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March 21, 2003

Ms Luly Massaro, Commission Clerk
Public Utilities Commission
89 Jefferson Boulevard
Warwick, RI 02999

Re: Docket No. 3459

Dear Luly:

Enclosed for filing is an original and nine (9) copies of the responsive testimony of Kenneth W. Hogan and John J. Reed in the above-referenced docket. If you have any questions, please do not hesitate to contact me.

Sincerely,



CRAIG L. EATON, #5515
Attorney for New England Gas Company

CLE/cg
Enclosure

cc: Paul Roberti, Esq.
Steve Scialabba
David Effron

**STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS
PUBLIC UTILITIES COMMISSION**

**NEW ENGLAND GAS COMPANY
DOCKET NO. 3459**

RESPONSIVE TESTIMONY

OF

KENNETH W. HOGAN

MARCH 21, 2003

1 **I. INTRODUCTION**

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

3 A. My name is Kenneth W. Hogan and my business address is 65 Newport Avenue, East
4 Providence, Rhode Island 02916.

5 **Q. What is your professional and educational background?**

6 A. I served as Senior Vice President of Finance and Administration for the Providence
7 Gas Company (“ProvGas”) and its successor, the New England Division of Southern
8 Union Company, from April 1999 through June 2001. Prior to my tenure at ProvGas,
9 I was employed for 22 years by Valley Resources, Inc. (“Valley”). At the time that I
10 left Valley, I was serving as Senior Vice President, Chief Financial Officer and
11 Secretary.

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

13 A. The purpose of my testimony is to respond to issues raised by the Rhode Island Public
14 Utilities Commission (the “Commission”) in this proceeding regarding the appropriate
15 capital structure to be used in the calculation of ProvGas earnings under the Energize
16 Rhode Island Settlement Agreement, approved by the Commission in Docket 2581
17 (the “ERI-2 Settlement Agreement” or the “Agreement”). Specifically, my testimony
18 provides information regarding the design and intent of the terms of the ERI-2

1 Settlement Agreement relating to the capital structure to be used in the calculation of
2 the Company's post-merger earned return on equity.

3 **Q. Did you participate on behalf of ProvGas in the discussions leading to the ERI-2**
4 **Settlement Agreement and the Commission's proceeding to approve that**
5 **agreement?**

6 A. Yes, I participated in all discussions leading to the development of the ERI-2
7 Settlement Agreement, as well as the Commission's proceeding to approve the
8 agreement.

9 **II. OVERVIEW OF THE SETTLEMENT AGREEMENT**

10 **Q. What was the context of the Company's negotiation of the ERI-2 Settlement**
11 **Agreement?**

12 A. In November 1999, Providence Energy Corporation, the parent company of ProvGas,
13 entered into an Agreement and Plan of Merger with Southern Union. This occurred
14 during the second year of the Company's three-year Energize Rhode Island Price
15 Stabilization Plan ("ERI-1"), which was due to expire on September 30, 2000.

16 In anticipation of the expiration of ERI-1, ProvGas commenced efforts to develop a
17 request for base-rate relief for filing at the Commission, which would take effect upon
18 the expiration of ERI-1. Throughout the beginning of 2000, the Company met with
19 the Division of Public Utilities and Carriers (the "Division") to discuss this potential
20 rate application and the possibilities for developing a rate plan to succeed ERI-1. At

1 the same time, the Company and the Division (along with other settling parties) were
2 working to reach settlement on issues relating to the acquisition of ProvGas and
3 Valley Gas by Southern Union. Under the Merger Settlement Agreement approved by
4 the Division in Dockets No. 00-02 and 00-03, in July 2000, ProvGas agreed to
5 develop a comprehensive rate consolidation plan for filing with the Commission by
6 December 1, 2001 (and for effect on July 1, 2002). Therefore, the Company and the
7 Division began to design the ERI-2 Settlement Agreement to serve the purpose of
8 facilitating the transition between ERI-1 (due to expire on September 30, 2000), and
9 the consolidation/rate plan to be put in place for the Rhode Island operations as of July
10 1, 2002.

11 **Q. When and how was the ERI-2 Settlement Agreement negotiated?**

12 A. The ERI-2 Settlement Agreement was negotiated during the year 2000 between the
13 Company, the Division, the Energy Council of Rhode Island and the George Wiley
14 Center (together, the "Settling Parties"). The ERI-2 Settlement Agreement was based
15 on extensive discovery and negotiations among the Settling Parties concerning all
16 aspects of ERI-1, the then-pending merger, and natural gas market conditions.

17 **Q. Please describe your involvement in the Commission's proceeding to review and**
18 **approve the ERI-2 Settlement Agreement.**

19 A. The ERI-2 Settlement Agreement was filed with the Commission on August 2, 2000,
20 and was reviewed by the Commission in Docket No. 2581. In that proceeding, I

1 testified on behalf of the Company in support of the Agreement at evidentiary hearings
2 held by the Commission on September 22, 2000. The Agreement was approved by the
3 Commission effective October 1, 2000.

4 **III. PROVISIONS IN THE ERI-2 SETTLEMENT AGREEMENT GOVERNING**
5 **THE CALCULATION OF THE COMPANY'S RETURN ON EQUITY**

6 **Q. Please describe the terms of the Settlement Agreement as they relate to the**
7 **calculation of ProvGas' earned return on common equity.**

8 A. The ERI-2 Settlement Agreement provided that the Company's achieved return on
9 common equity during the period October 1, 2000 through June 30, 2002 (the
10 "Extended Term") would be capped so as not to exceed 10.9 percent. The
11 Commission later reduced the cap to 10.7 percent in approving the ERI-2 Settlement
12 Agreement. The determination of whether the Company had exceeded its allowed
13 return on equity would be made at the end of the Extended Term, based on the
14 financial results of two 12-month periods ending September 30, 2001 and June 30,
15 2002 (the "Reporting Periods").

16 **Q. What are the terms of the Settlement Agreement regarding the capital structure**
17 **to be used in calculating the Company's return on common equity?**

18 A. The ERI-2 Settlement Agreement (at §II(I)(3)) provides that:

19 The Company shall use the actual capital structure and associated costs of capital
20 in determining its earned return on equity, as described in Paragraph [2].
21 However, the Company's actual level of equity and total capital for financial
22 accounting purposes will be affected by the pending merger with Southern Union.
23 Therefore, if ProvGas' actual average common equity ratio is above 50% for any

1 reporting period during the Extended Term, then the Company shall use a capital
2 structure consisting of 50% debt and 50% equity.

3 **Q. What was the intent of this provision?**

4 **A.** At the time that the ERI-2 Settlement Agreement was being negotiated, the Company,
5 the Division and other Settling Parties recognized that, following the merger with
6 Southern Union, ProvGas would become an operating division within the Southern
7 Union organization. The Settling Parties also recognized that, under the provisions of
8 the Merger Settlement Agreement and the Division's approval of that settlement,
9 ProvGas would be required to maintain separate books of accounts, including income
10 statements, assets, liabilities and equity, in accordance with Commission and Division
11 reporting requirements. This meant that ProvGas would continue to report its own
12 common equity levels, which would then be incorporated into the earnings calculation
13 under ERI-2. Both the Company and the Division anticipated that, if ProvGas became
14 an operating division, Southern Union would assume the debt obligations of ProvGas
15 and the average common equity ratio reported by ProvGas could be increased
16 significantly by both the elimination of debt and the increase in equity due to the
17 Goodwill (acquisition premium) that would be assigned to the ProvGas operating
18 division. Recognizing these factors, the Settling Parties designed the calculation of
19 earned return on equity to ensure that customers would not bear additional costs
20 associated with the substantial increase in the average common equity ratio on the
21 books of ProvGas. The Settling Parties agreed not to use the actual common equity of
22 ProvGas, but instead to use a ratio of common equity applied to rate base.

1 The ERI-2 Settlement Agreement was intended to allow ProvGas and its customers to
2 maintain a status quo with respect to both earnings and costs until the rate
3 consolidation plan was put into place. Accordingly, the Company, the Division and
4 other Settling Parties agreed that the Company would calculate an appropriate earned
5 return on equity for ProvGas operations during the Extended Period using ProvGas'
6 "actual capital structure and associated costs of capital" during that time period, but
7 requiring the use of a capital structure that was 50 percent equity and 50 percent debt,
8 to the extent that ProvGas' actual average common equity ratio recorded on its books
9 during either Reporting Period exceeded 50 percent.

