	
Extension 5/17 - 2/20 ****	<u>\$0.0056</u>	
EEP Rate, \$ / Therm, inclusive of taxes	<u>\$0.0074</u>	
<u>Typical Annual Bill Amounts</u>		
<u>Residential Non-Heat</u>		
	250	Annual Therms
(Over)/Under Recovery	\$0.10	
Original filing - 8/09 - 12/10	\$0.00	
Extension 1/11 - 3/12	\$0.00	
Extension 4/12 - 8/13	\$0.00	
Extension 9/13 - 4/17 ***	\$0.35	
Extension 5/17 - 2/20 ****	<u>\$1.40</u>	
Total Typical Annual Bill Amount	\$1.85	
\$ Increase from Current Bill Amount	\$0.58	
% Increase from Current Bill Amount	0.2%	
<u>Residential Heat</u>		
	1,000	Annual Therms
(Over)/Under Recovery	\$0.40	
Original filing - 8/09 - 12/10	\$0.00	
Extension 1/11 - 3/12	\$0.00	
Extension 4/12 - 8/13	\$0.00	
Extension 9/13 - 4/17 ***	\$1.40	
Extension 5/17 - 2/20 ****	<u>\$5.60</u>	
Total Typical Annual Bill Amount	\$7.40	
\$ Increase from Current Bill Amount	\$2.30	
% Increase from Current Bill Amount	0.2%	
<u>Small General Service</u>		
	1,000	Annual Therms
(Over)/Under Recovery	\$0.40	
Original filing - 8/09 - 12/10	\$0.00	
Extension 1/11 - 3/12	\$0.00	
Extension 4/12 - 8/13	\$0.00	
Extension 9/13 - 4/17 ***	\$1.40	
Extension 5/17 - 2/20 ****	<u>\$5.60</u>	
Total Typical Annual Bill Amount	\$7.40	
\$ Increase from Current Bill Amount	\$2.30	
% Increase from Current Bill Amount	0.2%	
<u>General Delivery Service</u>		
	13,000	Annual Therms
(Over)/Under Recovery	\$5.20	
Original filing - 8/09 - 12/10	\$0.00	
Extension 1/11 - 3/12	\$0.00	
Extension 4/12 - 8/13	\$0.00	
Extension 9/13 - 4/17 ***	\$18.20	
Extension 5/17 - 2/20 ****	<u>\$72.80</u>	
Total Typical Annual Bill Amount	\$96.20	
\$ Increase from Current Bill Amount	\$29.90	
% Increase from Current Bill Amount	0.3%	

* Consists of prior year balance plus current year recoveries and carrying costs.
 ** Amortized costs and return on rate base for the respective periods plus O&M for the period.
 *** Extension 9/13-8/15 which was subsequently extended through 12/16 using the same budget and extended again through 7/17 with additional money.
 **** Extension 5/17-12/18 which was subsequently extended through 2/19 using the same budget and extended again through 2/20 with additional money.

INSERT TAB:
GARY MARMO

**IN THE MATTER OF THE PETITION OF
ELIZABETHTOWN GAS COMPANY TO REVISE
ITS ENERGY EFFICIENCY PROGRAM RIDER RATE**

BPU DOCKET NO. _____

DIRECT TESTIMONY

OF

GARY MARMO

**On Behalf Of
Elizabethtown Gas Company**

Exhibit P-2

July 22, 2019

**ELIZABETHTOWN GAS COMPANY
DIRECT TESTIMONY OF
GARY MARMO**

1 **I. INTRODUCTION**

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

3 **A. My name is Gary Marmo. My business address is 520 Green Lane, Union, New**
4 **Jersey 07083.**

5 **Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?**

6 **A. I am employed by Elizabethtown Gas Company (“Elizabethtown” or “Company”)**
7 **as Director of New Business Development.**

8 **Q. WHAT IS THE SCOPE OF YOUR DUTIES AT ELIZABETHTOWN?**

9 **A. I am responsible for the local management of the Company’s Energy Efficiency**
10 **programs. I also manage all residential, commercial and industrial sales functions**
11 **for both new and existing customers for Elizabethtown Gas Company.**

12 **Q. PLEASE DESCRIBE YOUR EDUCATIONAL AND BUSINESS**
13 **EXPERIENCE.**

14 **A. In May 1983, I graduated from William Paterson University located in Wayne, N.J.**
15 **with a Bachelor of Arts degree in Business Administration and Economics. In 1989**
16 **I joined the Company’s residential sales team and in June 1996 received a**
17 **promotion to the position of Territory Manager – Key Accounts. In November,**
18 **2004 NUI Corporation was acquired by AGL Resources where I assumed the**
19 **position of Director of Sales, Mid Atlantic Operations with responsibilities as**
20 **described in the “scope of duties” section above. AGL Resources was acquired by**

1 Southern Company in July 2016 and Elizabethtown Gas was acquired by SJI in July
2 2018.

3 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS**
4 **PROCEEDING?**

5 **A.** The purpose of my testimony is to support Elizabethtown’s Petition in this
6 proceeding to revise its Energy Efficiency Programs (“EEP”) Rider rate and to
7 provide information concerning the Energy Efficiency Programs (“EE Programs”).
8 I will report on the Company’s actual and projected spending on EE Programs for
9 the period July 1, 2018 through June 30, 2019 (“2019 Program Period”) and support
10 the Company’s spending forecast for the period July 1, 2019 through June 30, 2020
11 (“2020 Program Period”).

12 **Q. DOES YOUR TESTIMONY INCLUDE ANY ILLUSTRATIVE**
13 **SCHEDULES?**

14 **A.** Yes. My testimony includes two schedules prepared under my direction and
15 supervision. These schedules contain information responsive to the Minimum
16 Filing Requirements (“MFRs”) as referenced in the MFR Index attached to the
17 Petition as Exhibit A and as set forth in the Stipulations approved by the Board in
18 its August 3, 2009 Order (“August 3 Order”) in Docket Nos. EO09010056 and
19 GO09010060 et al., as well as the Board’s January 19, 2011 Order (“January 19
20 Order”) and April 11, 2012 Order (“April 11 Order”) in BPU Docket Nos.
21 GO10070446 and GO10100735 *et al.* and BPU Docket No. GO11070399,
22 respectively. The schedules are as follows:

1 (a) EEP Schedule GM-1 contains budgeted, actual and projected EE
2 Program costs by major spending categories for the period July 1,
3 2018 through June 30, 2019; and

4 (b) EEP Schedule GM-2 contains estimated EE Program costs by
5 major spending categories for the period July 1, 2019 through
6 June 30, 2020.

7 **II. PROGRAM OVERVIEW**

8 **Q. PLEASE DESCRIBE THE COMPANY’S EE PROGRAMS.**

9 **A.** In accordance with a Board order issued February 27, 2019 in BPU Docket No.
10 GR18070682 (“February 27 Order”), Elizabethtown was authorized to offer the
11 programs listed below from March 1, 2019 through February 29, 2020 with a total
12 budget of approximately \$3.0 million:

13 (i) Residential Gas HVAC and Gas Hot Water Heater Incentive
14 Program;

15 (ii) Residential Home Energy Assessment Program;

16 (iii) Residential Home Energy Report (Opower) Program;

17 (iv) Residential Home Weatherization for Income Qualified Customers
18 Program; and

19 (v) Commercial Steam Trap Survey and Repair Program.

20 In addition to a range of rebates, the EE Programs contain various customer
21 education and outreach initiatives, including an on-line customer Dashboard,
22 designed to encourage customers to conserve energy and provide information to
23 them on how to lower their gas bills. In addition, a Home Energy Report program

1 provides a sample size of residential customers, approximately 255,000, with a
2 report of their home's energy usage and compares their results with that of "like"
3 sized neighbors and offers tips and tools for changing energy usage behavior.

4 **III. PROGRAM SPENDING**

5 **Q. PLEASE DESCRIBE THE COMPANY'S SPENDING LEVELS FOR THE**
6 **EE PROGRAMS DURING THE 2019 PROGRAM PERIOD.**

7 **A.** EEP Schedule GM-1 reflects approximately \$2.3 million in total EE Program
8 related expenditures during the 2019 Program Period. As reflected on EEP
9 Schedule GM-1, these expenditures include costs in the following categories:
10 O&M, including labor, customer education, and related expenditures, and Program
11 Expenditures. These expenditures are also outlined on EEP Schedule TK-4 which
12 accompanies Company witness Thomas Kaufmann's testimony.

