



April 4, 2023

ELECTRONIC FILING

Mr. Adam J. Teitzman, Commission Clerk
Office of Commission Clerk
Florida Public Service Commission
2540 Shumard Oak Boulevard
Tallahassee, Florida 32399-0850

Re: Docket 20230023-GU, Petition for Rate Increase by Peoples Gas System, Inc.

Dear Mr. Teitzman:

Attached for filing on behalf of Peoples Gas System, Inc. in the above-referenced docket is the Direct Testimony of Gregg Therrien and Exhibit No. GT-1.

Thank you for your assistance in connection with this matter.

(Document 14 of 18)

Sincerely,

A handwritten signature in blue ink, appearing to read 'J. Jeffry Wahlen', with a long horizontal flourish extending to the right.

J. Jeffry Wahlen

cc: Charles J. Rehwinkel, Public Counsel
Jon Moyle, FIPUG
Major Thompson, OGC
Ryan Sandy, OGC

JJW/ne
Attachment

BEFORE THE
FLORIDA PUBLIC SERVICE COMMISSION

DOCKET NO. 20230023-GU

IN RE: PETITION FOR RATE INCREASE
BY PEOPLES GAS SYSTEM, INC.

PREPARED DIRECT TESTIMONY AND EXHIBITS
OF
GREGG THERRIEN

ON BEHALF OF
PEOPLES GAS SYSTEM, INC.

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OF
GREGG THERRIEN

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1 **BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION**

2 **PREPARED DIRECT TESTIMONY**

3 **OF**

4 **GREGG THERRIEN**

5 **ON BEHALF OF PEOPLES GAS SYSTEM, INC.**

6
7 **INTRODUCTION**

8 **Q.** Please state your name, address, occupation and employer.

9
10 **A.** My name is Gregg Therrien. My business address is 293
11 Boston Post Road West, Suite 500, Marlborough
12 Massachusetts. I am employed by Concentric Energy
13 Advisors, Inc. ("Concentric") as a Vice President.

14
15 **Q.** Please describe your duties and responsibilities in that
16 position.

17
18 **A.** Concentric is a financial and economic consulting group,
19 specializing in energy. My duties and responsibilities
20 include leading and/or participating in energy client
21 projects, including regulated utility rate proceedings such
22 as that being litigated in this case. My specific areas of
23 expertise include allocated cost of service, rate design,
24 and project financial analysis. I have provided expert
25 testimony in several utility rate proceedings in the United

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States.

Q. Please provide a brief outline of your educational background and business experience.

A. I have an undergraduate degree in Finance from Bryant University and a Masters in Business Administration from the University of Connecticut. My work experience, education, affiliations, and other pertinent information are included in Document No. 14 of Exhibit No. GT-1.

Q. What are the purposes of your prepared direct testimony in this proceeding?

A. The purpose of my testimony is to support Peoples Gas System, Inc.'s ("Peoples" or the "company") proposed rate design. This support includes the creation of an Allocated Cost of Service Study("ACOSS"); rate design and associated revenue proofs; and bill frequencies and bill impacts by rate class. I also am sponsoring several Minimum Filing Requirements ("MFR") as part of my direct testimony.

Q. Did you prepare any exhibits in support of your prepared direct testimony?

1 **A.** Yes. Exhibit No. GT-1 was prepared under my direction and
2 supervision. My Exhibit consists of the following
3 documents:

4
5 Document No. 1 Sponsored Or Co-Sponsored Minimum
6 Filing Requirements

7 Document No. 2 Endnotes For The Prepared Direct
8 Testimony of Gregg Therrien

9 Document No. 3 Rate Classes In The ACOSS

10 Document No. 4 Customer Expense Allocations

11 Document No. 5 Rate of Return By Rate Class (Present
12 Rates)

13 Document No. 6 Class Rate Changes To Achieve Equalized
14 ROR At Proposed Rates

15 Document No. 7 Peoples' Cast Iron Bare Steel Rider
16 Roll-In

17 Document No. 8 Proposed Residential Rate
18 Reclassification Bands

19 Document No. 9 Class Distribution Revenues At Present
20 And Proposed Rates

21 Document No. 10 Rate of Return By Rate Class (Proposed
22 Rates)

23 Document No. 11 Peoples' Allocation Of Proposed
24 Revenue Increase To Base Rates

25 Document No. 12 Peoples' Base Rates And

1		Revenues At Present And Proposed Rates
2	Document No. 13	Comparison Of Existing Customer
3		Charges And Customer-Related Costs By
4		Class
5	Document No. 14	Curriculum Vitae of Gregg Therrien
6		

7 **THE PROCESS TO DEVELOP UTILITY RATES**

8 **Q.** What over-arching objectives guide utility rate
9 development?

10
11 **A.** The principle of "cost-causation" is an over-arching
12 principle followed in the utility industry. Cost-causation
13 is the notion that those customers that cause a specific
14 cost to be incurred should bear the responsibility for
15 paying for those costs. Stated differently, a cost-
16 causation approach seeks to minimize cross-subsidization
17 between utility service classes (e.g., between residential
18 and commercial customers) as well as within a customer class
19 (i.e., seek to avoid inter-class subsidies, such as
20 inappropriate cost collection from smaller or larger
21 customers within a class).

22
23 **Q.** What tools are available to help equitably assign costs to
24 customer classes and design utility rates?

25

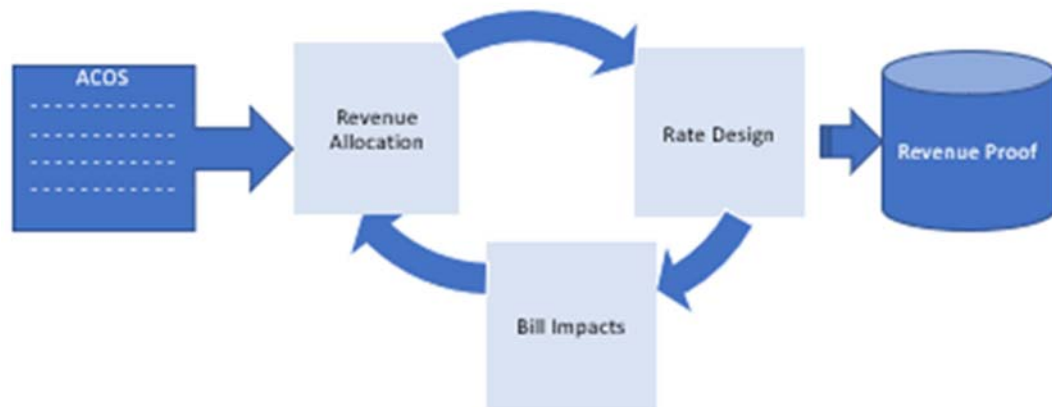
1 **A.** Tools used to assist in utility rate setting include an
2 ACOSS and bill impacts. The ACOSS is a detailed cost study
3 that uses direct cost assignment to the appropriate
4 customer class where possible, then a traditional method of
5 spreading the remaining common costs of the system
6 equitably among the classes. This process is described in
7 detail in Section III below and is a helpful tool in
8 establishing class target revenues. Bill frequency
9 analysis helps dissect customer usage patterns within a
10 class. This is particularly useful when designing rate
11 availability break points (annual bill frequencies) or
12 tiered usage rates (monthly bill frequency). The resulting
13 rate strata can be used to apply bill impact analysis, which
14 is the process of comparing existing rates to proposed rates
15 at varying customer usage levels.

16
17 **Q.** At a high level, how are utility rates established?
18

19 **A.** Utility rates are established through a combination of
20 "art" and "science". The "science" aspect of the rate
21 setting process involves the tools described above,
22 primarily through interrogation of the final ACOSS results.
23 The "art" of rate setting is accomplished in the process of
24 rate design, where reasonable judgment is applied to
25 develop unit rates (customer, commodity and/or capacity-

1 based). The rate design process necessarily must result in
2 rates that collect the overall revenue requirement of the
3 company, as allowed by the regulator. Utility ratemaking is
4 an iterative process, which starts with an allocation of
5 total revenue requirements as depicted in Figure 1 below.