10 **Q. Is there any other information you would like to provide to the Commission**
11 **regarding the proper calculation of ProvGas' capital structure?**

12 **A.** Yes. During the Extended Period, the Company entered into a settlement agreement
13 with the Division regarding a change to the interest rate applied to the deferred gas
14 cost account in the ProvGas Gas Charge Clause tariff. In Re: Providence Gas
15 Company Annual Gas Charge Clause Filing, Valley Gas Company Annual Purchased
16 Gas Price Adjustment Clause Filing, and Providence Gas Company's Transportation
17 Tariff Revision, Docket Nos. 1673, 1736 & 3347 (Appendix B) (October 17, 2001)
18 (the "Deferred Gas Cost Settlement Agreement"). The Deferred Gas Cost Settlement
19 Agreement provided, in relevant part, that the calculation of return on equity in the
20 earnings report filed with the Commission by ProvGas pursuant to ERI-2 shall be
21 modified to reflect the use of short-term debt to fund Deferred Gas Costs.

1 Specifically, the Company is required to adjust the short-term debt portion of the
2 Company's capital structure to exclude that portion of the average short-term debt
3 balance associated with the average deferred gas cost balance. The adjusted capital
4 structure is required to be used for calculation of common equity applicable to rate
5 base and return on common equity.

6 **Q. How does the Deferred Gas Cost Settlement Agreement affect the calculation of**
7 **ProvGas' capital structure, in light of your testimony regarding the ERI-2**
8 **Settlement Agreement?**

9 A. The Deferred Gas Cost Settlement Agreement does not affect the calculation of
10 ProvGas' capital structure for purposes of this proceeding, because, even when
11 calculating ProvGas' actual capital structure during the Extended Period consistent
12 with the Deferred Gas Cost Settlement Agreement, ProvGas' capital structure during
13 the Extended Period consisted of average common equity ratio that well exceed 50
14 percent, and therefore, the use of a 50/50 capital structure is required. However, if
15 Southern Union's capital structure were to be imputed by the Commission, the
16 provisions of the Deferred Gas Cost Settlement relating to the use of short-term debt
17 in the capital structure would apply.

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

19 A. Yes.

**STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS
PUBLIC UTILITIES COMMISSION**

**NEW ENGLAND GAS COMPANY
DOCKET NO. 3459**

RESPONSIVE TESTIMONY

OF

JOHN J. REED

MARCH 21, 2003

1 I. INTRODUCTION

2 Q. Please state your name and address.

3 A. My name is John J. Reed. My business address is 313 Boston Post Road West, Suite
4 210, Marlborough, Massachusetts 01752.

5

6 Q. On whose behalf are you appearing in this arbitration proceeding?

7 A. I am appearing on behalf of the New England Gas Company ("NEGC"), the New
8 England operating division of Southern Union Company ("Southern Union").

9

10 Q. By whom are you currently employed, and what is your position?

11 A. I am the Chairman and Chief Executive Officer of Commonwealth Energy
12 Advisors, Inc. ("CEA"). CEA is an economic and financial advisory firm focusing
13 on the North American energy industry.

14

15 Q. What is your background in the energy industry?

16 A. I have more than 26 years of experience in the energy industry, having served as an
17 executive and manager of energy consulting firms, and as Chief Economist for
18 North America's largest gas utility. My resume is attached as Exhibit JJR-1.

19

20 Q. Have you previously appeared as an expert witness in other energy industry
21 proceedings?

22 A. Yes. Over the course of my 26 years of experience in the energy industry, I have
23 appeared as an expert witness in more than 125 proceedings, including
24 administrative, civil, and arbitration proceedings throughout the U.S. and Canada. A
25 list of my previous experience as an expert witness is attached to this testimony as
26 Exhibit JJR-2.

27

28 Q. What is the purpose of your Direct Testimony in this proceeding?

29 A. I have been asked by NEGC to provide my views on (1) the capital structure to be
30 used in determining Providence Gas Company's ("ProvGas") earnings under the

1 earnings cap being reviewed in the current proceeding, and (2) the more general
2 determination of the capital structure to be used to establish a utility's weighted
3 average cost of capital for ratemaking purposes. My testimony discusses Southern
4 Union's corporate structure, the settlement agreement reached between NEGC and
5 the Rhode Island Division of Public Utilities and Carriers (the "Division") in Docket
6 No. 2581 and approved by the Rhode Island Public Utilities Commission (the
7 "Commission") ("ERI-2 Settlement"), industry standards with regard to utility capital
8 structure and rate of return, and the implications of using Southern Union's
9 corporate-wide capital structure for purposes determining the rate of return for
10 ProVGas in this proceeding.

11
12 **Q. By way of background, please identify the components of a utility's cost of**
13 **capital.**

14 A. A utility's cost of capital is comprised the weighted average of its cost of debt, cost
15 of preferred stock and allowed rate of return on common equity.

16
17 **Q. What is the role of the capital structure in determining a utility's cost of**
18 **capital for ratemaking purposes?**

19 A. A company's capital structure establishes the weights to be applied to each
20 component of a utility's cost of capital to derive the utility's weighted average, or
21 overall, cost of capital. The utility's weighted average cost of capital is then applied
22 to its allowed rate base to derive its allowed return.

23
24 **Q. What is your understanding of the issues in the instant proceeding regarding**
25 **capital structure?**

26 A. At issue in this proceeding is the interpretation of the ERI-2 Settlement as it pertains
27 to ProVGas' capital structure. In particular, while the parties to the ERI-2 Settlement
28 (i.e., ProVGas, the Division and others) agree that the defined default capital
29 structure should be used for purposes of calculating ProVGas' earned return on
30 common equity under the earnings cap, counsel to the Commission has questioned

1 whether the earnings calculation should, instead, use Southern Union's corporate-
2 wide capital structure as the appropriate measure of ProvGas' capitalization.

3
4 **II. SUMMARY OF CONCLUSIONS**

5 **Q. What conclusions have you reached regarding the capital structure to be used**
6 **in determining ProvGas' earnings under the earnings cap provided for in the**
7 **ERI-2 Settlement under review in this proceeding?**

8 **A.** I have concluded that the use of the default 50/50 debt/equity capital structure
9 defined in the ERI-2 Settlement is appropriate. Further, I have concluded that the
10 use of this balanced capital structure is:

- 11 a. Consistent with the capital structure used to set the base rates in effect for
12 ProvGas during the period covered by the ERI-2 Settlement;
- 13 b. Consistent with the Division's order in Docket Nos. D-00-02 and D-00-03
14 excluding Southern Union's acquisition premium from the rate base for the
15 NEGC companies;
- 16 c. Just and reasonable given the capital structure used by other gas distribution
17 utilities of comparable risk; and
- 18 d. Consistent with the requirements and expectations of the financial
19 community for ProvGas, NEGC and Southern Union.

20
21 Conversely, use of Southern Union's corporate-wide capital structure:

- 22 a. Denies ProvGas the opportunity to earn a reasonable return because it
23 determines refunds under the earnings cap in a manner that is inconsistent
24 with the basis on which rates were established;
- 25 b. Significantly increases ProvGas' financial risk without adjusting rates or the
26 earnings cap for the corresponding increases in equity and debt costs;
- 27 c. Improperly includes capitalization associated with unregulated operations
28 and the acquisition premiums resulting from Southern Union's acquisitions
29 of various regulated utilities;

- 1 d. Is inconsistent with the capital structures (and corresponding costs of capital)
2 for comparable natural gas local distribution companies ("LDCs") of similar
3 risk to ProvGas;
- 4 e. Sends a clear message to the energy and financial communities that the
5 Commission believes that a short-term rate reduction is more important than
6 allowing ProvGas and NEGC to continue as investment-grade entities; and
- 7 f. Has the overall effect of expropriating earnings that rightfully should be
8 retained by the ProvGas operations.
- 9

10 **Q. What conclusions have you reached regarding the determination of capital**
11 **structure to be used to establish a utility's weighted average cost of capital for**
12 **ratemaking purposes generally?**

13 **A.** In general, the capital structure to be used in utility ratemaking should enable the
14 company to attract capital at reasonable rates, represent a level of financial risk that is
15 consistent with risks that investors would incur in "comparable" investments, and
16 reasonably represent the amounts and means by which regulated assets are financed.
17 As discussed throughout my testimony, these basic policies have been fundamental
18 to ratemaking principles in both state and federal jurisdictions for decades.
19 Moreover, since the financial risks created by highly-leveraged capital structures, such
20 as Southern Union's corporate-wide capital structure, result in higher debt and equity
21 cost rates, it is critically important to employ a capital structure that reasonably
22 represents the assets financed and the risk and return expectations of investors.
23 Consequently, in instances in which a company has a capital structure that is not
24 representative of a regulated gas utility, the use of a proxy capital structure, which is
25 representative of industry risks and expectations for such a utility, is reasonable.