13 **Q. IS THE COMPANY'S SPENDING TO DATE CONSISTENT WITH THE**
14 **BUDGET APPROVED BY THE ORDERS DISCUSSED ABOVE?**

15 **A.** Yes. As shown on EEP Schedules TK-4 and GM-1, the Company's spend of
16 approximately \$2.3 million during the 2019 Program Period is within the authorized
17 budget of approximately \$2.6 million as indicated in EE Schedule GM-1.

18 **Q. PLEASE DESCRIBE THE COMPANY'S PROJECTED SPENDING**
19 **LEVELS FOR THE EE PROGRAMS DURING THE 2020 PROGRAM**
20 **PERIOD.**

21 **A.** As reflected on EEP Schedule GM-2, the projected spending in this filing is through
22 February 29, 2020, the conclusion of the currently approved programs. As shown,
23 the Company expects to incur approximately \$0.3 million in total O&M expense

1 and approximately \$1.4 million in total EE Program expenditures during the 2020
2 Program Period, totaling approximately \$1.7 million. Projected amounts are based
3 on the total budget approved in accordance with the February 27 Order.

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

5 **A.** Yes, it does.

ELIZABETHTOWN GAS COMPANY ENERGY EFFICIENCY PROGRAM ("EEP") ACTUAL/BUDGET SPENDING BY PROGRAM (\$\$\$)

Schedule GM-1

	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19	2019 Program Period
ACTUAL												Estimate	
O&M EXPENDITURES													
Labor	\$ 14,359	\$ 36,700	\$ 7,058	\$ 21,092	\$ 17,031	\$ 21,191	\$ 17,848	\$ 18,849	\$ 16,457	\$ 22,955	\$ 8,496	\$ -	\$ 202,036
Customer Education, Outreach	\$ 8	\$ 1,299	\$ 226	\$ 8	\$ 13,880	\$ 5,282	\$ 12,101	\$ 762	\$ 4,485	\$ 5,000	\$ -	\$ -	\$ 43,051
Program Evaluation	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 36,870	\$ -	\$ -	\$ -	\$ 36,870
TOTAL O&M	\$ 14,367	\$ 37,999	\$ 7,284	\$ 21,100	\$ 30,911	\$ 26,473	\$ 29,949	\$ 19,611	\$ 57,812	\$ 27,955	\$ 8,496	\$ -	\$ 281,957
PROGRAM EXPENDITURES													
Residential Gas HVAC/WH :													
Rebates, Grants, Incentives	\$ -	\$ 28,219	\$ -	\$ 33,900	\$ 12,400	\$ 12,550	\$ -	\$ 13,100	\$ 9,150	\$ 13,800	\$ 36,255	\$ 33,500	\$ 192,874
Rebate Processing	\$ -	\$ 75	\$ -	\$ 390	\$ 75	\$ 70	\$ 81	\$ 5,150	\$ 150	\$ 691	\$ 150	\$ 334	\$ 7,166
Home Energy Assessments	\$ -	\$ 47,049	\$ 76,267	\$ 12,942	\$ 14,646	\$ 15,050	\$ 13,202	\$ -	\$ -	\$ -	\$ 42,853	\$ 31,067	\$ 253,076
HEA Administrative Fees	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 48,000	\$ 12,000	\$ 60,000
Home Weatherization for Income Qualified	\$ -	\$ 24,436	\$ 132,840	\$ 34,446	\$ 11,260	\$ 21,541	\$ 17,760	\$ 56,742	\$ 132,002	\$ 72,193	\$ 120,341	\$ 25,000	\$ 648,561
HW for IQC Administrative Fees	\$ -	\$ 2,444	\$ 13,284	\$ 3,445	\$ 1,126	\$ 2,154	\$ 1,776	\$ 5,674	\$ 13,200	\$ 7,219	\$ 12,034	\$ 2,500	\$ 64,856
Home Energy Report - Opower	\$ -	\$ -	\$ 177,868	\$ -	\$ -	\$ 194,829	\$ -	\$ 10,000	\$ 175,286	\$ 5,000	\$ 175,286	\$ -	\$ 738,269
\$ -	\$ 102,223	\$ 400,259	\$ 85,123	\$ 39,507	\$ 246,194	\$ 32,819	\$ 90,666	\$ 329,788	\$ 98,903	\$ 434,919	\$ 104,401	\$ -	\$ 1,964,802
Commercial Gas													
Steam Trap Survey & Cleaning Pilot	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 8,504	\$ -	\$ -	\$ 8,504
\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 8,504	\$ -	\$ -	\$ 8,504
Total Program Expenditures	\$ -	\$ 102,223	\$ 400,259	\$ 85,123	\$ 39,507	\$ 246,194	\$ 32,819	\$ 90,666	\$ 329,788	\$ 107,407	\$ 434,919	\$ 104,401	\$ 1,973,306
Total EEP Expenditures	\$ 14,367	\$ 140,222	\$ 407,543	\$ 106,223	\$ 70,418	\$ 272,667	\$ 62,768	\$ 110,277	\$ 387,600	\$ 135,362	\$ 443,414	\$ 104,401	\$ 2,255,262
BUDGET PROJECTION													
O&M EXPENDITURES													
Labor	\$ 21,427	\$ 21,427	\$ 21,427	\$ 21,427	\$ 21,427	\$ 21,427	\$ 22,070	\$ 22,070	\$ 22,070	\$ 22,732	\$ 22,732	\$ 22,732	\$ 262,968
Customer Education, Outreach	\$ 17,000	\$ 17,000	\$ 17,000	\$ 17,000	\$ 17,000	\$ 17,000	\$ 17,000	\$ 17,000	\$ 8,000	\$ 8,000	\$ 8,000	\$ 8,000	\$ 168,000
Program Evaluation	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 15,000	\$ -	\$ -	\$ -	\$ 30,000	\$ -	\$ -	\$ 45,000
TOTAL O&M	\$ 38,427	\$ 38,427	\$ 38,427	\$ 38,427	\$ 38,427	\$ 53,427	\$ 39,070	\$ 39,070	\$ 30,070	\$ 60,732	\$ 30,732	\$ 30,732	\$ 475,968
PROGRAM EXPENDITURES													
Residential Gas HVAC/WH :													
Rebates, Grants, Incentives	\$ 33,500	\$ 33,500	\$ 33,500	\$ 33,500	\$ 33,500	\$ 33,500	\$ 20,000	\$ 20,000	\$ 19,350	\$ 19,350	\$ 19,350	\$ 19,350	\$ 318,400
Rebate Processing	\$ 1,166	\$ 1,166	\$ 1,166	\$ 1,166	\$ 1,166	\$ 1,166	\$ 800	\$ 800	\$ 800	\$ 800	\$ 800	\$ 800	\$ 11,796
Home Energy Assessments	\$ 28,150	\$ 28,150	\$ 28,150	\$ 28,150	\$ 28,150	\$ 28,150	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 318,900
HEA Administrative Fees	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 12,000	\$ 12,000	\$ 12,000	\$ 12,000	\$ 12,000	\$ 12,000	\$ -
Home Weatherization for Income Qualified	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 66,000	\$ 66,000	\$ 66,000	\$ 66,000	\$ 66,000	\$ 66,000	\$ 546,000
HW for IQC Administrative Fees	\$ 2,500	\$ 2,500	\$ 2,500	\$ 2,500	\$ 2,500	\$ 2,500	\$ 6,600	\$ 6,600	\$ 6,600	\$ 6,600	\$ 6,600	\$ 6,600	\$ 54,600
Home Energy Report - Opower	\$ -	\$ 397,500	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 180,000	\$ -	\$ -	\$ 180,000	\$ -	\$ 757,500
\$ 90,316	\$ 487,816	\$ 90,316	\$ 90,316	\$ 90,316	\$ 90,316	\$ 90,316	\$ 130,400	\$ 310,400	\$ 129,750	\$ 129,750	\$ 309,750	\$ 129,750	\$ 2,007,196
Commercial Gas													
Steam Trap Survey & Cleaning Pilot	\$ 5,000	\$ 5,000	\$ 5,000	\$ 5,000	\$ 5,000	\$ 5,000	\$ -	\$ 25,000	\$ -	\$ -	\$ 25,000	\$ -	\$ 80,000
\$ 5,000	\$ 5,000	\$ 5,000	\$ 5,000	\$ 5,000	\$ 5,000	\$ 5,000	\$ -	\$ 25,000	\$ -	\$ -	\$ 25,000	\$ -	\$ 80,000
Total Program Expenditures	\$ 95,316	\$ 492,816	\$ 95,316	\$ 95,316	\$ 95,316	\$ 95,316	\$ 130,400	\$ 335,400	\$ 129,750	\$ 129,750	\$ 334,750	\$ 129,750	\$ 2,159,196
Total EEP Expenditures	\$ 133,743	\$ 531,243	\$ 133,743	\$ 133,743	\$ 133,743	\$ 148,743	\$ 169,470	\$ 374,470	\$ 159,820	\$ 190,482	\$ 365,482	\$ 160,482	\$ 2,635,164