6
7 **Figure 1: Iterative ratemaking process**



16 **ALLOCATED COST OF SERVICE STUDY**

17 **Q.** What is the purpose of an ACOSS?

18
19 **A.** The purpose of the ACOSS is to determine the cost
20 responsibility of a company's customer rate classes based
21 on cost-causation principles. Although some costs can be
22 directly attributable to a specific rate class, the nature
23 of utility service requires common system costs to be
24 allocated based on how the costs are incurred and which
25 customer classes benefit, and to what degree those classes

1 should have that cost responsibility. An allocated study
2 utilizes allocation factors developed from special studies.
3 Such studies may be as simple as spreading costs based on
4 customer counts or throughput while other studies require
5 operational data and calculations to allocate the cost
6 among the classes. For example, the cost of meters and
7 services are examined and allocated to the classes based on
8 the cost of meters and services used in each class. Once
9 completed, the ACOSS' identification of the costs caused by
10 each class provides guidance for allocating the revenue
11 requirement to the rate classes. Further, the ACOSS
12 provides guidance for designing rates based on how costs
13 are functionalized (described below).

14
15 **Q.** Please describe the process used in performing an ACOSS.

16
17 **A.** An ACOSS is generally described as a three-step process
18 including "functionalization," "classification," and
19 "allocation" to the customer classes.

20
21 **Q.** What is "functionalization"?

22
23 **A.** In the functionalization step, the company's plant
24 investment costs and operating expenses are categorized by
25 the operational functions with which they are associated,

1 e.g., gathering, storage, transmission, distribution, and
2 customer service. Generally, a company's system of accountsⁱ
3 (See endnotes in Document No. 2 of the exhibit to my direct
4 testimony) provides the data in a fashion which facilitates
5 this step.

6
7 **Q.** What is "classification?"

8
9 **A.** The second step is classification, where the functional
10 cost elements are classified by the factor of utilization
11 most closely matching cost causation, e.g., customer,
12 capacity, or commodity (volumetric).

13
14 Customer costs are a function of the number of customers
15 served and continue to be incurred irrespective of the
16 customer's consumption. Customer costs include capital
17 costs associated with service lines, meters, regulators,
18 and associated appurtenances. Other customer costs include
19 the operating costs related to meter reading; customer
20 service (e.g., call center); billing; and credit and
21 collections.

22
23 Capacity costs are those that are incurred based on the
24 customer's peak load requirements. Capacity costs include
25 plant investments such as distribution mains, gate

1 stations, and localized distribution facilities. The costs
2 associated with these investments (return of and return on
3 the invested capital and associated operating costs, such
4 as ongoing maintenance) are classified as capacity
5 consistent with previous cost of service studies submitted.
6 Capacity costs are fixed in nature, and do not vary with
7 the number of customers or the amount of throughput.

8
9 Commodity costs are those costs that change in relation to
10 the quantity of gas used by the customers. The largest
11 variable cost is the cost of gas supply, which is recovered
12 through the Purchased Gas Adjustment Cost Recovery Clause
13 rather than through base rates. No distribution costs are
14 classified as variable.

15
16 **Q.** Are there any other costs classified in the ACOSS?

17
18 **A.** Yes. The Florida Public Service Commission's (the
19 "Commission") assessment fee is classified as "revenue" in
20 the ACOSS.

21
22 **Q.** Please describe the cost "allocation" step.

23
24 **A.** The third and final step in an ACOSS is the allocation of
25 the functionalized and classified costs to the various

1 customer classes. This is accomplished through direct
2 assignment and the use of external and internal allocation
3 factors loaded into the ACOSS. Direct assignment relates
4 to the specific identification and isolation of plant
5 and/or expenses that are incurred exclusively to serve a
6 specific customer or customer class. For example, a very
7 large customer may have dedicated distribution assets such
8 as a large diameter service and high-capacity rotary meter.
9 External allocation factors, e.g., volumes, number of
10 customers, or peak usage, are obtained from a company's
11 records. Internal factors are developed from previously
12 allocated costs within the study, e.g., using allocated
13 plant costs to allocate depreciation expenses.

14
15 **Q.** What customer classes are utilized in your ACOSS?
16

17 **A.** The customer classes used for the ACOSS performed for
18 Peoples are listed in Document No. 3 of the exhibit to my
19 direct testimony.
20

21 **Q.** Describe the basic steps used in the ACOSS.
22

23 **A.** The ACOSS follows the same three-step general process
24 described earlier in this testimony. The functionalization,
25 classification, and allocation factor assignments are shown

1 on MFR Schedule H-2.

2

3 **Q.** Please describe the functionalization step used in the
4 ACOSS.

5

6 **A.** The ACOSS prepared here has three primary functions:
7 Production, Distribution, and Customer Service. The
8 assignment of plant and expenses to individual functions
9 follows the FERC groupings of accounts described earlier.
10 The indirect plant accounts (i.e., General and Intangible)
11 are assigned to functions using internal allocators based
12 on externally allocated plant accounts.

13

14 **Q.** Is the proposed ACOSS methodology consistent with industry
15 practices?

16

17 **A.** Yes. The development of the ACOSS presented here is a
18 typical approach, used by many gas utilities across the
19 country.

20

21 **Q.** Please describe the classification process in the ACOSS.

22

23 **A.** This step in the ACOSS process assigns costs to capacity,
24 customer, and commodity cost classifications. Most of the
25 costs in the ACOSS are functionalized as distribution-

1 related and are further classified as either capacity or
2 customer related. The proposed ACOSS classifies
3 distribution mains, the largest cost to be allocated in the
4 study, as 100 percent capacity-related, consistent with the
5 company's Commission approved ACOSS in Docket Nos.
6 20080318-GU and 20200051-GU.

7
8 Customer-related costs include the return of and return on
9 distribution services and meters and the associated
10 operating and maintenance expenses. All cost items
11 functionalized as customer service are classified as being
12 customer related. Some of the cost items that fall into
13 this category are the costs associated with meters,
14 services, meter reading, billing, and customer services.
15 Lastly, no costs are classified as commodity, primarily
16 because the ACOSS does not include gas commodity costs (FERC
17 Account 804).

18
19 **Q.** How was the allocation process accomplished in your ACOSS?

20
21 **A.** The next step in the ACOSS was to allocate the
22 functionalized and classified costs to the various customer
23 classes.

24
25 Where possible, customer-specific investments are utilized

1 to allocate rate base investments. The company's investment
2 in mains is allocated on a peak and average basis consistent
3 with studies performed in prior Peoples rate proceedings.ⁱⁱ
4

5 **Q.** How are other functionalized costs allocated in the ACOSS?

6
7 **A.** Functionalized costs for meters, services and regulators
8 are shown in MFR Schedule E-7.
9

10 **Q.** How did you allocate expenses to the various classes?

11
12 **A.** Expenses related to distribution were generally classified
13 using the same allocation factor as the corresponding plant
14 items. For example, "Account 878 - Meter and house
15 regulator expenses" were classified using the same
16 allocation factor used to allocate meter plant. "Account
17 874 - Mains and services expenses" were classified using an
18 internally developed allocator that tracks how the mains
19 and services plant is classified to the various customer
20 classes.
21

22 Customer-related expenses are classified as shown in
23 Document No. 4 of the exhibit to my direct testimony.
24

25 Administrative and General Expenses ("A&G") were classified

1 using internally developed allocators based on Operating
2 and Maintenance Expenses excluding A&G. Expenses related
3 to Maintenance of General Plant were classified on the same
4 basis as General Plant.

5
6 **Q.** Please describe the results of your ACROSS with respect to
7 the rate of return at current rates.

8
9 **A.** MFR Schedule H-1 provides a detailed summary of the ACROSS
10 results. This schedule summarizes the current revenues by
11 class, the current rate of return by class, proposed revenue
12 requirement by class, functionalized and classified rate
13 base by class, functionalized and classified revenue
14 requirement by class, and functionalized and classified
15 unit cost by class. The current rate of return ("ROR") by
16 customer class is summarized in Document No. 5 of the
17 exhibit to my direct testimony.