26

27 **III. SOUTHERN UNION OVERVIEW**

28 **Q. Please provide an overview of Southern Union.**

29 **A.** Southern Union was incorporated under the laws of the State of Delaware in 1932.
30 As described below, Southern Union's current corporate structure is the result of a

1 number of recent acquisitions and other transactions. Southern Union's principal
2 line of business is the distribution of natural gas as a public utility to customers
3 through operating divisions in Missouri, Pennsylvania, Rhode Island, and
4 Massachusetts. Missouri Gas Energy ("MGE"), headquartered in Kansas City,
5 Missouri, serves approximately 498,000 customers in central and western Missouri.
6 PG Energy, headquartered in Wilkes-Barre, Pennsylvania, serves approximately
7 157,000 customers in northeastern and central Pennsylvania, and NEGC serves
8 approximately 295,000 customers in Rhode Island and Massachusetts.

9
10 In addition to its regulated natural gas transportation and distribution operating
11 division, Southern Union has a number of subsidiaries engaged in unregulated
12 activities. Subsidiaries of Southern Union generally support and expand natural gas
13 sales and other energy sales. Subsidiaries of Southern Union market natural gas to
14 end-users, operate natural gas pipeline systems, generate electricity and distribute
15 propane. Additionally, Southern Union owns or holds interests in real estate and
16 other assets.

17
18 **Q. Please describe Southern Union's various acquisition or sales of regulated**
19 **natural gas utility businesses.**

20 **A.** In January 1994, Southern Union acquired MGE from Western Resources, Inc. for
21 approximately \$400 million. Concurrent with the acquisition of MGE, Southern
22 Union issued \$50 million of equity and \$475 million of long term debt, each of
23 which were used to fund the MGE transaction.

24
25 In November 1999, Southern Union acquired Pennsylvania Enterprises, Inc. ("PE")
26 for approximately \$500 million, which was comprised of \$38 million in cash,
27 approximately 16,700,000 shares of Southern Union common stock and the
28 assumption of approximately \$115 million of long-term debt.

29

1 As discussed later in my testimony, Southern Union acquired Providence Energy
2 Corporation ("ProvEnergy"), including ProvGas, Fall River Gas Company ("Fall
3 River Gas"), and Valley Resources, including Valley Gas ("Valley") and Bristol &
4 Warren Gas Company ("Bristol & Warren") (collectively, the "NEGC companies")
5 in September, 2000. The NEGC companies were acquired for approximately \$422
6 million in cash, 1,370,629 shares of Southern Union common stock, and the
7 assumption of approximately \$140 million in long-term debt.

8
9 In December 2002, Southern Union announced that it and AIG Highstar Capital,
10 L.P. ("AIG") were jointly acquiring CMS Panhandle Companies from CMS Energy
11 Corporation. The agreement calls for Southern Union and AIG to pay approximately
12 \$1.8 billion, including the assumption of \$1.166 billion of debt.

13
14 In January 2003, Southern Union closed the previously-announced \$420 million sale
15 of its Texas gas distribution assets, together with 125 miles of regulated gas
16 transmission assets, and other non-regulated assets involved in marketing, retail
17 propane, and natural gas distribution assets in Mexico.

18 19 **IV. ERI-2 SETTLEMENT BACKGROUND AND OVERVIEW**

20 **Q. Please provide an overview of the procedural history surrounding the current**
21 **proceeding.**

22 A. In October 1997, the Commission approved ProvGas' original Energize Rhode
23 Island Price Stabilization Plan ("ERI-1"). This plan provided for a three year rate
24 freeze and earnings sharing mechanism ("ESM") for earnings in excess of an
25 established return on equity ("ROE") cap for ProvGas customers. The ERI-1 rate
26 freeze ended September 30, 2000.¹

27
28 In June 2000, the NEGC companies and Southern Union entered into a settlement
29 agreement with the Advocacy Section of the Division, the Attorney General, and

¹ Rhode Island Public Utilities Commission Docket No. 2581, Report and Order, March 6, 1998.

1 The Energy Council of Rhode Island (“TEC-RI”) recommending approval of the
2 ProvEnergy, ProvGas, Valley, and Bristol & Warren mergers with Southern Union
3 subject to the terms of the settlement agreement (“Merger Settlement”). The Merger
4 Settlement was approved in July 2000.²

5
6 In August 2000, in anticipation of completing the merger with Southern Union,
7 ProvGas entered into a settlement with the Division, TEC-RI and The George Wiley
8 Center extending the term of the ERI-1 plan for a 21-month period ending June 30,
9 2002.³ As modified and approved by the Commission in September 2000, the ERI-
10 2 Settlement maintained the basic structure of the ERI-1 plan, but replaced the ESM
11 with an “earnings cap” of 10.7% and an “earnings floor” of 7%, both of which are
12 calculated based on ROE. The capital structure-related details of the ERI-2
13 Settlement are described below.

14
15 In June 2002, NEGC entered into a settlement agreement with the Division and
16 TEC-RI resolving the post-merger rate plan for NEGC (the “Rate Plan Settlement”).
17 The Rate Plan Settlement was approved by the Commission on May 23, 2002.⁴

18
19 In August 2002, as part of its Distribution Adjustment Clause (“DAC”) Filing,
20 Docket No. 3459, NEGC submitted its Earnings Report for ProvGas as required in
21 the ERI-2 Settlement. NEGC, the Division, and TEC-RI entered into a settlement
22 agreement in the present docket on February 4, 2003 (the “DAC Settlement”). The
23 DAC Settlement was rejected by the Commission on February 6, 2003, and the case
24 reverted to a litigated proceeding.⁵

25

² State of Rhode Island and Providence Plantations Division of Public Utilities and Carriers Docket No. D-00-02 and D-00-03, Order No. 16338, July 24, 2000, at 62-63.

³ State of Rhode Island and Providence Plantations Public Utilities Commission Docket No. 2581, Report and Order, October 1, 2000, at 1 (Written Order issued April 30, 2001).

⁴ Rhode Island Public Utilities Commission Bench Decision, May 23, 2002.

⁵ State of Rhode Island and Providence Plantations Public Utilities Commission Hearing Transcripts, February 6, 2003, at 129.

1 Q. Please describe your understanding of the provisions of the ERI-2 Settlement
2 pertaining to capital structure.

3 A. The ERI-2 Settlement requires ProvGas to use either its own actual capital structure,
4 or a defined default capital structure and associated cost of capital to determine its
5 earned return on equity for purposes of applying the earnings cap and floor. In
6 pertinent part, the ERI-2 Settlement provides:

7 The Company shall use the actual capital structure and associated
8 costs of capital in determining its earned return on equity, as
9 described in Paragraph 1. However, the Company's actual level of
10 equity, and total capital for financial accounting purposes will be
11 affected by the pending merger with Southern Union. Therefore, if
12 ProvGas' actual average common equity ratio is above 50% for any
13 reporting period during the Extended Term, then the Company shall
14 use a capital structure consisting of 50% debt and 50% equity.⁶
15

16 In its first line, the ERI-2 Settlement defines "the Company" and "ProvGas" as
17 Providence Gas Company.

18

19 Q. What capital structure did NEGC use in its calculation of ProvGas' earned
20 return on equity in this DAC proceeding?

21 A. NEGC used the default 50/50 debt/equity ratio as specified in the ERI-2 Settlement
22 to calculate ProvGas' earned return on equity. Upon merging with Southern Union,
23 the capital structure of ProvGas was modified to approximately 100% equity, thus
24 triggering the application of the default 50/50 debt/equity capital structure specified
25 in the ERI-2 Settlement.

26

27

⁶ ERI-2 Settlement, Paragraph II-I-3, at 15.

1 V. **PROVGAS' CAPITAL STRUCTURE**

2 Q. You indicated that upon completion of the merger with Southern Union, the
3 capital structure for Provgas became 100% equity. Please explain.

4 A. As a result of the merger, Provgas, Valley, and Bristol & Warren became part of
5 NEGC, a division of Southern Union. As a division of Southern Union, these
6 companies no longer raise or have access to external capital independent of Southern
7 Union, although they do maintain separate records and books of account. All
8 existing debt of NEGC predecessor companies was assumed by Southern Union at
9 the corporate level. Accordingly, the actual capitalization of Provgas is nearly 100%
10 equity which is held entirely by Southern Union. This is reflected on the annual
11 reports that Provgas files with the Commission. As shown on Schedule JJR-1,
12 which is an excerpt from Provgas' 2001 Annual Report to the Commission, the long
13 term capital for Provgas is nearly 100% equity.