ELIZABETHTOWN GAS COMPANY ENERGY EFFICIENCY PROGRAM ("EEP") ESTIMATED SPENDING BY PROGRAM (\$\$\$)

Schedule GM-2

**2020
PROGRAM**

	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	PERIOD
O&M EXPENDITURES	Estimate	Estimate	Estimate	Estimate	Estimate	Estimate	Estimate	Estimate					Estimates
Labor	\$ 22,732	\$ 22,732	\$ 22,732	\$ 22,732	\$ 22,732	\$ 22,732	\$ 22,732	\$ 58,220	\$ -	\$ -	\$ -	\$ -	\$ 217,344
Customer Education, Outreach	\$ 8,000	\$ 8,000	\$ 8,000	\$ 8,000	\$ 8,000	\$ 8,000	\$ 8,000	\$ 30,515	\$ -	\$ -	\$ -	\$ -	\$ 86,515
Program Evaluation	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL O&M	\$ 30,732	\$ 30,732	\$ 30,732	\$ 30,732	\$ 30,732	\$ 30,732	\$ 30,732	\$ 88,735	\$ -	\$ -	\$ -	\$ -	\$ 303,859
PROGRAM EXPENDITURES													
Residential Gas HVAC/WH :													
Rebates, Grants, Incentives	\$ 19,350	\$ 19,350	\$ 19,350	\$ 19,350	\$ 19,350	\$ 19,350	\$ 19,350	\$ 4,046	\$ -	\$ -	\$ -	\$ -	\$ 139,496
Rebate Processing	\$ 800	\$ 800	\$ 800	\$ 800	\$ 800	\$ 800	\$ 800	\$ 2,675	\$ -	\$ -	\$ -	\$ -	\$ 8,275
Home Energy Assessments	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 29,590	\$ -	\$ -	\$ -	\$ -	\$ 204,590
Home Energy Assessments Admin Fees	\$ 12,000	\$ 12,000	\$ 12,000	\$ 12,000	\$ 12,000	\$ 12,000	\$ 12,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 84,000
Home Weatherization for Income Qualified	\$ 66,000	\$ 66,000	\$ 66,000	\$ 66,000	\$ 66,000	\$ 66,000	\$ 66,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 462,000
HW for IQC Administrative Fees	\$ 6,600	\$ 6,600	\$ 6,600	\$ 6,600	\$ 6,600	\$ 6,600	\$ 6,600	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 46,200
Home Energy Report - Opower	\$ -	\$ 180,000	\$ -	\$ -	\$ 180,000	\$ -	\$ -	\$ 4,428	\$ -	\$ -	\$ -	\$ -	\$ 364,428
	\$ 129,750	\$ 309,750	\$ 129,750	\$ 129,750	\$ 309,750	\$ 129,750	\$ 129,750	\$ 40,739	\$ -	\$ -	\$ -	\$ -	\$ 1,308,989
Commercial Gas													
Steam Trap Survey & Cleaning Pilot	\$ -	\$ 25,000	\$ -	\$ -	\$ 25,000	\$ -	\$ -	\$ 41,496	\$ -	\$ -	\$ -	\$ -	\$ 91,496
	\$ -	\$ 25,000	\$ -	\$ -	\$ 25,000	\$ -	\$ -	\$ 41,496	\$ -	\$ -	\$ -	\$ -	\$ 91,496
Total Program Expenditures	\$ 129,750	\$ 334,750	\$ 129,750	\$ 129,750	\$ 334,750	\$ 129,750	\$ 129,750	\$ 82,235	\$ -	\$ -	\$ -	\$ -	\$ 1,400,485
Total EEP Expenditures	\$ 160,482	\$ 365,482	\$ 160,482	\$ 160,482	\$ 365,482	\$ 160,482	\$ 160,482	\$ 170,971	\$ -	\$ -	\$ -	\$ -	\$ 1,704,345

Note: In order to match the total approved budget, February 2020 estimate includes remaining unspent budgeted dollars for each line item. Labor has been reduced by the \$6,870 overage for Program Evaluation that was paid in March 2019. Home Energy Assessments have been reduced by the \$21,490 projected overage related to Home Weatherization and the associated administrative fees.

INSERT TAB:
BRENDON J. BAATZ

**IN THE MATTER OF THE PETITION OF
ELIZABETHTOWN GAS COMPANY TO REVISE
ITS ENERGY EFFICIENCY PROGRAM RIDER RATE**

BPU DOCKET NO. _____

DIRECT TESTIMONY

OF

BRENDON J. BAATZ

Gabel Associates, Inc.

**On Behalf Of
Elizabethtown Gas Company**

Exhibit P-3

July 22, 2019

**ELIZABETHTOWN GAS COMPANY
DIRECT TESTIMONY OF
BRENDON J. BAATZ**

1 **I. INTRODUCTION**

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

3 **A. My name is Brendon J. Baatz and my business address is 417 Denison Street, Highland**
4 **Park, New Jersey, 08904. I am presently employed as a Vice President at Gabel Associates,**
5 **Inc., an energy, environmental, and public utility consulting firm.**

6 **Q. Please summarize your professional experience and educational background.**

7 **A. I have been employed with Gabel Associates since March of 2018. Prior to my employment**
8 **with Gabel Associates, I managed the utility program at the American Council for an**
9 **Energy Efficient Economy (“ACEEE”). There I focused on various issues related to utility-**
10 **sector energy efficiency programs, including efficiency program design, state policies, and**
11 **regulatory issues affecting energy efficiency, including electric and gas rate design. I**
12 **testified in various proceedings on these issues during that time.**

13 Prior to my employment with ACEEE, I was employed with the Federal Energy
14 Regulatory Commission (“FERC”). During my employment with FERC my primary
15 responsibilities were the review and analyses of electric utility cost of service studies in
16 wholesale transmission and electric power rate cases. I also worked on other litigated issues
17 while at FERC including but not limited to transmission capacity reservation rights,
18 municipal power contracts, and formula rate structure and protocols. Prior to my
19 employment with FERC, I held positions with the Maryland Public Service Commission
20 as an energy analyst and the Indiana Office of Utility Consumer Counselor (“OUCC”) as
21 a utility analyst. While working at the OUCC, I testified on a variety of utility issues

1 including but not limited to rate design, renewable energy credit compensation, and utility
2 petitions for construction.

3 I hold a Master of Public affairs degree from Indiana University Bloomington and
4 a Bachelor of Science in political science from Arizona State University. I have continued
5 my education through attendance of various seminars and conferences. I have also
6 completed formal training in rate design, cost of service, depreciation, and other utility
7 regulatory matters.

8 **Q. Have you previously testified before the New Jersey Board of Public Utilities?**

9 **A.** Yes. I previously testified in the most recent Elizabethtown Gas energy efficiency
10 compliance filing in Docket No. GR18080860.