18
19 **CLASS REVENUE ALLOCATION**

20 **Q.** How are the ACROSS results used in determining an equitable
21 allocation of revenues among the customer classes?

22
23 **A.** The ACROSS results shown above indicate which customer
24 classes are either providing a surplus of revenues to the
25 system (i.e., having a class ROR ratio greater than 1.000)

1 or are deficient in covering their class allocated costs
2 (i.e., a class ROR ratio less than 1.000). Using the
3 results of the ACOSS we can determine the amount of revenue
4 surplus or shortfall each class contributes to the total
5 system pro forma distribution revenue requirements by
6 solving for equalized class ROR with the system average at
7 proposed revenues. The required distribution revenue
8 increase (or decrease) to achieve equalized ROR and the
9 associated class increase or decrease percentages are shown
10 in Document No. 6 of the exhibit to my direct testimony.

11

12 **Q.** Is the company proposing to increase the rates such that
13 each class produces the system average required rate of
14 return?

15

16 **A.** No, Peoples is not proposing to change rates such that each
17 class produces the system average required rate of return.
18 The ACOSS produces results that are instructive in revenue
19 allocation and rate design but achieving equalized rates of
20 return among the classes is often unattainable. As
21 described in Section V below, there are multiple, and often
22 competing, rate design goals that may hinder achieving
23 equalized class rates of return.

24

25 **Q.** What are you recommending for the company's proposed

1 revenue allocation?

2

3 **A.** As described in Section II above, the final revenue
4 allocation (and rate design) is the product of an iterative
5 process whereby company proposals are intertwined with the
6 results of the ACROSS, as well as other rate design
7 considerations. The recommended allocation of the proposed
8 revenue increase to base rates is shown in Document No. 11
9 of my exhibit to my direct testimony.

10

11 **Q.** Have the revenues from the Cast Iron/Bare Steel Replacement
12 ("CI/BSR") rider been reflected in the proposed revenue
13 allocation and rates?

14

15 **A.** Yes. Exhibit GT-1 Document No. 7 details the roll-in of
16 the CI/BSR revenues. Pro forma revenue requirements include
17 these CI/BSR rolled-in revenues, and the pro forma proposed
18 rates include recovery of these dollars. Residual CI/BSR
19 revenue requirements for 2024 CI/BSR revenue requirements
20 not included in base rates are also shown in the Document
21 No. 7.

22

23 **RATE DESIGN**

24 **Q.** Are there general rate design principles acknowledged in
25 the utility industry?

1 **A.** Yes. For many decades utility rate analysts have followed
2 the general rate design principles developed by James C.
3 Bonbright (and others). In his book, Principles of Public
4 Utility Rates, he describes the principles of efficiency,
5 simplicity, continuity of rates, fairness between rate
6 classes, and corporate earnings stability.

7

8 **Q.** Please explain your understanding of these principles.

9

10 **A.** An efficient rate structure promotes economically justified
11 use of a company's sales and distribution services and
12 discourages wasteful use. Rate design simplicity is
13 achieved if the customers understand what they are being
14 charged - the level of rates and the rate structure. Rate
15 continuity requires that changes to the rate structure
16 should not be abrupt and unexpected; gradual changes to the
17 rate structure should allow customers to modify their usage
18 patterns. A rate design is fair if no customer class pays
19 more than the costs to serve that class. A rate design
20 provides for earnings stability if the company has a
21 reasonable opportunity to earn its allowed rate of return
22 during the time that the rates are in effect.

23

24 **Q.** Were these principles followed in the proposed revenue
25 allocation and rate design?

1 **A.** Yes. It is important to understand that these principles
2 often conflict with one another. Together, they offer a
3 check and balance as to the reasonableness of designed
4 rates. Under some circumstances one or more of these
5 principles may necessarily be violated; however, the
6 proposed revenue allocations and rate design presented
7 herein do not materially stray from any of the principles.

8

9 **Q.** Is the company proposing any tariff or rate design changes?

10

11 **A.** Yes, the company is proposing two modest changes. First,
12 the company is proposing tariff changes to clarify and
13 improve the annual residential rate reclassification
14 review. Customers qualify for one of the company's three
15 separate residential rates (RS-1, RS-2 and RS-3) based on
16 annual consumption. Each year, customer usage is reviewed
17 to determine if a customer should be reclassified to a
18 different billing class based on their previous year's
19 usage. This practice introduced unintended consequences,
20 which have led to administrative inefficiencies, some
21 customer confusion, and the potential for under-or-over-
22 recovery of allowed revenues to the company. This
23 modification is addressed further below and in the prepared
24 direct testimony of company witness Bramley.

25 Second, the company is proposing a change to Residential

1 and Commercial Generator rates to eliminate the initial
2 monthly usage allowances for each tariff (residential and
3 commercial).ⁱⁱⁱ
4

5 **Q.** Were other structural rate design changes considered?
6

7 **A.** After discussions regarding the six firm standard
8 commercial and industrial rates (Small General Service, GS-
9 1, GS-2, GS-3, GS-4, and GS-5), the company decided that
10 each rate contained sufficient diversity in customer load
11 profile as to warrant continuation of the current rate
12 design structure and tariff construct.
13

14 **Q.** Please describe the company's proposed modification to the
15 residential annual volume review.
16

17 **A.** The company proposes to apply a 10 percent band during the
18 annual review process to avoid unnecessary rate
19 reclassifications. Additionally, the company is proposing
20 clarifying language in its tariffs to describe the change
21 in the annual volume review process and when a customer may
22 be reclassified. This clarifying language is contained in
23 the proposed tariff sheet 7.201-1 and described in the
24 testimony of company witness Bramley.
25

1 **Q.** Why is the company proposing to make this change to the
2 annual volume review?
3

4 **A.** The company's annual volume review practice was developed
5 after introducing the three residential billing classes in
6 the 2008 rate proceeding. The use of only a 12-month period
7 to evaluate customer usage has caused significant
8 fluctuations in customers across the billing classes.
9 Influences like the COVID Pandemic and weather have caused
10 unintended results that have created complexities for
11 customers and revenue instability for Peoples. The proposed
12 changes to the company's tariff will address this issue.
13

14 **Q.** Please describe the proposed application of a 10 percent
15 band to the annual volume review.
16

17 **A.** Existing customers that exceed the +/- 10 percent band will
18 be reclassified to the correct rate. If an existing
19 customer falls within the band, but does not exceed it,
20 their account will be "flagged" for evaluation in the next
21 annual rate volume review. If, in the subsequent year,
22 their account continues to fall within the band in the same
23 direction, then the account will be reclassified to the
24 appropriate billing class.
25

1 Q. Please illustrate the proposed annual rate volume review
2 bands.

3

4 A. The proposed bands are list in Document No. 8 of the exhibit
5 to my direct testimony.

6

7 Q. How was the 10 percent band determined?

8

9 A. Statistical analysis of average annual residential use per
10 customer over the past five years shows that the peak year
11 (2021) was 5.9 percent above the average. This variance
12 likely represents the weather component of variance, which
13 suggests a tighter bandwidth (e.g., 5 percent) would
14 potentially reclassify some customers solely based on
15 weather rather than changes in normal usage (e.g., adding
16 an appliance). Similarly, the class average use per
17 customer exhibited year-over-year changes ranging from -
18 5.1 percent to 7.9 percent, again suggesting that a tighter
19 band may result in unnecessary reclassifications. Lastly,
20 the company compared the average annual residential use per
21 customer to the weather-normalized therms used in the 2024
22 budget (test year). The variance between the warmest year
23 and the coolest year was 10 percent, or 19.4 therms.

24

25 Q. How will this change benefit customers?

1 **A.** The proposed changes to the annual volume review process
2 will promote rate stability and reduce (or avoid) customer
3 confusion. The implementation of a proposed annual usage
4 band should significantly reduce the number of customers
5 reclassified to different rates because of the annual
6 volume review.

7

8 **Q.** Describe the company's proposed change to the Residential
9 and Commercial Generator rates.