14

15 Q. **What capital structure underlies the ERI-2 Settlement?**

16 A. Both ERI-1 and ERI-2 are based upon the capital structure adopted in Provgas'
17 1995 rate case, Docket No. 2286. In its Order, the Commission directed Provgas to
18 use its actual capital structure as of May 31, 1995 to calculate its ROE. That capital
19 structure was:

20 Common Equity 51.7%

21 Preferred Equity 5.5%

22 Long-Term Debt 40.0%

23 Short-Term Debt 2.7%⁷

24

25 This balanced capital structure was used in the establishment of the ESM in ERI-1
26 and the ROE cap and floor in ERI-2.

27

⁷ Provgas Rate Order No. 14859, Docket No. 2286, February 16, 1995, at 6.

1 Q. Did the Merger Settlement contemplate that there could be issues with using
2 Southern Union's capital structure for the purpose of establishing rates
3 prospectively?

4 A. In recognition that the merger could affect the ProvGas capital structure, the Merger
5 Settlement provided that NEGC would propose one of two alternatives for
6 establishing an appropriate capital structure to set regulated rates:

- 7 1. Southern Union's actual, consolidated capital structure, and
- 8 2. A capital structure that reflects the capital structure for a comparable
9 group of local gas distribution companies ("LDCs") similar in risk to
10 ProvGas, Valley and/or Bristol & Warren.

11
12 In addition, the Merger Settlement provided that NEGC could propose other
13 appropriate capital structures. The Merger Settlement also specifically stated that:

14 The Commission, in determining prospective costs of capital, will
15 retain the right to use one of the alternatives proposed by the
16 Companies [defined therein collectively as ProvEnergy, ProvGas,
17 Valley, Bristol & Warren, and Southern Union] an alternative proposed
18 by any Settling Party, or some other alternative which the Commission
19 determines to be most reflective of the capitalization and cost of capital
20 components for a typical, stand alone, gas distribution utility.⁸

21
22 My reading of this provision is that the Commission (1) may not retrospectively
23 change NEGC's cost of capital, and (2) must determine prospective cost of capital
24 based on the capitalization and cost of capital for a typical, stand alone, gas
25 distribution utility. These requirements are entirely consistent with well-established
26 regulatory policies and industry practices to establish NEGC's capital structure.

27
28 Q. Have any of the alternative approaches identified in the Merger Settlement
29 been proposed in subsequent cases?

30 A. Yes. In Docket No. 3401, the resolution of which was the Rate Plan Settlement,
31 both the Division Witness Kahal and the NEGC Witness Dunn proposed the use of
32 the capital structures derived from the capital structures of a proxy group of

⁸ State of Rhode Island and Providence Plantations Division of Public Utilities and Carriers, Docket No. D-00-2 and D-00-3, Settlement Agreement, at 11.

1 companies of similar risk to NEGC to establish the appropriate capital structure for
2 NEGC.

3
4 **Q. Did any witness in Docket No. 3401 contemplate the use of Southern Union's**
5 **corporate-wide capital structure in the Rate Plan?**

6 A. Yes. While Witness Kahal indicated in his testimony that this approach would be
7 valid at a conceptual level, he indicated that "at the present time, Southern Union's
8 capital structure is unduly weak and therefore inappropriate for
9 ratemaking...Southern Union's common equity ratio currently is below 30 percent.
10 This is much weaker than the pre-merger capital structures of ProvGas and Valley
11 Gas and those of most other gas LDCs."⁹

12
13 In response to cross examination, Witness Kahal went on to state "[t]he problem
14 with using Southern Union Company is that the company is in a financially atypical
15 situation. Now its common equity ratio is somewhere around 20 to 30 percent...
16 It's certainly not where it wants to be; and I would expect by 2005 it would be in a
17 different position than it is now financially."¹⁰

18
19 **Q. Has the capital structure to be used for a newly merged company been**
20 **addressed in Rhode Island in any other proceeding?**

21 A. Yes. On March 3, 2000, Narragansett Electric, Blackstone Valley Electric, and
22 Newport Electric Corporation entered into a settlement agreement with the
23 Division, the Attorney General, the Navy, and TEC-RI. That agreement addressed
24 rate changes resulting from the merger of these companies with National Grid
25 ("National Grid Rate Settlement"). Through the National Grid Rate Settlement, an
26 imputed capital structure of 50% common equity, 45% debt and 5% preferred stock

⁹ Direct Testimony of Matthew Kahal, Docket No. 3401, at 10.

¹⁰ State of Rhode Island and Provident Plantations Public Utilities Commission, Hearing in Re. Docket No. 3401, May 6, 2002, at 58-60.

1 was applied to those companies. The Commission approved the National Grid Rate
2 Settlement on March 14, 2000.¹¹

3
4 **Q. In your opinion, is the capital structure established in the ERI-2 Settlement**
5 **consistent with the capital structures that were adopted in the Merger**
6 **Settlement, the Rate Plan Settlement, and the National Grid Rate Settlement?**

7 A. Yes. The ERI-2 Settlement provides for the use of a balanced capital structure for
8 ProvGas for purposes of setting regulated rates. The capital structures adopted or
9 contemplated in ProvGas' last rate case and the Rate Plan Settlement also provided
10 for balanced capital structures for ratemaking purposes. Taken in context of the
11 other relevant proceedings including the National Grid Rate Settlement and industry
12 standards, discussed below, use of a balanced capital structure was reasonable under
13 the Merger Settlement as it was "reflective of the capitalization and cost of capital
14 components for a typical, stand alone, gas distribution utility."

15
16 **Q. Has the use of Southern Union's corporate-wide capital structure been**
17 **proposed in this DAC proceeding for calculating the refund required under**
18 **the earnings cap?**

19 A. This has not been proposed by any witnesses in the case, however, it is my
20 understanding that counsel for the Commission questioned whether the ERI-2
21 Settlement provides for the use of Southern Union's corporate-wide capital structure
22 in the public hearings regarding Docket No. 3459 on February 6, 2003. This issue
23 apparently has led the Commission to reject the DAC Settlement and set the matter
24 for hearing.

25
26

¹¹ State of Rhode Island and Providence Plantation Public Utility Commission, Docket No. 2930, Order
No. 16200, March 14, 2000, at 11.

1 *Adjustments to Southern Union's Capital Structure*

2 **Q. If one were to use Southern Union's capital structure for the purpose of**
3 **calculating ProvGas' earnings under the ERI-2 Settlement, would one simply**
4 **look to the capital structure as reported?**

5 A. No. If one were to use Southern Union's capital structure for ProvGas, certain
6 adjustments would be required. As I explained earlier in my testimony, Southern
7 Union has both regulated and unregulated operations. In particular, and most
8 importantly for the purpose of this analysis, acquisition premiums associated with
9 the acquisition of various regulated utilities and which have been excluded from rate
10 base must also be excluded from the calculation of capital structure.

11

12 **Q. Does Southern Union have amounts on its balance sheet associated with its**
13 **acquisition premiums of certain regulated utilities that are not recoverable**
14 **through those utilities' rates?**

15 A. Yes. First, to be clear, let me define the term "acquisition premium." Acquisition
16 premiums represent any excess of the purchase price paid for an asset or business
17 over its corresponding book value. Acquisition premiums are captured on Southern
18 Union's balance sheet in the category "Goodwill." As of June 30, 2002, Southern
19 Union had approximately \$713.4 million of unamortized Goodwill on its balance
20 sheet. That Goodwill represents the cumulative, unamortized balance of premiums
21 paid by Southern Union for all acquisitions, both regulated and unregulated. Since
22 acquisition premiums are excluded from rate base, the capital used to finance these
23 amounts should be adjusted out of the consolidated capital structure. Based on my
24 review of Southern Union's acquisition history, the acquisition premiums have been
25 funded primarily or exclusively with debt and as such, this capital should be adjusted
26 out of the corporate-wide capital structure.

27

1 Q. You stated that the acquisition premiums which have not been included in
2 rate base were funded primarily through debt. How did you make this
3 determination?

4 A. First, I reviewed the various press releases and Securities and Exchange Commission
5 filings that Southern Union has made regarding acquisitions over the past thirteen
6 years. As noted above, as of June 30, 2002, the unamortized Goodwill on the
7 company's books was \$713.4 million. That amount of Goodwill relates to
8 transactions involving both regulated and non-regulated entities. I considered only
9 the acquisition premium associated with Southern Union's acquisition of NEGCO, PE
10 and MGE. As shown on Schedule JJR-2, the acquisition premiums associated with
11 those transactions totaled \$684 million, or over 95% of the Goodwill balance. (It
12 should be noted that consistent with FASB's June 2001 issuance entitled Goodwill
13 and Other Intangible Assets, effective July 1, 2001 Southern Union no longer
14 amortizes goodwill.)