11 **Q. What is the purpose of your direct testimony?**

12 **A.** The purpose of my testimony is to support the Petition filed by Elizabethtown Gas
13 Company (“Elizabethtown” or “Company”) in this proceeding to revise its Energy
14 Efficiency Program (“EEP”) Rider rate and to provide information concerning the Energy
15 Efficiency (“EE”) Programs, including a cost-benefit analysis (“CBA”).

16 **Q. Are you sponsoring any schedules in connection with your direct testimony?**

17 **A.** Yes. I am presenting the following schedules, which have been prepared under my
18 direction and supervision and are accurate and complete to the best of my knowledge and
19 belief. These schedules contain information responsive to the Minimum Filing
20 Requirements (“MFRs”) as referenced in the MFR Index attached to the Petition as Exhibit
21 A and as set forth in the stipulations approved by the Board in its August 3, 2009 Order
22 (“August 3 Order”) in Docket Nos. EO09010056 and GO09010060 et al., as well as the
23 Board’s January 19, 2011 Order (“January 19 Order”) and April 11, 2012 Order (“April 11

1 Order”) in BPU Docket Nos. GO10070446 and GO10100735 et al. and BPU Docket No.
2 GO11070399, respectively. The schedules attached hereto which are described below
3 contain 11 months of actual data through May 2019 as well as projected data for June 2019:

4 (a) Schedule BJB-1 – EE Program participation summary for the program
5 period July 2018 through June 2019;

6 (b) Schedule BJB-2 – Overall Program expenditures for the program period
7 July 2018 through June 2019;

8 (c) Schedule BJB-3 – Energy and demand savings by program for the program
9 period July 2018 through June 2019;

10 (d) Schedule BJB-4 – Emissions avoided data for the program period July 2018
11 through June 2019;

12 (e) Schedule BJB-5 – Job creation estimates for the period of July 2018 through
13 June 2019;

14 (f) Schedule BJB-6 – Summary of cost/benefit analysis results for the program
15 period July 2018 through June 2019; and

16 (g) Schedule BJB-7 – List of studies used to develop avoided hedge risk
17 premium.

18 **II. PARTICIPATION AND BENEFITS**

19 **Q. Please describe Elizabethtown’s EE Program participation levels in the program**
20 **period from July 2018 through June 2019.**

21 **A.** As summarized in my Schedule BJB-1, 156,250 Elizabethtown customers participated in
22 the EE Programs between July 2018 through June 2019. This information was sourced
23 from Elizabethtown.

1 **Q. What direct impact did the EE Programs have on full time employment?**

2 **A.** As reflected on Schedule BJB-5, the EE Program resulted in the creation of 15 direct,
3 indirect, and induced job-years during the program period July 2018 through June 2019.

4 **Q. How did you estimate the job creation associated with Elizabethtown’s EE Programs?**

5 **A.** I employed the use of industry standard methods and models to calculate the job creation
6 generated from Elizabethtown’s EE Programs. Direct job creation was estimated using the
7 Rutgers University “Analysis for the 2011 Draft New Jersey Energy Master Plan Update.”¹
8 This report specifies 7.91 direct jobs created for every one-million dollars invested in
9 energy efficiency in New Jersey. The Rutgers analysis has been incorporated into previous
10 energy efficiency filings and represents a standard method of determining direct job
11 creation from energy efficiency spending in New Jersey. Indirect and induced jobs are
12 created as a result of those employed by the direct jobs spending a portion of their earnings
13 on other goods and services in New Jersey, creating additional economic value and jobs.
14 This derivative job creation, or “multiplier effect” can have a significant effect on the
15 economy, and if not included would severely understate the job creation benefits of energy
16 efficiency expenditures. Indirect and induced jobs was estimated by employing the
17 National Renewable Energy Laboratory (“NREL”) Jobs and Economic Development
18 Impact (“JEDI”) model.² JEDI is an input-output economic impact model that has been
19 accepted by the New Jersey Board of Public Utilities (“BPU” or “Board”) in other matters
20 and uses state and industry specific economic multipliers that estimate the direct, indirect
21 and induced economic impact of energy industry investments. While JEDI does not have

¹ Rutgers University Edward J. Bloustein School of Planning and Public Policy, *Analysis for the 2011 Draft New Jersey Energy Master Plan Update*, (Apr. 12, 2011), nj.gov/emp/docs/pdf/emp_creeep_report20110412.pdf.

² NREL, *Jobs & Economic Development Impact Models*, available at nrel.gov/analysis/jedi/.

1 a model specifically for energy efficiency investments, the solar photovoltaic (“PV”)
2 model has similar economic characteristics (e.g., both have a large up-front investment for
3 the initial installation followed by very low maintenance costs going forward). Further,
4 both utilize a similar level of skilled trade workers. The model assumed that no New Jersey
5 in-state manufacturing activity would result from the investments; to the extent
6 manufacturing activity is induced, it would result in additional job and multiplier benefits
7 to the State.

8 **Q. What are the estimated greenhouse gas emission reductions attributable to the EE**
9 **Programs?**

10 **A.** The EE Programs are expected to avoid 39,326 metric tons of CO₂, 11.77 metric tons of
11 SO₂, and 30.69 metric tons of NO_x for residential and commercial customers combined.
12 The avoided air emissions estimate was developed using the reported participation and
13 resulting energy savings.³ The emissions factors were developed using dispatch simulation
14 results using AURORAxmp. Because AURORAxmp dispatches generation at the
15 individual unit level, the simulation results provide marginal emissions rates for CO₂, SO₂,
16 and NO_x. The results of this analysis are provided in Schedule BJB-4.

17 **Q. Did you prepare the cost-benefit analysis of Elizabethtown’s EE Programs in this**
18 **filing?**

19 **A.** Yes. I prepared the cost-benefit analysis (“CBA”) which calculates and details the results
20 of the five tests prescribed in the MFR as required by the Board. This entailed developing
21 a model which analyzed measure-specific details and computed the actual costs and
22 estimated savings of each program for use in the Total Resource Cost (“TRC”) test, the

³ Schedule BJB-3 presents the total energy and demand savings for the program period.

1 Participant Cost test (“PCT”), the Program Administrator Cost (“PAC”) test, the Ratepayer
2 Impact Measure (“RIM”) test, and the Societal Cost test (“SCT”). This testimony presents
3 the methodology and results of the five CBA tests required by the Board’s MFRs for the
4 Company energy efficiency program results for the period of July 1, 2018 through June 30,
5 2019. These results allow the BPU to evaluate the performance of the program offerings
6 during this time period.

7 **III. COST-BENEFIT ANALYSIS OVERVIEW**

8 **Q. Please describe the five CBA tests required by the Board’s MFRs.**

9 **A.** On October 20, 2017, the Board approved Docket No. QO17091004 memorializing a new
10 set of MFRs to supersede those put in place in May of 2008. As set forth in the updated
11 MFRs section V.b. states:

12 The utility shall calculate a cost/benefit analysis using the Participant
13 Cost Test, Program Administrator Cost Test, Ratepayer Impact
14 Measure Test, Total Resource Cost Test, and Societal Cost Test that
15 assesses all program costs and benefits from a societal perspective
16 i.e., that includes the combined financial costs and benefits realized
17 by the utility and the customer. The utility may also provide any cost
18 benefit analysis that it believes appropriate with supporting
19 rationales and documentation.

20 Each test listed above is designed to provide a different perspective on the cost-
21 effectiveness of the proposed programs. According to the California Standard Practice
22 Manual,⁴ the five tests can be understood to illustrate the following:

- 23 • Societal Cost Test – The Societal Cost Test measures the net costs of a program as
24 a resource option based on the total costs of the program, including both the
25 participants' and the utility's costs. The Societal Test differs from the TRC test in

⁴ *California Standard Practice Manual: Economic Analysis of Demand-Side Programs and Projects* (Oct. 2001), available at cpuc.ca.gov/uploadedFiles/CPUC_Public_Website/Content/Utilities_and_Industries/Energy_-_Electricity_and_Natural_Gas/CPUC_STANDARD_PRACTICE_MANUAL.pdf.

1 that it includes the effects of societal impacts such as environmental impacts to the
2 economy, excludes tax credit benefits, and uses a different (societal) discount rate.