10

11 **A.** As mentioned above, the company proposes to eliminate the
12 provision granting no distribution charge for the first
13 metered therms for residential and commercial generator
14 customers. The original rate design concept allowed
15 emergency generator customers to conduct monthly usage
16 tests that would consume a minimal amount of gas. This
17 allowance was tied to a higher monthly fixed customer charge
18 compared to RS-1 and GS-1. Customer usage data suggests
19 these customers are consuming gas behind these dedicated
20 meters beyond emergency generator use. The company and
21 propose to eliminate the initial allowance and bill all
22 metered consumption.

23

24 **Q.** What is the impact of this rate proposal?

25

1 **A.** The impact of this change is minimal and is best observed
2 through the bill impact exhibits provided in MFR Schedule
3 E-5. The elimination of the zero-priced first consumption
4 tier must be gauged in the context of a customer's total
5 bill at varying consumption levels. The proposed single-
6 tier rate design, coupled with the proposed monthly
7 customer charge, will generate pro forma revenues, which
8 can then be compared to current revenues at the class level,
9 and, using bill impacts (See MFR Schedule E-5), at the
10 customer level.

11

12 **Q.** Are there any other proposed structural rate design
13 changes?

14

15 **A.** No. The rate structures remain the same for all classes -
16 that is, a two-part fixed/volumetric design. Only the value
17 of each billing component changes to develop a set of rates
18 that, collectively, will recover the proposed revenue
19 requirement.

20

21 **Q.** When determining each rate component did you consider the
22 resulting revenue allocation among the classes at proposed
23 rates?

24

25 **A.** Yes. As described in Section II above, establishing rates

1 is an iterative process. My initial rate design runs simply
2 increased the fixed and variable rates equal to the overall
3 pro forma distribution revenue increase. When the resultant
4 class revenues were input into the ACOSS model, it produced
5 class ROR ratios equal to present rates. Given the rate
6 design goal of cost causation, I then increased or decreased
7 these initial proposed fixed and variable rates to produce
8 revenues that would move each class closer to equalized
9 ROR. Document No. 12 of the exhibit to my direct testimony
10 compares revenues at present and proposed rates.
11 Additionally, a comparison of existing customer charges and
12 customer-related cost by class is shown in Document No. 13
13 of the exhibit to my direct testimony.

14
15 **Q.** What are the proposed class revenue allocations?
16

17 **A.** The proposed class revenue allocations are shown in
18 Document No. 9 of the exhibit to my direct testimony.
19

20 **Q.** Do the proposed revenues attain equalized rates of return?
21

22 **A.** No, but significant movement towards equalized ROR was
23 achieved. This is demonstrated in Document No. 10 of the
24 exhibit to my direct testimony.
25

1 Detailed comparisons of revenues, rates of return, and
2 ratios are also provided in MFR Schedule H-1.

3

4 **BILL IMPACTS**

5 **Q.** Did you conduct bill impacts as part of your iterative rate
6 design process?

7

8 **A.** Yes. Bill impacts are shown in MFR Schedule E-5.

9

10 **REVENUE PROOF**

11 **Q.** What is meant by "Revenue Proof"?

12

13 **A.** Revenue Proof is the process of ensuring that pro forma
14 rates, when multiplied by pro forma billing determinants,
15 yield the proposed overall revenue requirement. Again, the
16 iterative process of rate setting necessitates revisiting
17 proposed rate components to achieve the total result. It
18 often takes several iterations of rate choices before the
19 balance of class ROR, inter-class bill impacts, and overall
20 revenue requirement is achieved. MFR Schedule H-1 provides
21 summary schedules that represent the company's revenue
22 proof at proposed rates.

23

24 **PROPOSED TARIFFS**

25 **Q.** Are you sponsoring tariffs as part of your direct testimony?

1 **A.** No, but I did assist in the company's drafting of certain
2 tariff provisions, as well as verified the proposed tariff
3 sheets reflecting the proposed final rate design and
4 customer rates. Please see the testimony of company witness
5 Bramley for a detailed discussion of these tariffs.

6

7 **SUMMARY**

8 **Q.** Please summarize your prepared direct testimony.

9

10 **A.** The rates proposed herein reflect cost causation principles
11 of rate design. Further, these rates were developed in
12 collaboration with the company's management and reflect
13 general rate design principles of efficiency, simplicity,
14 continuity of rates, fairness between rate classes, and
15 corporate earnings stability. The proposed rates recover
16 the company's proposed revenue requirements on a
17 prospective basis.

18

19 **Q.** Does this conclude your prepared direct testimony?

20

21 **A.** Yes.

22

23

24

25

DOCKET NO. 20230023-GU
WITNESS: THERRIEN

EXHIBIT

OF

GREGG THERRIEN

ON BEHALF OF PEOPLES GAS SYSTEM, INC.

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Endnotes

ⁱ Often referred to as "FERC Account-level detail", as prescribed in Subchapter F, Part 201 - Uniform System of Accounts Prescribed for Natural Gas Companies Subject to the Provisions of the Natural Gas Act.

ⁱⁱ See Direct Testimony and Exhibits of Dan Yardley, August 11, 2008, Docket No. 080318-GU, pp. 19-20; Direct Testimony of Dan Yardley, filed June 8, 2020 in Docket No. 20200051-GU, pp. 18.

ⁱⁱⁱ The first 20 therms is priced at no charge for residential generator customers, and the first 40 therms for commercial generator customers.

Rate Classes in the ACOSS

Rate Class	Rate Schedules
Residential	RS
Residential Generators	RS-SG
Residential Heat Pump	RS-GHP
Commercial Heat Pump	CS-GHP
Commercial Street Lighting	CSLS
Small General Service	SGS
General Service 1	GS-1
General Service 2	GS-2
General Service 3	GS-3
General Service 4	GS-4
General Service 5	GS-5
Commercial Generators	CS-SG
CNG/RNG	RNGS
Small Interruptible Service	SIS
Interruptible Service	IS
Special Contracts	CIS
Wholesale	WHS

Customer Expense Allocations

FERC Account	Account Description	Allocator
901 - 905	Customer Accounts Expense	Number of Customers
907	Customer Service - Supervision	
908	Customer Assistance	
909	Informational and Instructional Advertising Expense	
912	Demonstrating and Selling Expense	Rate Base
913	Advertising Expense	

Rate of Return by Rate Class (Present Rates)

Rate Class	ROR at Present Rates	ROR Ratio at Present Rates
Total Residential ¹	1.85%	0.615
Residential Generators	2.23%	0.741
Residential Heat Pumps	-4.67%	(1.550)
Commercial Heat Pumps	-3.71%	(1.231)
Street Lighting	4.07%	1.351
Small General Service	6.30%	2.093
General Service - 1	4.33%	1.438
General Service - 2	2.77%	0.921
General Service - 3	1.51%	0.501
General Service - 4	-0.73%	(0.242)
General Service - 5	-0.78%	(0.259)
Commercial Generators	11.88%	3.945
CNG / RNG	9.99%	3.319
Small Interruptible Service	0.35%	0.117
Interruptible Service	-0.24%	(0.081)
Interruptible Service - Large		
Volume	0.00%	-
Wholesale Service	-1.51%	(0.502)
Special Contracts	23.37%	7.764
Total System	3.01%	1.000

¹ Includes RS-1, RS-2 and RS-3

**Class Rate Changes to Achieve Equalized ROR at
Proposed Rates**

Rate Class	Dollar Increase / (Decrease)	Percent
Residential	\$55,312,749	43.53%
Residential Generators	\$135,474	40.93%
Residential Heat Pump	\$2,566	200.55%
Commercial Heat Pump	\$2,602	190.33%
Commercial Street Lighting	\$52,947	35.72%
Small General Service	\$1,301,763	14.30%
General Service 1	\$13,573,686	31.34%
General Service 2	\$23,601,048	49.32%
General Service 3	\$15,581,369	67.38%
General Service 4	\$12,161,112	110.16%
General Service 5	\$22,999,410	98.78%
Commercial Generators	(\$102,733)	-12.09%
CNG/RNG	(\$717,990)	
Small Interruptible Service	\$3,018,971	77.32%
Interruptible Service	\$3,797,867	62.66%
Wholesale	\$766,865	146.00%
Special Contracts	(\$13,731,703)	-48.32%
Other Revenues	\$1,518,338	7.22%
Total System	\$139,274,341	40.24%