15
16 I also reviewed the actual financings associated with each one of the NEGCO, PE and
17 MGE acquisitions noted above. As also shown on Schedule JJR-2, these acquisitions
18 were funded through a combination of new debt, assumed debt and equity. On a
19 weighted average basis, the transactions were funded with approximately 83% debt
20 and 17% equity.

21
22 Q. Have you adjusted the Southern Union capital structure for the unamortized
23 Goodwill noted above?

24 A. Yes. Based on the analysis presented above, I have made reductions of \$114 million
25 to the common equity account, and \$570 million to the long term debt account of
26 Southern Union. This results in a capital structure consisting of approximately 53%
27 debt and 47% equity, which is far closer to the ERI-2 Settlement capital structure
28 than the unadjusted capitalization of Southern Union.
29

1 Q. Is there an established regulatory policy or precedent that supports restating a
2 utility's capital structure to exclude capital associated with investments for
3 which no rate recovery has been allowed?

4 A. Yes. Restating a utility's capital structure to eliminate items that are not recoverable
5 through rates is practiced by many regulatory commissions. For example, in a recent
6 Massachusetts Department of Telecommunications and Energy ("MDTE") order
7 approving Southern Union's issuance and distribution of common stock as dividend
8 payments to its equity shareholders, the MDTE approved a number of adjustments
9 to Southern Union's capital structure:

10 The Company has proposed excluding capital for unregulated
11 operations. The Department has found previously that the
12 capitalization used to support unregulated operations should be
13 excluded from capitalization.¹²

14
15 Similarly, the Company's proposed adjustment for acquisition
16 premiums is appropriate, given that an acquisition premium, or
17 goodwill, is intangible and, as such, should be excluded as a
18 component in a utility's plant ...¹³

19
20 Whenever a capital expenditure is not included in rate base, the capital used to
21 finance that expenditure should not be included in the capital accounts used for
22 ratemaking. Many regulatory commissions have recognized the importance of
23 synchronizing rate base and capital accounts, and apply this approach whenever
24 unregulated investments, Goodwill or not used-and-useful plant are excluded from
25 rate base. If any use is made of Southern Union's capital structure, it must be
26 synchronized with rate base adjustments which reflect the Commission's exclusion
27 of Goodwill from rate base.

28

¹² Southern Union Company, D.T.E. 02-27 (2002) at 5, citing DTE 01-52; Southern Union Company
D.T.E. 01-32, at 10-11 (2001) ("DTE 01-32"); NYNEX Price Cap, D.P.U. 94-50, at 440 (1995); DPU
84-94.

¹³ Id., citing DTE 01-32; New England Power Company, D.T.E. 00-53, at 8-9 (2000).

1 Q. Based upon your review of the ERI-2 Settlement and your industry
2 experience, do you believe it would be appropriate to use Southern Union's
3 capital structure to calculate of ProvGas' earned return on equity subject to
4 the earnings cap?

5 A. No. First, I believe that the ERI-2 Settlement is clear that the application of the
6 default 50/50 debt/equity capital structure was triggered by the merger with
7 Southern Union through which the capital structure of ProvGas, and the rest of the
8 NEGC companies, became nearly 100% equity.

9
10 Second, I believe that the capital structure used to measure ProvGas' ROE under the
11 terms of the earnings cap of the ERI-2 Settlement must be consistent with the
12 capital structure used to set the ROE embedded in ProvGas' current rates. As
13 discussed above, the rates reflect an imputed capital structure that is close to the
14 50/50 debt/equity default capital structure that is called for under the ERI-2
15 Settlement. If the earnings cap calculation were to use the Southern Union
16 corporate-wide capital structure rather than the default capital structure called for
17 under the ERI-2 Settlement, the refunds that would be generated would not be out
18 of earnings above of the authorized return, but would primarily be out of earnings
19 that are *below* the authorized return. This inappropriate and illogical result would be
20 entirely due to the use of one capital structure to set rates, and another much more
21 highly leveraged capital structure to apply the earnings cap.

22
23 Further, I concur with Division Witness Kahal that Southern Union's capital
24 structure is inappropriate for use in ratemaking, let alone for the earnings cap.
25 Southern Union's current capital structure is not representative of a typical LDC, or
26 the historic capital structures maintained by the NEGC companies. The use of
27 Southern Union's capitalization without a corresponding upward adjustment to its
28 cost of capital would result in rates which are not sufficient to maintain adequate
29 credit quality and access to capital, violating long-established ratemaking precedents
30 and policies.

1 I believe that the use of the default 50/50 debt/equity ratio specified in the ERI-2
2 Settlement is what is required under the settlement itself, achieves consistency with
3 the underlying rates, and is appropriate and consistent with regulatory principles
4 regarding a fair rate of return.
5

6 **VI. PROVGAS' ALLOWED RETURN IS INADEQUATE BASED ON**
7 **SOUTHERN UNION'S HIGHLY LEVERAGED CAPITAL STRUCTURE**
8

9 *Ratemaking Policies and Principles*

10 **Q. Please describe the guiding principles to be used in establishing a regulated**
11 **utility's cost of capital.**

12 **A.** Any discussion of the principles to be used in establishing a regulated utility's cost of
13 capital reasonably starts with the United States Supreme Court's precedent-setting
14 *Bluefield* and *Hope* cases. Those cases articulated the standards for determining the
15 fairness or reasonableness of a utility's allowed return on common equity, which
16 include consistency with other businesses having similar or comparable risks and
17 adequacy to support credit quality and access to capital:

18 A public utility is entitled to such rates as will permit it to earn a
19 return on the value of the property which it employs for the
20 convenience of the public equal to that generally being made at the
21 same time and in the same general part of the country on investments
22 in other business undertakings which are attended by corresponding
23 risks and uncertainties; but it has no constitutional right to profits
24 such as are realized or anticipated in highly profitable enterprises or
25 speculative ventures. The return should be adequate, under efficient
26 and economic management, to maintain and support its credit and
27 enable it to raise the money necessary for the proper discharge of its
28 public duties. A rate of return may be reasonable at one time and
29 become too high or too low by changes affecting opportunities for
30 investment, the money market and business conditions generally.¹⁴
31 Rates which are not sufficient to yield a reasonable return on the
32 value of the property used at the time it is being used to render the
33 service are unjust, unreasonable and confiscatory...¹⁵
34

¹⁴ *Bluefield Waterworks & Improvement Company v. Public Service Commission of West Virginia*, 262 U.S. 679, 1923, at 692-693 ("Bluefield").

¹⁵ *Id.*, at 690-692.

1 From the investor or company point of view, it is important that
2 there be enough revenue not only for operating expenses, but also
3 for the capital costs of the business. These include service on the
4 debt and dividends on the stock. By that standard the return to the
5 equity owner should be commensurate with returns on investments
6 in other enterprises having corresponding risks. That return,
7 moreover, should be sufficient to assure confidence in the financial
8 integrity of the enterprise, so as to maintain its credit and to attract
9 capital.¹⁶
10

11 **Q. How have these principles of fairness and reasonableness of rate of return**
12 **been considered in the establishment of a utility's capital structure?**

13 **A.** The United States Supreme Court and various utility commissions have long
14 recognized the role of capital structure in the development of a just and reasonable
15 rate of return for a regulated firm. In particular, a firm's leverage, or debt ratio, has
16 been explicitly recognized as being very influential in the establishment of a just and
17 reasonable rate of return:

18 Although the determination of whether bonds or stocks should be
19 issued is for management, the matter of debt ratio is not exclusively
20 within its province. Debt ratios substantially affects the manner and
21 cost of obtaining new capital. It is therefore an important factor in
22 the rate of return and must necessarily come within the authority of
23 the body charged by law with the duty of fixing a just and reasonable
24 rate of return.¹⁷
25

26 Perhaps ultimate authority for imputing debt when necessary to
27 protect rate-payers from excessive capital charges is the Supreme
28 Court's statement in *Hope Natural Gas*, that "The rate-making
29 process under the Act, i.e., the fixing of "just and reasonable rates,
30 involves a balancing of the investor and the consumer interests." 320
31 U.S. at 603, 64 S. Ct. at 288. The equity investor's stake is made less
32 secure as the Company's debt rises, but the consumer rate-payer's
33 burden is alleviated.¹⁸
34

¹⁶ Federal Power Commission v. *Hope Natural Gas Co.*, 320 U.S. 591, 1944, at 603 ("Hope").