- 3 • Total Resource Cost Test – The Total Resource Cost Test measures the net costs of
4 a program as a resource option based on the total costs, including both the
5 participant and the utility costs of the program.
- 6 • Participant Cost Test – The Participant Cost Test is the measure of the quantifiable
7 benefits and costs from the perspective of program participants. Since many
8 customers do not base their decision to participate in a program entirely on
9 quantifiable variables, this test is not a complete measure of the benefits and costs
10 of a program to a customer.
- 11 • Program Administrator Cost Test – The Program Administrator Cost Test measures
12 the net costs of a program as a resource option based on the costs incurred by the
13 program administrator or utility (including incentive costs) and excluding any net
14 costs incurred by the participant. The benefits are similar to the TRC benefits. Costs
15 are defined more narrowly. This test measures the net economic impact of investing
16 in energy efficiency programs from the perspective of the utility.
- 17 • Ratepayer Impact Measure Test – The Ratepayer Impact Measure test measures
18 what happens to customer rates due to changes in utility revenues and operating
19 costs caused by the program. Rates will go down if the change in revenues from the
20 program is greater than the change in utility costs. Conversely, rates or bills will go
21 up if revenues collected after program implementation are less than the total costs
22 incurred by the utility in implementing the program. This test indicates the direction
23 and magnitude of the expected change in customer bills or rate levels. In essence,

1 this test reviews the benefits of energy efficiency programs against the cost to all
2 ratepayers, not just participants.

3 In aggregate, these tests provide the Board with multiple viewpoints of the benefits and
4 costs associated with the programs.

5 **Q. Do you prefer a specific test to evaluate the cost-effectiveness of the proposed**
6 **program?**

7 **A.** Yes. I believe the SCT is the best test to evaluate energy efficiency programs because it
8 provides the most complete picture of the costs and benefits of the energy efficiency
9 programs. In fact, the renewable and energy efficiency legislation (P.L. 2018, c. 17) which
10 was signed into law by Governor Murphy on May 23, 2018 requires utilities to file energy
11 efficiency programs with cost benefit analyses that consider “both economic and
12 environmental factors.”

13 The other tests, while useful for other information, are incomplete in comparison
14 with the SCT. For example, the SCT is the only test that recognizes carbon reduction and
15 other environmental benefits, and therefore is the only means to consider the potential cost
16 of climate change and the positive impact on the environment of proposed programs, and
17 their alignment with the State’s environmental and energy policy goals.

18 A thorough accounting of all benefits related to the energy efficiency programs,
19 inclusive of environmental benefits and other important society-wide impacts such as
20 emission reductions, economic and employment benefits, and reduced health costs, among
21 other benefits, can only be accomplished through use of the SCT as a critical test evaluating
22 cost-effectiveness.

1 **Q. Did you evaluate all the programs being proposed using the five CBA tests required**
2 **in the MFRs?**

3 **A.** Yes, I did provided results for all five tests for the period of July 1, 2018 through
4 June 30, 2019.

5 **Q. Please summarize your conclusions.**

6 **A.** Based on a careful calculation of costs and benefits (as detailed in this testimony), I derived
7 the benefit-cost ratio of the each of the five tests for each of the sectors being proposed in
8 the filing. Accordingly, the Elizabethtown Gas 2018-2019 Energy Efficiency portfolio
9 level SCT ratio is 3.16. Over the life of the energy efficiency measures, the programs will
10 yield total societal benefits (NPV) of \$5,067,749 as compared to total societal costs of
11 \$1,605,516, resulting in net benefits of \$3,462,233. A summary of the results is provided
12 in Schedule BJB-6.

13 The results from the other tests, in summary, indicate that:

- 14 • The Elizabethtown program portfolio is cost effective from a TRC perspective;
15 • The Elizabethtown program portfolio is cost effective from a PCT perspective;
16 • The Elizabethtown program portfolio is cost effective from a PAC perspective; and
17 • The Elizabethtown program portfolio shows appropriate impact from a RIM
18 perspective.

19 I also determined that the Elizabethtown programs would result in approximately
20 15 direct, indirect and induced job-years created over the course of the measure lives of the
21 programs. More detail on job creation is provided above as well as in Schedule BJB-5.

1 **Q. What do you conclude from these results?**

2 **A.** The results of the five tests show the portfolio is cost-effective under the TRC and SCT
3 and provide significant benefits.

4 **IV. COST-BENEFIT ANALYSIS ASSUMPTIONS**

5 **Q. What types of cost benefit analyses did you prepare?**

6 **A.** I prepared analysis for each of the five CBA tests required by the Board's MFRs
7

8 **Q. What methodology did you use to undertake these calculations?**

9 **A.** Consistent with previous EE filings at the Board, I utilized the methods in the California
10 Standard Practice Manual, which has been used throughout the country for over 30 years
11 as a basis for the calculation of cost-effectiveness tests through the five prescribed CBA
12 tests discussed above.

13 Within the CBA tests, there are a wide range of costs and benefits used to
14 characterize program integrity, some of which are applicable in conducting certain tests
15 but not others. Table 1 shows a list of specific costs and benefits and the tests they apply to:

1 **Table 1: Costs and Benefits Utilized in CBA Tests**

	SCT	TRC	PCT	PAC	RIM
Program Benefits					
Lifetime Avoided Wholesale Electric Energy Costs	x	x		x	x
Lifetime Avoided Wholesale Electric Capacity Costs	x	x		x	x
Lifetime Avoided Wholesale Natural Gas Costs	x	x		x	x
Lifetime DRIPE Benefits (E&G)	x	x		x	x
Lifetime Avoided RPS REC Purchase Costs	x	x		x	x
Lifetime Avoided Wholesale Volatility Costs (E&G)	x	x		x	x
Lifetime Avoided T&D Costs (E&G)	x	x		x	x
Lifetime Avoided Retail Electric Costs			x		
Lifetime Avoided Retail Natural Gas Costs			x		
Lifetime Program Investment Costs			x		
Lifetime Avoided Distribution Costs (utility lost revenue)					x
Lifetime Avoided Emissions Costs	x				
Lifetime Job and Savings Multiplier Benefits	x				
Program Costs					
Lifetime Incremental Costs	x	x			
Lifetime Participant Costs			x		
Lifetime Administration Costs	x	x		x	x
Lifetime Program Investment Costs				x	x
Lifetime Reallocated Distribution Costs (utility lost revenue)					x

2 **Q. Please describe the Program Benefits listed in Table 1.**

3 **A.** To conduct the CBA, I reviewed and analyzed thirteen (13) types of benefits which were
4 incorporated across the five prescribed cost benefit tests. These benefits are:

5 Lifetime Avoided Wholesale Natural Gas Costs

6 The lifetime avoided wholesale natural gas costs category captures wholesale
7 natural gas market purchases that would be avoided as a result of reduction in energy usage
8 associated with the programs.

9 The value of avoided costs is computed based upon the market cost of natural gas
10 delivered to Transcontinental Pipeline (Transco) Z6 Non-NY North delivery point.

1 Historical actual prices were utilized where applicable. Underlying supply prices for future
2 periods were escalated based upon EIA Annual Energy Outlook Henry Hub reference case.
3 The underlying Henry Hub supply forecast was combined with the Transco Z6 Non-NY
4 North basis to determine the avoided cost projection. All values were adjusted to account
5 for average losses and sales and use tax.

6 Lifetime Avoided Wholesale Electric Energy Costs

7 The lifetime avoided wholesale electric energy costs category captures wholesale
8 electric market purchases that would be avoided as a result of reductions in energy usage
9 associated with the programs.

10 The value of avoided costs is estimated using PJM Western Hub forward prices,
11 adjusted for congestion to reconcile for topographical Locational Marginal Pricing
12 (“LMP”) differences between Western Hub and the Jersey Central Power & Light
13 (“JCP&L”) zone (the electric delivery territory in which a majority of Elizabethtown
14 customers receive electric service). Historical actual prices were utilized where applicable.
15 Prices were forecasted based upon Energy Information Administration (EIA) Annual
16 Energy Outlook reference case for the Reliability First Corporation – East region electricity
17 generation escalations. All values were adjusted to account for marginal line losses on the
18 JCP&L and PJM systems, and sales and use tax.