¹ "Residential" includes RS-1, RS-2 and RS-3

**Peoples Gas System
Cast Iron / Bare Steel Roll-in**

Line No.	Rate Class (A)	Test Period CI/BS Revenue (B)	CI/BS Roll-in Revenue (C)	Remaining CI/BS Revenue (D) = (B) - (C)
1	<u>Rate Class CI/BS Revenues</u>			
2	Residential Service (RS)	\$3,472,261	\$3,079,327	\$392,934
3	Residential Standby Generator (RS-SG)	\$512	\$454	\$58
4	Residential Gas Heat Pump (RS-GHP)	\$302	\$268	\$34
5	Small General Service (SGS)	\$251,767	\$223,276	\$28,491
6	General Service - 1 (GS-1)	\$1,636,383	\$1,451,204	\$185,179
7	General Service - 2 (GS-2)	\$2,338,225	\$2,073,623	\$264,603
8	General Service - 3 (GS-3)	\$1,308,918	\$1,160,795	\$148,122
9	General Service - 4 (GS-4)	\$816,761	\$724,333	\$92,428
10	General Service - 5 (GS-5)	\$1,072,018	\$950,705	\$121,314
11	Commercial Standby Generator (CS-SG)	\$9,718	\$8,618	\$1,100
12	Commercial Heat Pump (CS-GHP)	\$125	\$111	\$14
13	Commercial Street Lighting (CSLS)	\$7,210	\$6,394	\$816
14	CNG/RNG	\$0	\$0	\$0
15	Small Interruptible Service (SIS)	\$318,757	\$282,685	\$36,072
16	Interruptible Service (IS)	\$224,660	\$199,237	\$25,423
17	Interruptible Service - Large Volume (ISLV)	\$0	\$0	\$0
18	Wholesale Service - Firm (WHS)	\$15,951	\$14,146	\$1,805
19	Special Contracts	\$0	\$0	\$0
20	Miscellaneous Charges	\$0	\$0	\$0
21	TOTAL	\$11,473,567	\$10,175,174	\$1,298,393
22	<u>Rate Class 2024 Rates</u>			
23	Residential Service (RS)	\$0.03729		\$0.00422
24	Residential Standby Generator (RS-SG)	\$0.03943		\$0.00446
25	Residential Gas Heat Pump (RS-GHP)	\$0.03943		\$0.00446
26	Small General Service (SGS-S)	\$0.02231		\$0.00252
27	Small General Service (SGS-T)	\$0.02231		\$0.00252
28	General Service - 1 (GS-1)	\$0.01588		\$0.00180
29	General Service - 2 (GS-2)	\$0.01561		\$0.00177
30	General Service - 3 (GS-3)	\$0.01528		\$0.00173
31	General Service - 4 (GS-4)	\$0.01468		\$0.00166
32	General Service - 5 (GS-5)	\$0.00636		\$0.00072

33	Commercial Standby Generator (CS-SG)	\$0.01657	\$0.00188
34	Commercial Heat Pump (CS-GHP)	\$0.01561	\$0.00177
35	Commercial Street Lighting (CSLS)	\$0.01338	\$0.00151
36	Small Interruptible Service (SIS)	\$0.00721	\$0.00082
37	Interruptible Service (IS)	\$0.00157	\$0.00018
	Interruptible Service - Large Volume		
38	(ISLV)	\$0.00000	\$0.00000
39	Wholesale Service - Firm (WHS)	\$0.00605	\$0.00068
40	Special Contracts	\$0.00000	\$0.00000
41	Miscellaneous Charges	\$0.00000	\$0.00000

Proposed Residential Rate Reclassification Bands

	RS-1	RS-2	RS-3
Lower Limit	N/A	< 90	<225
Lower Band	N/A	>=90<100	>=225<250
Upper Band	>=100<110	>=250>275	>=2000<2200
Upper Limit	>=110	>=275	>=2200

Class Distribution Revenues at Present and Proposed Rates

Rate Class	Present	Proposed	Change	%
Residential	\$127,074,828	\$173,419,989	\$46,345,161	36.47%
Res. Generators	\$330,957	\$459,918	\$128,960	38.97%
Res. Heat Pump	\$1,280	\$1,782	\$503	39.28%
Commercial Heat Pump	\$1,367	\$3,508	\$2,141	156.56%
Street Lighting	\$148,246	\$228,999	\$80,753	54.47%
Sm. General Service	\$9,102,117	\$12,798,503	\$3,696,386	40.61%
General Service 1	\$43,314,499	\$67,111,575	\$23,797,076	54.94%
General Service 2	\$47,855,522	\$74,693,070	\$26,837,548	56.08%
General Service 3	\$23,122,949	\$35,989,412	\$12,866,463	55.64%
General Service 4	\$11,039,284	\$16,999,619	\$5,960,335	53.99%
General Service 5	\$23,284,058	\$36,702,701	\$13,418,643	57.63%
Comm. Generators	\$849,506	\$907,988	\$58,482	6.88%
CNG/RNG	\$0	\$0	\$0	0.00%
Small Interruptible	\$3,904,534	\$5,675,072	\$1,770,538	45.35%
Interruptible Svc.	\$6,060,691	\$8,623,260	\$2,562,570	42.28%
Large Interruptible	\$0	\$0	\$0	0.00%
Wholesale	\$525,232	\$755,676	\$230,444	43.87%
Special Contracts	\$28,420,651	\$28,420,651	\$0	0.00%
Other Revenues	\$21,031,299	\$22,549,637	\$1,518,338	7.22%
Total System	\$346,067,020	\$485,341,361	\$139,274,341	40.24%

Rate of Return by Rate Class (Proposed Rates)

Rate Class	ROR at Present	ROR at Proposed	Ratio at Present	Ratio at Proposed
Residential	1.85%	6.25%	0.615	0.845
Residential Generators	2.23%	7.05%	0.741	0.953
Residential Heat Pump	-4.67%	-3.47%	(1.550)	(0.470)
Commercial Heat Pump	-3.71%	5.17%	(1.231)	0.700
Street Lighting	4.07%	9.95%	1.351	1.346
Small General Service	6.30%	12.07%	2.093	1.633
General Service 1	4.33%	10.84%	1.438	1.466
General Service 2	2.77%	8.25%	0.921	1.116
General Service 3	1.51%	6.13%	0.501	0.829
General Service 4	-0.73%	2.51%	(0.242)	0.339
General Service 5	-0.78%	3.38%	(0.259)	0.458
Commercial Generators	11.88%	12.16%	3.945	1.644
CNG/RNG	9.99%	8.51%	3.319	1.151
Small Interruptible	0.35%	3.88%	0.117	0.039
Interruptible Service	-0.24%	4.44%	(0.081)	0.601
Large Interruptible	0.00%	0.00%	-	-
Wholesale	-1.51%	0.14%	(0.502)	0.018
Special Contracts	23.37%	21.89%	7.764	2.961
Total System	3.01%	7.39%	1.000	1.000