¹⁷ *New England Telephone & Telegraph Co. v. State*, 98 N.H. 211, 220, 97 A.2d 213, 1953, at 220-221
citing *New England Tel. & Tel. Co. v. Department of Pub. Util.*, (Mass.) 327 Mass. 81, 97 N.E. 2d
509, 514; *Petitions of New England Tel. & Tel. Co.* 116 Vt. 480, A.2d 671 and *Chesapeake &*
Potomac Tel. Co. v. Public Service Comm'n, (Md.) 201 Md. 170, 93 A.2d 249, 257.

¹⁸ *Communications Satellite Corporation v. FCC*, 198 U.S. App. D.C. 60; 611 F.2d 883, 1977, at 63-65.

1 In addition, where a utility's capital structure has fluctuated dramatically, there is
2 precedent for adjusting the capital structure to be more representative of industry
3 standards. In *Riverton Consolidated Water Company v. PA PUC*, 186 Pa. Super. 1; 140
4 A.2d 114 (1958) ("*Riverton*"), the use of a hypothetical capital structure, as opposed to
5 either the utility's own capital structure or the capital structure of its parent, for a
6 utility whose capital structure had fluctuated dramatically (from 40/60 to 70/30
7 debt/equity) was upheld on appeal:

8 In view of the great fluctuation in the capital structure of this utility,
9 it was the duty of the commission to scrutinize the evidence carefully
10 and to make adjustments which would bring the capital structure to
11 be used for rate purposes in accord with one which was fair,
12 reasonable, and stable.¹⁹
13

14 **Q. What approaches to capital structure have been adopted in the case of**
15 **subsidiary-parent relationships where the parent provides 100% of the utility**
16 **subsidiary's capitalization?**

17 **A.** The overriding consideration in the establishment of a capital structure is ensuring
18 that the adopted capital structure is representative of the risk profile of the subject
19 utility. As noted by the Federal Energy Regulatory Commission ("*FERC*"), "A guide
20 to evaluating a particular company's capital structure is that structure chosen by
21 comparable risk companies acting independently in the financial markets."²⁰ Where
22 the capital structures of either the parent of a wholly financed utility subsidiary
23 companies or an independent utility are not representative of the company's risk, and
24 thus result in either excessive costs to the ratepayer or inadequate returns to the
25 investor, there is a long history of the use of hypothetical (i.e., imputed or proxy)
26 capital structures:

¹⁹ *Riverton Consolidated Water Company v. PA PUC*, 186 Pa. Super. 1; 140 A.2d 114, 1958, p. 15-19,
citing *Pittsburgh v. Pa PUC*, 182 Pa. Superior Ct. 376, 383, 126 A. 2d. 777.

²⁰ *Kentucky West Virginia Gas Company*, 2 F.E.R.C. P61, 139, at 26-27 (1978) ("*Kentucky WVA*").

1 Where a company does not have an appropriate capital structure, the
2 Commission may impute a capital structure.²¹ For example, where a
3 company is “too heavily weighted debt or equity” the Commission
4 “must make adjustments based upon substantial evidence in order to
5 reach a fair result.”²² Where a hypothetical structure is used,
6 however, it must be “demonstrably reasonable.”²³

7
8 A just and reasonable rate of return must be related to the capital
9 structure of the regulated firm. The first choice is to use the actual
10 capital structure of the firm being regulated... “It is clear from
11 Commission precedent related to this issue of subsidiary-parent
12 capitalization... that the Commission must exercise its expertise and
13 discretion in choosing the most appropriate capitalization.” (56 FPC
14 3267 at 3273). When, as in the present case, the use of the actual
15 capital structure would result in excessive costs to the consumer or
16 inadequate returns to the investor, some other capital structure must
17 be used.”²⁴

18
19 When the risk profile of the parent and subsidiary are significantly
20 different, we see no alternative to postulating a hypothetical capital
21 structure for the subsidiary by referring to the average capital
22 structure for comparable independent firms.²⁵

23
24 See also *Farmers Union Exchange, Inc. v. FERC* 236 U.S. App. D.C. 204; 734 F.2d 1486,
25 83-85 (1984) citing *Communications Satellite Corp. v. FCC*, 198 U.S. App. D.C. 60, 611
26 F.2d 883, 902-09 (1977) (citing numerous cases involving water, gas, electric and telephone
27 utilities).

21 United Water Delaware, Inc. v. De. PSC, C.A. No. 97A-07-099-FSS, at 11-12 (1998) citing *Diamond State Telephone Co. v. Public Service Commission*, Del. Supr., 367 A.2d 644, 647 (1976) (“Diamond Slate”); *Matter of Slaughter Beach Water Co.*, 427 A.2d at 896 (approving the Commission’s setting a fair rate of return based on capital structures as it should be rather than as it actually exists.

22 Id., at 12-13, citing *Carnegie Natural Gas Co. v. Penn. Public Utility Comm’n*, Pa. Cmwlth., 61 Pa. Commw. 436, 433 A.2d 938, 940 (1981); n7 *Herbert B. Chermiside*, 64 Am. Jur.2d Public Utilities S 193 (1972).

23 Id., citing *Diamond State* at 647.

24 *Kentucky WVA*, at 22-24 citing *Communication Satellite Corporation v. F.C.C.*, No. 75-2193, F.2d (D.C. Cir. 1977).

25 Id., at 26-27.

1 Q. Have alternatives to the use of hypothetical or proxy capital structures been
2 employed where a utility's capital structure is not representative of its peer
3 group?

4 A. Yes. Commissions have made upward adjustments to a utility's allowed return on
5 equity to compensate investors for the incremental financial risk associated with a
6 firm that is disproportionately leveraged vis-à-vis its peer group or relative to the
7 industry standard. For example:

8 While the Commission prefers to use the actual capital structure of
9 the entity that does the financing to raise funds ... it may use a
10 different capital structure where the actual capital structure is not
11 representative of the pipeline's risk profile. Alternatively, in such a
12 situation, the Commission may follow its preferred course of using
13 the actual capital structure but adjust the rate of return on equity to
14 account for the skewed capital structure. However, the alternative of
15 adjusting the rate of return on equity is not used where the actual
16 capital structure is so skewed that it would be necessary to prescribe a
17 rate of return on equity so high or low as to mislead investors.²⁶
18

19 Q. How have public utility commissions in states in which Southern Union has
20 utility operations addressed capital structure for ratemaking purposes?

21 A. Commissions in Massachusetts, Pennsylvania, and Missouri have all used both actual
22 and hypothetical capital structures:

23 [W]here a capital structure has been found to deviate substantially
24 from sound and well-established utility practice, the Department has
25 imposed a hypothetical capital structure of 50 percent debt and 50
26 percent common equity for ratemaking purposes.²⁷
27

28 The most recent rate proceedings for North Attleboro and Fall River, Massachusetts
29 LDCs within NEGC, pre-dated their merger with Southern Union and were settled
30 with no specific capital structures being identified.

31

²⁶ Panhandle Eastern Pipe Line Company, Docket No. RP91-229-000, 71 F.E.R.C. P61, 228, Opinion No. 395 (May 25, 1995) ("Panhandle Eastern").

²⁷ Assabet Water Company, Massachusetts D.P.U. 95-92, at 13 (1996) citing Kings Grant Water Company, D.P.U. 91-252, at 17; Wylde Wood Water Works, D.P.U. 86-93, at 25 (1987); Blackstone Gas Company, D.P.U. 1135, at 4 (1982).

1 The Pennsylvania Commission relies upon the standard of achieving “a fair balance
2 between the consumer and stockholder interest” in evaluating a utility’s capital
3 structure. Hypothetical capital structures have been employed “when a utility’s
4 actual structure is atypical of the average capital structure of a representative
5 barometer group.”²⁸

6
7 The most recent rate proceeding for PE, a division of Southern Union, was settled
8 with no specific capital structure being identified.

9
10 In Missouri, the Commission has held that “when ... the actual capital structure is so
11 entirely out of line with what the Commission considers to be a reasonable range, a
12 hypothetical capital structure must be adopted to balance properly the interests of
13 the shareholders and ratepayers.”²⁹ Further, the Missouri Commission adjusted that
14 utility’s allowed return on equity upwards to reflect the risk associated with the
15 company’s leverage, among other things.³⁰

16
17 The most recent rate proceeding for MGE, a division of Southern Union, was settled
18 with no specific capital structure being identified.