19 Lifetime Avoided Wholesale Electric Capacity Costs

20 The lifetime avoided wholesale electric capacity costs category captures the
21 wholesale reduction in PJM capacity as a result of the reductions in electric demand
22 associated with the programs.

1 I used actual cleared PJM Eastern Mid-Atlantic Area Council (“EMAAC”)
2 Locational Deliverability Area (“LDA”) prices where available. Clearing prices were
3 escalated by three (3) percent thereafter. All values were adjusted to account for marginal
4 line losses on the JCP&L and PJM systems, PJM’s Forecast Pool Requirement (“FPR”) to
5 account for avoided reserve requirements, and sales and use tax.

6 Lifetime Demand Reduction Induced Price Effect Benefits (Electric & Gas)

7 The lifetime Demand Reduction Induced Price Effects (“DRIPE”) price
8 suppression (also known as merit order benefits) is a benefit that captures the reduction in
9 wholesale electric and natural gas market prices to all customers, not just participants, as a
10 result of energy efficiency. Wholesale electric and natural gas markets are fundamentally
11 supply and demand based – therefore, downward movement in the electric or natural gas
12 demand curve as a result of reduced consumption should result in less expensive generation
13 resources being dispatched for electricity, and less expensive natural gas delivered. Both
14 markets “clear” at a lower price, and the associated reductions in market prices flow
15 through to all customers.

16 Natural gas DRIPE price suppression occurs as a result of reduced demand in the
17 natural gas markets servicing New Jersey. Highly congested natural gas markets, in
18 particular those in New Jersey such as those that trade around the Transco Z6 Non-NY
19 North delivery point are candidates for DRIPE price suppression effects as a result of
20 energy efficiency. In these highly liquid and traded markets, even a small reduction in the
21 bid-ask price spread can have significant effects on the cost of natural gas.

1 While a value for electric or natural gas DRIPE price suppression was not included
2 in this analysis, it merits further research and could be included at a later date as it
3 represents a real benefit to all ratepayers.

4 Lifetime Avoided RPS REC Purchase Costs

5 The lifetime avoided RPS REC purchase costs estimates the reduced volume of
6 RECs that must be purchased by New Jersey’s electric retail suppliers as a result of
7 Elizabethtown’s Programs. The New Jersey Renewable Portfolio Standard (“RPS”) sets
8 the total volume requirement of Renewable Energy Certificates (“RECs”) that must be
9 purchased as a percentage of retail load. A reduction in retail load due to energy efficiency
10 will reduce the total number of RECs required to be purchased.

11 Historical pricing was based upon the New Jersey Clean Energy Program
12 (“NJCEP”) RPS Report Summary 2005-2017.⁵ Forecast market prices for New Jersey
13 Class I RECs, Class II RECs and SRECs were used based upon an internal supply-demand
14 analysis and compliance costs for the three New Jersey REC markets.

15 Lifetime Avoided Wholesale Volatility Costs (Electric & Gas)

16 The lifetime avoided wholesale volatility cost category estimates the value of
17 avoiding risk of wholesale purchases. Wholesale electric and natural gas prices are
18 inherently risky as they are market-based and not fixed in price or volume. Large
19 fluctuations in prices expose customers and retail suppliers to risks that ultimately are
20 priced into retail rates. Energy efficient measures and practices amount to a purchase of
21 energy service which does not contain the price volatility implicit in the price of electricity

⁵ NJCEP, *NJ RPS Compliance EY 2017 Final Results*, (Nov. 2, 2017), available at njcleanenergy.com/files/file/rps/EY17/NJ%20RPS%20Compliance%20EY%202017%20Final%20Results%2011_2_17.pdf.

1 and natural gas. By reducing the overall energy purchases of customers, customers are
2 exposed to less fuel volatility. In this regard, energy efficiency can be viewed as an energy
3 resource that does not contain the price volatility embedded in purchases from the electric
4 and gas supply systems.

5 The risk avoidance benefit of energy efficiency was applied as a price adder to the
6 cost of electricity and natural gas. The price adder was determined based upon a review of
7 studies and regulatory decisions. While there is some variation among the studies, a
8 conservative premium based on these precedents equal to 10% of electric and natural gas
9 costs was assumed. A list of the studies and regulatory decisions reviewed in associated
10 with this value is provided in Schedule BJB-7.

11 Lifetime Avoided T&D Costs (E&G)

12 The lifetime avoided T&D cost category estimates the value of reducing the cost of
13 building new and maintaining existing transmission and distribution infrastructure as a
14 result of reduced or flattened load.

15 Avoided electric T&D costs were calculated based upon the precedent set in
16 previous filings, sourced from the “Draft Energy Efficiency Cost-Benefit Analysis
17 Avoided Cost Assumptions” produced by the Center for Energy, Economic and
18 Environmental Policy (“CEEP”) of the Edward J. Bloustein School of Planning and Public
19 Policy at Rutgers University, which has been used previously in a BPU proceeding and
20 was not contested by any party. This estimate is conservative based on other recent data

1 presented by the ACEEE, which presented a range of \$0 to \$200 per kW with most values
2 exceeding \$50/kW.⁶

3 Avoided natural gas T&D value results from a reduction in natural gas throughput,
4 which has the potential to avoid incremental investment in transportation and delivery
5 infrastructure, as well as potentially reduce maintenance and other related costs on a system
6 experiencing less throughput. While avoided natural gas T&D value was not included in
7 this analysis, it merits further research and could be included at a later time as it represents
8 a real benefit to all ratepayers.

9 Lifetime Avoided Retail Electric and Natural Gas Costs

10 The lifetime avoided retail electric and natural gas cost categories captures the
11 actual bill savings to participants of the programs. A key benefit of energy efficiency is
12 reduced consumption by participants which results in reduced utility costs.

13 Avoided retail electric costs were calculated based upon the electric charges and
14 applicable rate classes in JCP&L's Tariff for Electric Service. This method results in a
15 "price to compare" analysis, as only portions of the tariff which would be offset as a result
16 of the programs are included in the analysis. By way of example, customers will not offset
17 any of the monthly fixed Service Charge, so that avoiding that charge was not included in
18 the retail electric savings analysis. Each charge was escalated, by component, to account
19 for separate escalation rates for distribution and supply charges. Charges related to electric
20 delivery and transmission were escalated at 2.0% per year and electric energy and capacity

⁶ See Brendon Baatz, Everyone Benefits: Practices and Recommendations for Utility System Benefits of Energy Efficiency p. 18-19 (June 2015), available at aceee.org/sites/default/files/publications/researchreports/u1505.pdf.

1 supply charges were escalated in a manner consistent with the wholesale market escalations
2 explained above.

3 Avoided retail natural gas costs were calculated based on the natural gas charges
4 and applicable rate classes available in Elizabethtown’s Tariff for Gas Service. This
5 method results in a “price to compare” type analysis, as only portions of the tariff which
6 would be offset as a result of the programs are included in the analysis. By way of example,
7 customers will not offset any of the monthly fixed Service Charge, so that avoiding that
8 charge was not included in the retail natural gas savings analysis. Each charge was
9 escalated, by component, to account for separate escalation rates for distribution and supply
10 charges. Charges related to natural gas delivery were escalated at 2.0% per year while
11 natural gas supply charges were escalated in a manner consistent with the wholesale market
12 escalations explained above.

13 Lifetime Program Investment Costs

14 The lifetime program investment cost category captures the direct rebate incentives
15 provided to participants of the programs. Depending on perspective, lifetime program
16 investment costs can either be a benefit to a program (to participants) or a cost to programs
17 (to the utility and ultimately, ratepayers). This benefit is only realized in the participant
18 cost test, as that test singles out the experience of a participant in the programs.

19 Lifetime Avoided Distribution Costs (Gained Utility Revenue)

20 The lifetime avoided distribution cost category captures additional revenues
21 collected by the utility which can be used to reduce distribution costs for all customers.
22 The avoided distribution costs primarily occur when revenues from new or increased

1 customer usage exceed the cost to service the new load. This cost is sometimes known as
2 gained utility revenues.

3 This filing did not include any programs which resulted in avoided distribution
4 costs.

5 Lifetime Avoided Emissions Costs

6 The lifetime avoided emissions cost category captures the value of reductions in
7 CO₂, NO_x, and SO₂. I did not include mercury or other greenhouse gases.