**Peoples Gas System
Allocation of Proposed Revenue Increase to Base Rates**

Line No.	Rate Class (A)	Current Base Revenue (B)	CI/BS Roll-in Revenue (C)	Total Base + CIBS Roll-in Revenue (D) = (B) + (C)	Revenue Requirement at Equalized Return (E)	Difference (F) = (E) - (D)	Adjustment (G)	Proposed Increase (H) = (F) + (G)	Proposed Base Revenues (I) = (D) + (H)	Percentage Change Base Revenues (J) = (H) / (D)
1	Rate Class Revenues									
2	Residential Service (RS)	\$127,074,828	\$3,079,327	\$130,154,155	\$182,387,577	\$52,233,422	(\$8,967,588)	43,265,834	173,419,989	33.2%
3	Residential Standby Generator (RS-SG)	\$330,957	\$454	\$331,411	\$466,431	\$135,020	(\$6,514)	128,506	459,918	38.8%
4	Residential Gas Heat Pump (RS-GHP)	\$1,280	\$268	\$1,547	\$3,846	\$2,299	(\$2,064)	235	1,782	15.2%
5	Small General Service (SGS)	\$9,102,117	\$223,276	\$9,325,393	\$10,403,880	\$1,078,487	\$2,394,623	3,473,110	12,798,503	37.2%
6	General Service - 1 (GS-1)	\$43,314,499	\$1,451,204	\$44,765,703	\$56,888,185	\$12,122,482	\$10,223,390	22,345,872	67,111,575	49.9%
7	General Service - 2 (GS-2)	\$47,855,522	\$2,073,623	\$49,929,145	\$71,456,570	\$21,527,425	\$3,236,500	24,763,925	74,693,070	49.6%
8	General Service - 3 (GS-3)	\$23,122,949	\$1,160,795	\$24,283,744	\$38,704,318	\$14,420,573	(\$2,714,906)	11,705,668	35,989,412	48.2%
9	General Service - 4 (GS-4)	\$11,039,284	\$724,333	\$11,763,617	\$23,200,396	\$11,436,779	(\$6,200,777)	5,236,002	16,999,619	44.5%
10	General Service - 5 (GS-5)	\$23,284,058	\$950,705	\$24,234,763	\$46,283,468	\$22,048,705	(\$9,580,767)	12,467,938	36,702,701	51.4%
11	Commercial Standby Generator (CS-SG)	\$849,506	\$8,618	\$858,124	\$746,773	(\$111,351)	\$161,215	49,864	907,988	5.8%
12	Commercial Heat Pump (CS-GHP)	\$1,367	\$111	\$1,478	\$3,970	\$2,492	(\$462)	2,030	3,508	137.4%
13	Commercial Street Lighting (CSLS)	\$148,246	\$6,394	\$154,639	\$201,193	\$46,553	\$27,806	74,359	228,999	48.1%
14	CNG/RNG	\$0	\$0	\$0	(\$717,990)	(\$717,990)	\$717,990	0	0	
15	Small Interruptible Service (SIS)	\$3,904,534	\$282,685	\$4,187,219	\$6,923,505	\$2,736,286	(\$1,248,433)	1,487,853	5,675,072	35.5%
16	Interruptible Service (IS)	\$6,060,691	\$199,237	\$6,259,928	\$9,858,558	\$3,598,630	(\$1,235,297)	2,363,333	8,623,260	37.8%
17	Interruptible Service - Large Volume (ISLV)	\$0	\$0	\$0	\$0	\$0	\$0	0	0	
18	Wholesale Service - Firm (WHS)	\$525,232	\$14,146	\$539,378	\$1,292,097	\$752,719	(\$536,420)	216,299	755,676	40.1%
19	Special Contracts	\$28,420,651	\$0	\$28,420,651	\$14,688,948	(\$13,731,703)	\$13,731,703	1	28,420,651	0.0%
20	Miscellaneous Charges	\$21,031,299	\$0	\$21,031,299	\$22,549,637	\$1,518,338	\$0	1,518,338	22,549,637	7.2%
21	TOTAL	\$346,067,020	\$10,175,174	\$356,242,194	\$485,341,361	\$129,099,167	\$0	\$129,099,167	\$485,341,361	36.2%

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Peoples Gas System
Base Rates and Revenues at Present and Proposed Rates

Line No.	Current Rate (A)	Test Year Billing Units (B)	Current Charge (C)	Current Revenue (D)	Proposed Charge (E)	Proposed Revenue (F)	Base Revenue Increase (G)
1	Residential Service (RS)						
2		1,418,329	\$15.10	\$21,416,769	\$19.95	\$28,295,664	32.1%
3		2,453,602	\$18.10	\$44,410,187	\$25.50	\$62,566,838	40.9%
4		1,467,293	\$24.60	\$36,095,410	\$32.95	\$48,347,307	33.9%
5		93,119,330	\$0.27011	\$25,152,462	\$0.36738	\$34,210,180	36.0%
6		93,119,330	\$0.03729	\$3,472,261	\$0.00422	\$392,934	-88.7%
7				\$130,547,089		\$173,812,923	33.1%
8	Residential Standby Generator (RS-SG)						
9		13,842	\$23.91	\$330,957	\$32.95	\$456,087	37.8%
10		12,984	\$0.00000	\$0	\$0.29500	\$3,830	
11		12,984	\$0.03943	\$512	\$0.00446	\$58	-88.7%
12				\$331,469		\$459,976	38.8%
13	Residential Gas Heat Pump (RS-GHP)						
14		24	\$24.60	\$590	\$32.95	\$791	33.9%
15		7,656	\$0.09598	\$689	\$0.12950	\$991	43.9%
16		7,656	\$0.03943	\$302	\$0.00446	\$34	-88.7%
17				\$1,581		\$1,816	14.9%
18	Small General Service (SGS)						
19		154,012	\$30.60	\$4,712,765	\$45.00	\$6,930,536	47.1%
20		11,284,551	\$0.38897	\$4,389,352	\$0.52000	\$5,867,967	33.7%
21		11,284,551	\$0.02231	\$251,767	\$0.00252	\$28,491	-88.7%
22				\$9,353,884		\$12,826,994	37.1%
23	General Service - 1 (GS-1)						
24		248,213	\$45.00	\$11,169,589	\$69.00	\$17,126,703	53.3%
25		103,061,591	\$0.31190	\$32,144,910	\$0.48500	\$49,984,871	55.5%
26		103,061,591	\$0.01588	\$1,636,383	\$0.00180	\$185,179	-88.7%
27				\$44,950,882		\$67,296,754	49.7%

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Line No.	Current Rate (A)	Test Year Billing Units (B)	Current Charge (C)	Current Revenue (D)	Proposed Charge (E)	Proposed Revenue (F)	Base Revenue Increase (G)
28	General Service - 2 (GS-2)						
29		97,132	\$82.00	\$7,964,844	\$129.00	\$12,530,059	57.3%
30		149,790,387	\$0.26631	\$39,890,678	\$0.41500	\$62,163,011	55.8%
31		149,790,387	\$0.01561	\$2,338,225	\$0.00177	\$264,603	-88.7%
32				\$50,193,747		\$74,957,673	49.3%
33	General Service - 3 (GS-3)						
34		10,642	\$420.00	\$4,469,473	\$525.00	\$5,586,841	25.0%
35		85,641,045	\$0.21781	\$18,653,476	\$0.35500	\$30,402,571	63.0%
36		85,641,045	\$0.01528	\$1,308,918	\$0.00173	\$148,122	-88.7%
37				\$24,431,866		\$36,137,534	47.9%
38	General Service - 4 (GS-4)						
39		1,704	\$670.00	\$1,141,680	\$995.00	\$1,695,480	48.5%
40		55,651,416	\$0.17785	\$9,897,604	\$0.27500	\$15,304,139	54.6%
41		55,651,416	\$0.01468	\$816,761	\$0.001661	\$92,428	-88.7%
42				\$11,856,045		\$17,092,047	44.2%
43	General Service - 5 (GS-5)						
44		2,364	\$1,380.00	\$3,262,320	\$2,195.00	\$5,188,980	59.1%
45		168,533,148	\$0.11880	\$20,021,738	\$0.18699	\$31,513,721	57.4%
46		168,533,148	\$0.006361	\$1,072,018	\$0.000720	\$121,314	-88.7%
47				\$24,356,076		\$36,824,015	51.2%
48	Commercial Standby Generator (CS-SG)						
49		13,363	\$45.00	\$601,354	\$55.00	\$734,989	22.2%
50		586,440	\$0.42315	\$248,152	\$0.29500	\$173,000	-30.3%
51		586,440	\$0.01657	\$9,718	\$0.00188	\$1,100	-88.7%
52				\$859,224		\$909,088	5.8%
53	Commercial Heat Pump (CS-GHP)						
54		24	\$45.00	\$1,080	\$55.00	\$1,320	22.2%
55		7,956	\$0.19605	\$287	\$0.27500	\$2,188	662.9%
56		7,956	\$0.01561	\$124	\$0.00177	\$14	-88.6%
57				\$1,491		\$3,522	136.2%
58	Commercial Street Lighting (CSLS)						