19
20 **Q. What are your conclusions regarding industry standards for capital structure**
21 **and cost of capital as they pertain to NEGC, ProvGas, and the application of**
22 **the earnings cap under the ERI-2 Settlement?**

23 **A.** As I have described, there is a long history of precedent regarding the role of capital
24 structure, allowed return on equity, and cost of capital in the establishment of just
25 and reasonable rates for utility services. Among the common themes across many
26 Federal, State and Supreme Court cases is the principle that a utility’s cost of capital
27 (including its capital structure and allowed return on common equity) must be

²⁸ Pennsylvania Public Utility Commission v. Emportium Water Company, 208 P.U.R.4th 502, 2001, at 18-20 citing Lake Latonka Water Company, 74 Pa. PUC 647, 1991, p. 663.

²⁹ St. Joseph Light and Power Company, Missouri PSC Case No. ER-93-41, EC-93-252, at 4 (1993).

³⁰ Id., at 5.

1 reflective of other enterprises having comparable risks acting independently in the
2 financial markets. Where a utility is not independently capitalized in a manner that is
3 consistent with firms of comparable risk, or where a utility is financed entirely
4 through a parent that does not have a risk profile consistent with the utility's peer
5 group, a hypothetical or proxy capital structure should be used to ensure that neither
6 excessive costs to ratepayers nor inadequate returns to investors result. If, in this
7 case, a hypothetical or proxy capital structure is not used, then the rate of return on
8 common equity must be adjusted to account for the skewed capital structure.
9

10 ***The Effect of Capital Structure on Cost of Capital***

11 **Q. Please describe the implications of leverage on a company's cost of capital.**

12 A. As noted above, it has been widely recognized by various regulatory agencies that an
13 appropriate capital structure is critical to a utility's financial viability. Indeed, those
14 agencies have observed a fundamental tenet of the financial markets – that a
15 company's access to and cost of capital is directly related to its risk profile and credit
16 quality. As noted by Copeland, Koller and Murrin, “[B]oth creditors and
17 shareholders expect to be compensated for the opportunity cost of investing their
18 funds in one particular business instead of others with equivalent risk.”³¹ This
19 concept of the adequacy of returns to investors and the importance of credit quality
20 likewise was articulated in *Hope*: “...the return to the equity owner should be
21 commensurate with returns on investments in other enterprises having
22 corresponding risks. That return, moreover, should be sufficient to assure
23 confidence in the financial integrity of the enterprise, so as to maintain its credit and
24 to attract capital.”³²
25

26 **Q. How is credit quality measured?**

27 A. Credit rating agencies such as S&P, Moody's and FitchRatings consider various
28 qualitative and quantitative factors in assessing creditworthiness and assigning credit

³¹ Copeland, Koller, Murrin, McKinsey & Company, *Valuation: Measuring and Managing the Value of Companies*, 1996, John Wiley & Sons, at 247.

³² *Hope*, at 603.

1 ratings. S&P, for example, uses an analytical framework that divides its ratings
2 analysis into several categories. For utilities, the first set of factors relates to business
3 risk, and the second set focuses on measures of financial risk. As shown in the
4 following table, and as discussed later in my testimony, a company's capital structure,
5 along with the associated cash flow protection (as measured by pre-tax interest
6 coverage, among other metrics), financial flexibility and profitability are salient
7 ratings issues:
8

STANDARD AND POOR'S CORPORATE CREDIT ANALYSIS FACTORS ³³	
Business Risk	<ul style="list-style-type: none"> • Industry Characteristics • Competitive Position <ul style="list-style-type: none"> ○ Marketing ○ Technology ○ Efficiency ○ Regulation • Management
Financial Risk	<ul style="list-style-type: none"> • Financial Characteristics • Financial Policy • Profitability • Capital Structure • Cash Flow Protection • Financial Flexibility

9
10 Three of S&P's key financial measures (i.e., measures that are considered in the
11 assessment of "Financial Risk") are profitability, fixed charge coverage, and
12 capitalization. While I will go into greater detail regarding profitability later in my
13 testimony, it is important to note that, as S&P states, "[A] company that generates
14 higher operating margins has a greater ability to generate equity internally, attract
15 capital externally, and withstand business adversity."³⁴ With respect to fixed charge
16 coverage, S&P observed that, "[O]therwise strong performance can be affected
17 detrimentally by aggressive debt financing."³⁵ As such, capitalization, and its effect
18 on interest coverage and profitability are important factors in S&P's assignment of
19

³³ Standard & Poor's Corporate Credit Rating Criteria, October, 2002.

³⁴ Id.

³⁵ Id.

1 credit ratings.

2
3 Fitch likewise employs a combination of qualitative and quantitative analyses in its
4 assessment of creditworthiness. As with S&P, among the quantitative factors
5 considered by Fitch are the subject company's capital structure, and coverage ratios.³⁶
6 As with S&P, and consistent with the regulatory principles discussed earlier, Fitch
7 has noted that credit assessment must be undertaken in the context of specific
8 industry segments. In a summary of its corporate ratings methodology, Fitch noted
9 that "Because industries differ significantly in their need for capital and capacity to
10 support high debt levels, *the assessment of leverage in the capital structure is*
11 *based on industry norms.*"³⁷ (Emphasis added.) As discussed later in my
12 testimony, it is clear that with respect to natural gas distribution utilities, the
13 historical Southern Union capitalization is outside of the bounds of such norms.

14
15 **Q. Please explain the calculation and importance of the pre-tax interest coverage**
16 **and debt to total capital ratios.**

17 **A.** Pre-tax interest coverage, which is defined as Operating Income plus Total Income
18 Taxes (excluding non-operating income) divided by Gross Interest Expense plus
19 Preferred Dividends, measures the extent to which operating earnings "cover" fixed
20 capital obligations. Higher coverage ratios generally indicate higher levels of
21 creditworthiness and result in superior credit ratings.

22
23 Just as the notions of return adequacy and access to capital have been fundamental
24 to utility ratesetting, interest coverage has been a standard measure of risk and
25 creditworthiness for decades. In their seminal 1934 publication, Security Analysis,
26 Graham and Dodd developed several lessons regarding the 1927 to 1933 bond
27 market and noted that:

28 [T]hese lessons would enjoin a more rigid insistence than heretofore
29 upon the twofold assurances of safety – those arising from the

³⁶ FitchRatings, Electric and Gas Utility Financial Peer Study, December 2002.

³⁷ FitchRatings Criteria Report, *Corporate Rating Methodology*, 2001

1 inherent soundness and stability of the enterprise (as evidenced by
2 the nature of the business, its relative size, its management and
3 reputation, etc.) and *equally those arising from generous margins*
4 *of coverage shown by actual earnings over a sufficient*
5 *period...*³⁸ (emphasis added)
6

7 **Q. Please explain the importance of debt to total capital as a measure of a**
8 **company's credit quality.**

9 **A.** As with pre-tax interest coverage, the ratio of debt to total capital (i.e., financial
10 leverage) often is considered to be a measure of financial safety and flexibility. As
11 noted by Fitch, "...the more conservatively capitalized a company, the greater its
12 flexibility. In addition, a commitment to maintaining debt within a certain range
13 allows a company to cope with the impact of unexpected events on the balance
14 sheet."³⁹ The relationship between debt leverage and financial risk also is
15 demonstrated in the S&P ratings criteria. As shown in the following table, rating
16 categories decline as the percentage of debt in the capital structure increases. For a
17 utility of average risk, a 50% debt leverage ratio would correspond to a BBB rating.
18

STANDARD & POOR'S CREDIT RATING CRITERIA ⁴⁰							
TOTAL DEBT/TOTAL CAPITALIZATION (%)							
COMPANY RISK PROFILE		AAA	AA	A	BBB	BB	B
Well-above-average business position	1	47	53	58	64	70	--
	2	43	49	54	60	66	--
Above average	3	39	45	50	57	64	70
	4	35	41	46	53	61	68
Average	5	33	39	44	51	59	67
	6	30	36	43	50	57	65
Below average	7	27	34	41	49	56	64
	8	23	31	39	47	55	62
Well below average	9	--	--	35	43	51	58
	10	--	--	29	37	43	50

19

³⁸ From Benjamin Graham and David L. Dodd, *Security Analysis*, originally published in 1934, as reprinted in *Classics: An Investor's Anthology*, edited by Charles D. Ellis, Dow Jones-Irwin, copyright, The Institute of Chartered Financial Analysts, 1989.

³⁹ FitchRatings, *Corporate Rating Methodology*.