8 The reduction in power plant emissions was forecast using dispatch simulation
9 results using AURORA_{xmp}. Because AURORA_{xmp} dispatches generation at the
10 individual unit level, the simulation results provide marginal emissions rates for CO₂, SO₂,
11 and NO_x. Emissions rates associated with natural gas usage savings were based upon the
12 United States Environmental Protection Agency’s (“EPA”) emissions factors for
13 residential natural gas use.

14 The emissions benefits were calculated using methods accepted by the State and
15 EPA and other recognized national sources, including the “Social Cost of Carbon for
16 Regulatory Impact Analysis - Under Executive Order 12866” produced by the Interagency
17 Working Group on Social Cost of Greenhouse Gases, United States Government, as well
18 as the Cross-State Air Pollution Rule (“CSAPR”) EPA cost-benefit analysis.

19 Lifetime Job and Savings Multiplier Benefits

20 The lifetime job and savings multiplier benefits were calculated using the JEDI
21 model, developed by the NREL. This model has been accepted by the BPU and captures
22 direct, indirect, and induced job multiplier benefits. I also included a multiplier benefit to
23 capture the value of participant savings in the economy, as a portion of that savings would

1 be spent and have a multiplied impact that would benefit the State overall. This value netted
 2 out any additional fixed costs reallocated to ratepayers.

3 **Q. Please describe the Program Costs listed in Table 1 above.**

4 **A.** I reviewed and analyzed five (5) categories of costs which were incorporated into the five
 5 prescribed cost benefit tests. These costs are:

6 Lifetime Incremental Costs

7 The lifetime incremental cost category captures the incremental cost of
 8 participating in the programs. This cost is calculated based upon the difference between
 9 the efficient measure costs assumed to install energy efficiency technologies and processes
 10 and the base measure cost assumed that a participant would otherwise pay without access
 11 to the proposed program.

12 Lifetime Participant Costs

13 The lifetime participant cost category captures the incremental cost of participating
 14 in the programs paid by participants. This category includes both incremental costs paid by
 15 participants for the non-subsidized portion of energy efficiency costs, as well as loan
 16 repayments for programs offering financing. The total participant costs, net of utility
 17 incentives, are shown in the table below.

18 **Table 2. Lifetime participant incentives and costs**

Program	Lifetime Incentives	Lifetime Participant Costs	Net Participant Costs
Res. HVAC and HW	130,272	312,323	182,051
Res. Home Energy Assessment	35,492	63,783	28,291
Res. Home Energy Report	720,000	-	(720,000)
Res. Home Weatherization	338,351	164,467	(173,883)
Comm. Steam Trap	11,682	5,126	(6,556)
Total Residential	1,224,115	540,573	(683,542)
Total Commercial	11,682	5,126	(6,556)
Total Portfolio	1,235,797	545,699	(690,097)

1 Lifetime Administration Costs

2 The lifetime administration cost category captures the cost of administering the
3 energy efficiency programs by Elizabethtown Gas. These costs were provided by the
4 Company and are the actual costs associated with the programs for this time period.⁷

5 Lifetime Program Investment Costs

6 The lifetime program investment cost category captures the direct rebate incentives
7 provided to participants of the programs. These costs were provided by the Company and
8 are the actual costs associated with the programs for this time period.

9 Lifetime Reallocated Distribution Costs (Utility Revenue Lost)

10 An associated cost is the lifetime reallocated distribution costs category which
11 captures the value of any distribution costs being avoided by participants that must be
12 collected from the balance of ratepayers. These are not direct program costs and represent
13 the transfer between existing ratepayer subsectors. This cost is sometimes known as lost
14 utility costs or lost revenues.

15 Reallocated distribution costs were calculated based upon the individual rate
16 charges which currently contribute to supporting distribution costs. In addition, the
17 reallocated distribution costs also include tariff surcharges and riders which do not
18 contribute to distribution costs but would likely be reallocated to ratepayers at large.
19 Reallocated distribution costs do not include any supply related costs, as New Jersey's
20 electric and natural gas utilities are deregulated, and avoided supply costs resulting from
21 energy efficiency are not borne by ratepayers.

22 **Q. What assumptions did you use for measure-level energy savings?**

⁷ Schedule BJB-2 shows the overall program expenditures.

1 **A.** My primary source was Elizabethtown’s previous energy efficiency filing, which was
2 approved by the Board on February 27, 2019.

3 With respect to free rider and free driver (spillover) effects I assumed a net-to gross
4 ratio of 1.0. This is consistent with the approach taken by TRC in NJCEP planning. In fact,
5 the NJCEP Protocols “report gross savings and generation only. Free riders and free drivers
6 are not addressed in these Protocols. Further research in this area is planned.” While some
7 participants may have made similar investments absent the program (free riders), the
8 programs also drive non-participants to invest in energy efficient products and change
9 behavior (free drivers). I believe 1.0 is a reasonable estimate based on these factors. In
10 addition, the lack of a formal net-to-gross evaluation in New Jersey makes it difficult to
11 ascertain this impact.

12 **Q.** **Were the costs and benefits evaluated on a nominal or present value basis?**

13 **A.** For the purposes of each of the CBA tests, all costs and benefits were evaluated on a present
14 value basis. The TRC, PCT, PAC, and RIM tests used a discount rate to determine the
15 present value of costs and benefits of 6.1%. This value was determined based upon
16 Elizabethtown’s net of tax weighted average cost of capital. The SCT was evaluated using
17 a discount rate of 3.09, equal to the yield of a 30-year U.S. Treasury bond.

18 **V.** **COST-BENEFIT ANALYSIS RESULTS**

19 **Q.** **What were the results of the CBA for the Elizabethtown Energy Efficiency**
20 **Programs?**

21 **A.** Based on my analysis, a majority of programs exceed a SCT ratio of 1.0, with a portfolio
22 wide average result of 3.2. Table 2 summarizes the SCT ratios for each of the programs
23 offered by Elizabethtown.

1 **Table 3: Elizabethtown 2018-2019 Energy Efficiency SCT Ratios**

Subprogram	SCT
Total Portfolio	3.2
Residential HVAC and HW	1.7
Residential Home Energy Assessment	4.3
Residential Home Energy Report	3.8
Residential Home Weatherization	3.6
Commercial Steam Trap Survey and Repair	1.8

2 **Q. How did the proposed Elizabethtown Gas 2018-2019 Energy Efficiency Programs**
3 **fare in TRC, PCT PAC, and RIM tests?**

4 **A.** The Elizabethtown programs proved cost-effective using the balance of the CBA tests
5 prescribed in the MFRs, in addition to the SCT test, as described above. The following
6 table illustrates the CBA ratios for each of the subprograms for the TRC, PCT, PAC, and
7 RIM tests.

8 **Table 4: Elizabethtown 2018-2019 Energy Efficiency TRC, PCT, PAC, & RIM Ratios**

	TRC	PCT	PAC	RIM
Total Portfolio	1.3	12.3	1.7	0.6
Residential HVAC and HW	0.9	3.7	3.1	0.8
Residential Home Energy Assessment	1.5	5.1	4.0	1.0
Residential Home Energy Report	1.6	n/a	1.6	0.6
Residential Home Weatherization	1.1	6.7	1.0	0.6
Commercial Steam Trap Survey and Repair	1.0	9.5	1.4	0.8

9

1 **Q. Why did some subprograms score so highly in the participant cost test?**

2 **A.** As detailed above, the participant cost test is designed to ascertain cost-effectiveness for
3 customers participating in programs. Many of the programs were designed to offer
4 participants a number of low and no-cost measures and energy savings, and target markets
5 which often have difficulty participating in energy efficiency programs. This includes
6 subprograms such as the Residential Home Weatherization program which targets
7 residents earning between 225% to 400% of federal poverty level, just above eligibility to
8 participate in the Comfort Partners program, but still in an economic demographic with
9 difficulty focusing on and investing in energy efficiency. Another subprogram
10 encompassed in the Residential Programs is the Residential Home Energy Report program
11 which provides customized Home Energy Reports (“HERs”) to participants. The HERs
12 provide customers with insights and behavioral recommendations to improve the efficiency
13 of their homes, all at no cost to the participants. Because participants pay nothing for the
14 HERs, the PCT for this particular subprogram is infinite (any level of savings divided by
15 zero costs is an incalculable infinite number). Combining this subprogram with other
16 programs which require participant payments results in aggregated results with high cost-
17 effectiveness.