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Line No.	Current Rate (A)	Test Year Billing Units (B)	Current Charge (C)	Current Revenue (D)	Proposed Charge (E)	Proposed Revenue (F)	Base Revenue Increase (G)
59	Customer Charge	-	\$0.00	\$0	\$0.00	\$0	
60	Distribution Charge	538,820	\$0.27513	\$148,246	\$0.42500	\$228,999	54.5%
61	Cast Iron / Bare Steel Replacement Rider	538,820	\$0.01338	\$7,210	\$0.00151	\$816	-88.7%
62	TOTAL Commercial Street Lighting (CSLS) BASE REVENUE			\$155,455		\$229,815	47.8%
63	Small Interruptible Service (SIS)						
64	Customer Charge	324	\$1,380.00	\$447,120	\$2,550.00	\$826,200	84.8%
65	Distribution Charge	44,229,423	\$0.07817	\$3,457,414	\$0.10963	\$4,848,872	40.2%
66	Cast Iron / Bare Steel Replacement Rider	44,229,423	\$0.00721	\$318,757	\$0.00082	\$36,072	-88.7%
67	TOTAL Small Interruptible Service (SIS) BASE REVENUE			\$4,223,291		\$5,711,143	35.2%
68	Interruptible Service (IS)						
69	Customer Charge	168	\$1,580.00	\$265,440	\$2,950.00	\$495,600	86.7%
70	Distribution Charge	143,092,614	\$0.04050	\$5,795,251	\$0.05680	\$8,127,660	40.2%
71	Cast Iron / Bare Steel Replacement Rider	143,092,614	\$0.00157	\$224,660	\$0.00018	\$25,423	-88.7%
72	TOTAL Interruptible Service (IS) BASE REVENUE			\$6,285,351		\$8,648,684	37.6%
73	Interruptible Service - Large Volume (ISLV)						
74	Customer Charge	-	\$1,720.00	\$0	\$3,250.00	\$0	
75	Distribution Charge	-	\$0.01050	\$0	\$0.01473	\$0	
76	Cast Iron / Bare Steel Replacement Rider	-	\$0.00000	\$0	\$0.00000	\$0	
77	TOTAL Interruptible Service - Large Volume (ISLV) BASE REVENUE			\$0		\$0	
78	Wholesale Service - (WHS)						
79	Customer Charge	180	\$420.00	\$75,600	\$695.00	\$125,100	65.5%
80	Distribution Charge	2,636,519	\$0.17054	\$449,632	\$0.23917	\$630,576	40.2%
81	Cast Iron / Bare Steel Replacement Rider	2,636,519	\$0.00605	\$15,951	\$0.00068	\$1,805	-88.7%
82	TOTAL Wholesale Service - (WHS) BASE REVENUE			\$541,183		\$757,481	40.0%
83	Special Contract Base Revenue			\$28,420,651		\$28,420,651	0.0%
84	Miscellaneous Revenue			\$21,031,299		\$22,549,637	7.2%
85	TOTAL REVENUE			<u>\$357,540,585</u>		<u>\$486,639,754</u>	36.1%

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Table 2
Comparison of Existing Customer Charges
and Customer-Related Costs by Class

Line No.	Rate Class	Existing Customer Charge	ACOSS Customer Cost
1	Residential Service (RS-1, RS-2, RS-3)	\$15.10 \$18.10 \$24.60	\$24.71
2	Residential Standby Generator (RS-SG)	\$23.91	\$24.25
3	Residential Gas Heat Pump (RS-GHP)	\$24.60	\$37.39
4	Small General Service (SGS)	\$30.60	\$33.77
5	General Service - 1 (GS-1)	\$45.00	\$48.92
6	General Service - 2 (GS-2)	\$82.00	\$64.70
7	General Service - 3 (GS-3)	\$420.00	\$168.19
8	General Service - 4 (GS-4)	\$670.00	\$538.25
9	General Service - 5 (GS-5)	\$1,380.00	\$207.45
10	Commercial Standby Generator (CS-SG)	\$45.00	\$41.82
11	Commercial Heat Pump (CS-GHP)	\$45.00	\$37.75
12	Small Interruptible Service (SIS)	\$1,380.00	\$848.17
13	Interruptible Service (IS)	\$1,580.00	\$3,206.64
14	Wholesale Service - Firm (WHS)	\$420.00	(\$11.06)



GREGG THERRIEN

Vice President

Mr. Therrien provides regulatory strategy and financial rate case expertise to regulated and unregulated entities in the natural gas, electric, and water industries. Since joining Concentric in 2016, Mr. Therrien has performed a multitude of consulting engagements including expert testimony on the subjects of allocated cost of service, rate design, rate consolidation, alternative rate plans, decoupling, revenue requirements, and natural gas infrastructure replacement programs. Other engagements include merger and acquisition due diligence, electric power plant retirement analysis (including securitization), billing system and rate mechanism audits, natural gas storage rate analysis, solar/renewable project evaluation, line extension policies, power procurement advisory services, interstate pipeline rate settlement assistance and tariff writing and administration.

Prior to entering consulting Mr. Therrien held previous leadership level positions at Connecticut Natural Gas Corporation and its affiliated companies for over 19 years. He formerly served as Director, Gas Construction at Connecticut Natural Gas and The Southern Connecticut Gas Company and Director, Regulatory & Tariffs at UIL Holdings, Inc.

Mr. Therrien holds an M.B.A. from the University of Connecticut, a B.S. in Finance from Bryant University, and is certified Project Management Professional (PMP).

REPRESENTATIVE PROJECT EXPERIENCE

Consultancy

- Regulatory risk assessments
- Gas infrastructure replacement program benchmarking, technical and financial analysis, and expert testimony
- Market analysis for international clients
- M&A due diligence (regulatory and financial)
- Gas and Electric distribution alternative rate plan analysis
- Economic Development and large customer tariff development
- Decoupling testimony assistance for a Western Gas LDC
- Decoupling and Rate Design expert witness testimony for a New England Gas LDC
- Revenue Requirements witness for an electric distribution company
- Regulatory rate strategies for a vertically integrated electric utility
- Testified on behalf of a New England gas LDC on the subjects of decoupling, capital trackers and rate design
- Developed an Alternative Rate Plan for a New England gas LDC
- Rate comparison study for the Government of Alberta, Canada
- Established a cost of service-based pricing model for a 10MW fuel cell developer



- Power procurement consultancy for a New England investor-owned water utility
- Rates comparisons for U.S. electric and gas distribution utilities
- Revenue requirements and tariff review of a gas storage facility
- Rate consolidation analysis for gas and water distribution companies
- Renewable project financial evaluation
- Review of natural gas company regulatory and operational performance in response to a commission Show Cause Order
- Led an investigation of billing errors related to a municipal electric, gas, water, and refuse utility in support of a class action lawsuit investigation
- Assessed the impact of and strategy to comply with the Tax Cuts and Jobs Act (“TCJA”)
- Reviewed and recommended changes to electric line extension policies
- Evaluated Renewable Natural Gas (“RNG”) investments as part of buy-side due diligence
- Modeled alternative time of use (“TOU”) tariff structures in support of a utility customer’s evaluation of a large customer potential electric system bypass
- Provided regulatory assistance and strategy to a market broker in a state utility investigation of Consumer Choice Aggregation
- Assisted in the development of a lead/lag study for a Southwestern electric utility
- Part of a team that developed a multi-year rate plan regulatory strategy for a Mid-Atlantic natural gas utility
- Co-authored a RNG white paper for a Southern U.S. natural gas company
- Authored a report on behalf of a major U.S. interstate pipeline in support of an ongoing FERC settlement proceeding
- Prepared extensive rate analyses in support of electric transmission and generation project development and acquisition
- Developed a rate design model, performed rate analysis, drafted position papers and data responses for an international electric utility

Regulatory Affairs

- Led the preparation, filing, discovery and implementation of several rate cases
- Designed rates and prepared testimony, and served as the primary rate design witness
- Prepared, testified, and implemented revenue requirement rate mechanisms for new customer growth and pipeline replacement programs
- Prepared gas Integrated Resource Plans
- Prepared assessment of forecast methodology and forecast accuracy of gas demands
- Prepared validation of sales forecast and analysis of declining use per customer
- Proposed, testified, and implemented Connecticut’s first gas decoupling mechanism



- Key contributor in settlement negotiations for rate cases and other litigated regulatory matters, including the LDC gas expansion plan
- Prepared testimony and exhibits for bi-annual Purchased Gas Adjustment proceedings
- Prepared biennial Gas LDC Demand and Supply filings
- Prepared testimony and new program tariffs in support of gas unbundling

Business Strategy and Operations

- Led a gas construction organization, leveraging project management practices to plan and execute a \$100M annual capital budget
- Responsible for RFP development and bid selection of five-year contracts of local, regional and national gas construction and restoration contractors representing approximately seventy work crews
- Developed and implemented a tablet-based QA/QC inspection program
- Developed annual sales and revenue operating budgets
- Developed rate of return new customer acquisition model
- Guided several process improvement teams
- Successfully negotiated contracts with large cogeneration users avoiding system bypass and obtaining regulatory approval

PROFESSIONAL HISTORY

Concentric Energy Advisors, Inc. (2016 – Present)

Vice President (2022-Present)

Assistant Vice President (2016-2021)

AVANGRID and affiliated companies (2016)

Connecticut Natural Gas and The Southern Connecticut Gas Company (2014 – 2016)

Director, Gas Construction

UIL Holdings, Inc. (2010 – 2014)

Director, Regulatory & Tariffs

Iberdrola S.A. / Energy East Corporation / Connecticut Natural Gas and The Southern Connecticut Gas Company (2001 – 2010)

Director, Regulatory & Pricing / Director, Pricing & Analysis

Connecticut Natural Gas Corporation (1997 – 2001)

Manager, Pricing



**United Technologies, Inc. – Pratt & Whitney
Turbo Power & Marine Systems (1996 – 1997)**
Manager, Financial Planning & Analysis

Pratt & Whitney Aircraft
Business Unit Cell Leader, Overhaul & Repair / Manufacturing – turbine airfoils (1994 –
1996)
Financial Analyst, Commercial Engine Business (1987 – 1994)

EDUCATION

University of Connecticut
M.B.A., Concentration in Finance, 1993

Bryant University (College)
B.S., Finance, 1987

PROFESSIONAL AFFILIATIONS

American Gas Association
Guild of Gas Managers
Northeast Gas Association
Project Management Institute

CERTIFICATIONS

Certified Project Management Professional (PMP)

LEADERSHIP

Connecticut Economic Resource Center (CERC)
Member, Board of Directors 2008 – 2011
Treasurer, 2011 – 2016

Connecticut Power and Energy Society (CPES)
Treasurer and Director 2022 - present
Secretary and Director 2018 – 2022
Member, Board of Directors 2017 – 2018

AGA Executive Leadership Development Program – 2012



SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
Connecticut Public Utilities Regulatory Authority				
United Illuminating Company	2023	United Illuminating Company Application for a rate increase	Docket No. 22-08-08	Rate design, Economic Development rate
NuPower, LLC	2022	PURA – review of combined heat and power projection solicitation.	Docket No. 18-08-14RE01	Cost of Service analysis for a regulated fuel cell project, as amended
The Connecticut Water Company	2021	The Connecticut Water Company	20-12-30	Allocated Cost of Service, Rate Design and Rate Consolidation
NuPower, LLC	2019	PURA – review of combined heat and power projection solicitation.	Docket No. 18-08-14	Cost of Service analysis for a regulated fuel cell project
Yankee Gas Services (Eversource Energy)	2018	Yankee Gas Services DBA Eversource Energy – amend rate schedules.	Docket No. 18-05-10	Distribution Rate Case Rate design, decoupling, and capital trackers
Connecticut Natural Gas Corporation & Southern Connecticut Gas Company	2016	Connecticut Natural Gas Corporation & Southern Connecticut Gas Company - OCC successfully advocated that the gas utilities should not be allowed to recover certain expenses	Docket No. 16-04-10	State of Connecticut LDC Gas Expansion Plan: System Expansion Reconciliation Capital Expenditures, System Improvement/Reinforcement Projects
Connecticut Natural Gas Corporation & Southern Connecticut Gas Company	2014	Connecticut Natural Gas Corporation & Southern Connecticut Gas Company	Docket No. 13-06-02RE01	State of Connecticut LDC Gas Expansion Plan Settlement Agreement
Connecticut Natural Gas Corporation & Southern Connecticut Gas Company	2013	Connecticut Natural Gas Corporation & Southern Connecticut Gas Company	Docket No. 13-06-02	State of Connecticut LDC Gas Expansion Plan Rates, Hurdle Rate analysis, Demand forecast, Rate Mechanism
Connecticut Natural Gas Corporation	2013	Connecticut Natural Gas Corporation	Docket No. 13-06-08	Distribution Rate Case Revenue Requirements, Cost of Service, Rate Design, Demand Forecast, and Forecasted Revenues; Decoupling, DIMP and System Expansion Reconciliation Rate Mechanisms, Tariffs



SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
The Southern Connecticut Gas Company	2013	The Southern Connecticut Gas Company	Docket No. 99-10-25RE01	Firm Transportation Service Agreement and Gas Exchange Agreement - Review of Revenue Requirement Allocation
Connecticut Natural Gas Corporation & Southern Connecticut Gas Company	2011	Connecticut Natural Gas Corporation & Southern Connecticut Gas Company	Docket No. 08-12-06RE02, 08-12-07RE02	Settlement Agreement RE: Resolve Stayed Decisions and Orders from Appealed CNG and SCG Rate Cases, and resolve SCG overearnings
The Southern Connecticut Gas Company	2011	DPUC review Overearnings for SCG	Docket No. 10-12-17	Just and Reasonable Rates – Potential Overearnings Investigation
Georgia Public Service Commission				
Liberty Utilities Georgia d/b/a/ Peachtree Natural Gas	2020	Liberty Utilities Corp.	Docket 42959	Distribution Rate Case Allocated Cost of Service and Rate Design
Illinois Commerce Commission				
The Peoples Gas Light & Coke Company	2017	ICC vs The Peoples Gas Light & Coke Company	Docket No. 16-0376	Gas Distribution Aging Infrastructure Peer Utility Benchmark Study, Affordability
Maine Public Utilities Commission				
Emera, Maine	2017	Request for approval of rate change Emera	Docket No. 2017-00198	Electric Distribution Revenue Requirements
Massachusetts Department of Public Utilities				
Berkshire Gas Company	2022	The Berkshire Gas Company filed a petition with the Department of Public Utilities for an increase in gas distribution rates.	D.P.U. 22-20	Weather Normalization, Rate Design and Bill Impacts
Boston Gas Company d/b/a National Grid	2020	Boston Gas Company	D.P.U. 20-120	Allocated Cost of Service, Rate Design and Rate Consolidation
Berkshire Gas Company	2018	The Berkshire Gas Company filed a petition with the Department of Public Utilities for an increase in gas distribution rates.	D.P.U. 18-40	Rate Design, Decoupling and Performance-Based Ratemaking



SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
New Hampshire Public Utilities Commission				
Liberty Utilities – New Hampshire d/b/a/ Granite State Electric	2022	Request for Approval of Revenue Decoupling Adjustment	DE 22-052	Revenue Decoupling - Compliance
Liberty Utilities – New Hampshire d/b/a/ Granite State Electric	2019	Granite State Electric - Petition for Permanent and Temporary Rates	DE 19-064	Revenue Decoupling
Pennichuck Water Works	2018	Pennichuck Water Works, Inc. – Rate Proceeding	DG 19-084	Allocated Cost of Service
Liberty Utilities – New Hampshire d/b/a/ EnergyNorth Natural Gas	2017	Liberty Distribution Service Rate Case – Request for change in rates	DG 17-048	Revenue Decoupling Rate Design