18 **Q. Can you summarize the results of your analysis?**

19 **A.** My cost benefit analysis of the Elizabethtown 2018-2019 energy efficiency programs
20 shows the portfolio is cost effective and will provide quantified net benefits to the
21 customers over the lifetime of the energy savings. Total direct benefits to ratepayers
22 (participants and non-participants) total more than \$5.1 million while the associated costs

1 are \$1.6 million yielding net benefits of \$3.4 million. In addition, participants direct retail
2 bill savings are estimated at \$5.5 million.

3 **Q. Based on these results what do you conclude?**

4 **A. I conclude that the 2018-2019 programs were cost effective at the portfolio level.**

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

6 **A. Yes.**

**Elizabethtown Gas Company
Energy Efficiency Program**

Program Participants (HVAC and HW broken out by measure)*Est.*

Measure	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19	TOTAL
Furnace	53	30	28	54	28	34	34	23	-	30	35	24	373
Boiler	1	1	-	6	3	1	1	1	-	5	4	2	25
Water Heater	18	24	16	36	21	11	11	9	-	16	12	10	184
Boiler/WH Combo	9	5	7	3	3	6	6	4	-	5	7	4	59
Furnace/WH Combo	4	5	3	-	-	-	-	-	-	-	-	-	12
Weatherization Income Qualified	18	5	6	2	4	3	9	7	10	14	26	13	117
Home Energy Assessment	61	11	4	14	17	7	36	50	57	88	73	60	478
Home Energy Report (Opower)	-	-	-	155,000	-	155,000	155,000	155,000	-	-	-	-	155,000
Steam Trap Survey/Repair	1	-	-	-	-	-	-	-	-	1	-	-	2

Elizabethtown Gas Company
Energy Efficiency Program

Overall Program Expenditures

Est.

O&M Expenditures	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19	Total
Labor	\$ 14,359	\$ 36,700	\$ 7,058	\$ 21,092	\$ 17,031	\$ 21,191	\$ 17,848	\$ 18,849	\$ 16,457	\$ 22,955	\$ 8,496	\$ -	\$ 202,036
Customer Education, Outreach	\$ 8	\$ 1,299	\$ 226	\$ 8	\$ 13,880	\$ 5,282	\$ 12,101	\$ 761	\$ 4,485	\$ 5,000	\$ -	\$ -	\$ 43,051
Program Evaluation	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 36,870	\$ -	\$ -	\$ -	\$ 36,870
Total O&M	\$ 14,367	\$ 37,999	\$ 7,284	\$ 21,100	\$ 30,911	\$ 26,473	\$ 29,949	\$ 19,611	\$ 57,811	\$ 27,955	\$ 8,496	\$ -	\$ 281,956
Program Expenditures													
Rebates, Grants, Incentives	\$ -	\$ 28,219	\$ -	\$ 33,900	\$ 12,400	\$ 12,550	\$ -	\$ 13,100	\$ 9,150	\$ 13,800	\$ 36,255	\$ 33,500	\$ 192,874
Rebate Processing	\$ -	\$ 75	\$ -	\$ 390	\$ 75	\$ 70	\$ 81	\$ 5,150	\$ 150	\$ 691	\$ 150	\$ 334	\$ 7,166
Home Energy Assessments	\$ -	\$ 47,049	\$ 76,267	\$ 12,942	\$ 14,646	\$ 15,050	\$ 13,202	\$ -	\$ -	\$ -	\$ 42,853	\$ 31,067	\$ 253,076
HEA Admin Fees	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 48,000	\$ 12,000	\$ 60,000
Home Weatherization for Income Qualified	\$ -	\$ 24,436	\$ 132,840	\$ 34,446	\$ 11,260	\$ 21,541	\$ 17,760	\$ 56,742	\$ 132,002	\$ 72,193	\$ 120,341	\$ 25,000	\$ 648,561
HW for IQC Administrative Fees	\$ -	\$ 2,444	\$ 13,284	\$ 3,445	\$ 1,126	\$ 2,154	\$ 1,776	\$ 5,674	\$ 13,200	\$ 7,219	\$ 12,034	\$ 2,500	\$ 64,856
Home Energy Report - Opower	\$ -	\$ -	\$ 177,868	\$ -	\$ -	\$ 194,829	\$ -	\$ 10,000	\$ 175,286	\$ 5,000	\$ 175,286	\$ -	\$ 738,269
Steam Trap Survey/Repair	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 8,504	\$ -	\$ -	\$ 8,504
Total Program Expenditures	\$ -	\$ 102,223	\$ 400,259	\$ 85,123	\$ 39,507	\$ 246,194	\$ 32,819	\$ 90,666	\$ 329,788	\$ 107,407	\$ 434,919	\$ 104,401	\$ 1,973,306
Total Overall Program Expenditures	\$ 14,367	\$ 140,222	\$ 407,543	\$ 106,223	\$ 70,418	\$ 272,667	\$ 62,768	\$ 110,277	\$ 387,599	\$ 135,362	\$ 443,414	\$ 104,401	\$ 2,255,262

**Elizabethtown Gas Company
Energy Efficiency Program**

First Year Energy and Demand Savings by Program

Program	Natural Gas Savings (therms)	Electric Savings (kWh)	Electric Demand Savings (kW)	Measure lifetime	Lifetime Therms	Lifetime kWh
Residential HVAC and HW	84,599	0	0.0	17.6	1,485,154	0
Residential Home Energy Assessment	13,837	80,459	18.2	10.1	139,503	811,202
Residential Home Energy Report	1,331,450	4,326,596	0.0	3.0	3,994,350	12,979,789
Residential Home Weatherization	38,922	142,399	52.5	17.4	679,005	2,484,217
Commercial Steam Trap Survey and Repair	17,266	0	0.0	3.0	51,798	0
Total	1,486,073	4,549,454	71		6,349,810	16,275,209

**Elizabethtown Gas Company
Energy Efficiency Program**

Air Emissions Avoided From Lifetime Energy Savings

Program	CO2 Emissions Reduction (tons)	SO2 Emissions Reduction (tons)	NOx Emissions Reduction (tons)
Residential HVAC and HW	8,941.65	-	7.06
Residential Home Energy Assessment	2,281.61	1.49	1.77
Residential Home Energy Report	21,184.66	7.34	16.45
Residential Home Weatherization	6,615.42	2.94	5.17
Commercial Steam Trap Survey and Repair	302.50	-	0.24
Total	39,325.85	11.77	30.69

**Elizabethtown Gas Company
Energy Efficiency Program**

Job Creation

Program	Direct Job Creation	Indirect and Inducted Job Creation	Total Jobs Created
Residential HVAC and HW	1	0	2
Residential Home Energy Assessment	1	0	1
Residential Home Energy Report	6	1	7
Residential Home Weatherization	4	1	5
Commercial Steam Trap Survey and Repair	0	0	0
Total	12	3	15

**Elizabethtown Gas Company
Energy Efficiency Program**

Cost Benefit Results Summary

Program	Societal Cost Test (SCT)	Total Resource Cost Test (TRC)	Participant Cost Test (PCT)	Program Administrator Cost Test (PAC)	Ratepayer Impact Measure Test (RIM)
Residential HVAC and HW	1.7	0.9	3.7	3.1	0.8
Residential Home Energy Assessment	4.3	1.5	5.1	4.0	1.0
Residential Home Energy Report	3.8	1.6	n/a	1.6	0.6
Residential Home Weatherization	3.6	1.1	6.7	1.0	0.6
Residential Program	3.2	1.3	12.3	1.7	0.6
Commercial Steam Trap Survey and Repair	1.8	1.0	9.5	1.4	0.8
Commercial & Industrial Program	1.8	1.0	9.5	1.4	0.8
Total Portfolio	3.2	1.3	12.3	1.7	0.6

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