⁴⁰ Standard & Poor's *Corporate Credit Rating Criteria*, October, 2002.

1 **Q. How does deterioration in credit quality affect the cost of debt?**

2 A. As noted earlier, there is a direct relationship between risk (as may be characterized
3 by credit quality) and the return required by bondholders. As demonstrated in
4 Schedule JJR-3, yield spreads (i.e., the difference between the yield on corporate
5 bonds and equivalent term Treasury Bonds) for utility bonds increase as credit
6 quality declines. While the data in Schedule JJR-3 is as of a specific point in time
7 (March 7, 2003), the relationship between credit ratings and yield spreads has been
8 documented in both academic and practitioner publications.⁴¹ As yield spreads
9 increase, interest expense increases and interest coverage falls, putting further
10 pressure on credit quality. That pressure is especially acute in the current market;
11 during 2002 negative rating actions outnumbered positive moves for investor-owned
12 utilities by more than 10 to one.⁴²

13
14 **Q. Does financial leverage and its effect on pre-tax interest coverage and
15 creditworthiness affect utilities' ability to obtain reasonably priced long term
16 debt and equity?**

17 A. Yes. In describing the rating actions noted above, Fitch observed that "...an
18 emerging risk during 2002 has been the severe restriction of bank market access for
19 many companies within the sector."⁴³ The obvious implication is that deterioration
20 in credit quality restricts access to bank financing.

21
22 In addition to affecting the availability and cost of debt, as noted earlier, leverage
23 ratios that are out of line with industry norms tend to have a negative effect on
24 common stock valuations and, therefore, increase the cost of equity. This
25 relationship between debt leverage, financial risk and stock valuation is reflected in
26 the comments of various equity analysts regarding specific gas utility companies. For
27 example, in its February 3, 2003 report on AGL Resources ("ATG"), UBS Warburg

⁴¹ See, for example, Duen-Li Kao, *Estimating and Pricing Credit Risk: An Overview*, *Financial Analysts Journal*, Vol 56, No. 4, July/August, 2000.

⁴² FitchRatings, *Fixing the Machine: U.S. Power and Gas Sector Challenges*, November, 2002.

⁴³ Id.

1 noted that they valued ATG shares at a discount relative to their Regulated Gas
2 Utilities Index "...due to the company's above-average leverage."⁴⁴ Similarly, Credit
3 Suisse First Boston, in commenting on Equitable Resources ("EQT") noted that
4 "EQT balance sheet (*sic*) provides the flexibility to fund capital expenditures, reduce
5 interest expense, repurchase shares, and raise dividends."⁴⁵ At the time of that
6 analysis (February, 2003), EQT's debt leverage was approximately 36%, and the
7 company was assigned ratings of A2 and A by Moody's and S&P, respectively.
8 Therefore, just as increasing levels of leverage have a negative effect on
9 creditworthiness and valuation parameters, the opposite is also true.

10
11 **Q. How have utilities with comparatively high debt ratios responded?**

12 A. In general, utilities with debt leverage ratios that deviate significantly from the
13 industry norm of 50% tend to restructure their balance sheets by issuing equity,
14 selling assets to pay down debt, or both.

15
16 For example in late 2002, NiSource ("NI") undertook a combination of asset sales
17 and equity issuances in an effort to restructure its balance sheet. Commenting on
18 that restructuring, Baird U.S. Equity Research noted that:

19 [A]t June 30 (2002), NI's debt to capital ratio stood at 68%. While
20 the percentage is down from 72% at the end of 2000, the level is still
21 quite high and limits NI's financial flexibility. NI plans on reducing
22 leverage and improving liquidity through a combination of equity
23 offerings and the sale of non-core assets. NI's November 6 (equity)
24 offering raised approximately \$650 million. Completed asset sales
25 have added \$1.4 billion to the coffers. The majority of the proceeds
26 will and have been used to pay down debt.⁴⁶

27
28 Similarly, in response to the relatively high debt leverage described earlier, AGT
29 issued \$141 million of common equity to help bring its balance sheet more in line
30 with industry standards. In announcing that equity offering, the company stated

31

⁴⁴ UBS Warburg Global Equity Research, *AGL Resources Inc.*, February 3, 2003.

⁴⁵ Credit Suisse First Boston Equity Research, *Natural Gas & Power*, February 3, 2003.

⁴⁶ Baird U.S. Equity Research. *NiSource, Inc.*, November 13, 2002.

1 that, although it had no pressure from rating agencies to issue equity, the company
2 chose to do so as a result of its commitment to "retaining and improving" its
3 investment grade rating.⁴⁷ As a result of that restructuring, Fitch upgraded ATG
4 from BBB+ to A-. In a press release commenting on the rating upgrade, Fitch was
5 quoted as stating:

6 The ratings action reflects the anticipated de-leveraging and
7 improvement in consolidated coverage ratios resulting from AGL
8 Resource's recent issuance of \$141 million of new common equity,
9 proceeds of which will be used to retire short-term debt." The press
10 release went on to note that "[F]or the fiscal year 12/31/02, AGL
11 Resource's debt-to-capitalization ratio, using Fitch Rating's
12 methodology, approximated 56%, with cash flow coverage of fixed
13 charges of about 4.0x. After factoring in the equity issuance, the
14 company's consolidated leverage should drop to *below 50 percent*
15 by year-end 2003...⁴⁸ (emphasis added)
16

17 Again, these actions demonstrate that a capitalization consisting of 50% debt and
18 50% equity represents an industry benchmark used by a variety of gas utility capital
19 market participants including rating agencies, equity analysts and corporate
20 management teams.
21

22 **Q. Has Southern Union announced a similar restructuring plan?**

23 **A.** Yes. On January 7, 2003 Southern Union filed a registration statement with the
24 Securities and Exchange Commission to issue up to \$800 million of common equity,
25 preferred equity and debt securities. In its January 30, 2003 earnings conference call,
26 Southern Union noted its intent to use the securities to be authorized under the
27 registration statement to "...strengthen [its] balance sheet from both an equity and
28 debt perspective" and that at the conclusion of that recapitalization program, the
29 company "...will have a stronger balance sheet as well as improved coverage
30 ratios."⁴⁹
31

⁴⁷ Fair Disclosure Financial Network, AGL Resources Inc. Q4 2002 Financial Release Conference Call Event Transcript, Friday, January 31, 2003.

⁴⁸ Source: AGL Resources, Inc.

⁴⁹ Fair Disclosure Financial Network, Southern Union Company Q2 2003 Financial Release Conference Call Event Transcript, Thursday, January 30, 2003.

1 Southern Union's recapitalization program also was taken into consideration by
2 Standard & Poor's when S&P announced a rating and outlook change for Southern
3 Union on March 7, 2003. At that time, S&P lowered Southern Union's corporate
4 credit rating from BBB+ to BBB, but removed the Company from CreditWatch and
5 improved its outlook to "Stable." While the downgrade was related to Southern
6 Union's acquisition of the CMS Panhandle Pipeline Companies, the improved
7 outlook was based in part on S&P's expectation of significant debt reduction over
8 the next two years. In that regard, S&P noted that:

9 The stable outlook for Southern Union is based on Standard &
10 Poor's understanding that *management will be taking the*
11 *necessary steps to reduce debt and bring the capital structure in*
12 *line with the target of 50% to 55% of debt.*⁵⁰ (emphasis added)
13

14 Therefore, not only is Southern Union's recent debt leverage atypical for the gas
15 utility industry in general, but it also is not reflective of capital market expectations
16 for Southern Union in particular.
17

18 **Q. Please describe the implications of the pre-tax interest coverage ratios and**
19 **debt to total capital ratios inherent in the ERI-2 Settlement?**

20 A. As discussed earlier, a reasonable rate of return, based on an appropriate capital
21 structure, should produce a credit profile that will enable the utility to attract
22 adequate capital at reasonable rates. This would be the case for the capital structure
23 and cost rates included in the ERI-2 Settlement. As shown in Schedule JJR-4, a
24 capitalization of 50% equity and 50% debt (long and short term), with an allowed
25 return on equity of 10.70% produces a pre-tax interest coverage ratio of 3.23. It is
26 interesting to note that according to FitchRatings, for the twelve months ended June
27 30, 2002, the median pre-tax coverage ratio of BBB+ rated utility distribution
28 companies (including Southern Union) also is 3.23.⁵¹ That level of coverage also is
29 consistent with the natural gas utility Industry Average interest coverage ratio of 3.21

⁵⁰ Standard & Poor's, *Southern Union Co. Ratings Are Lowered to "BBB"; Off Watch, Outlook Stable*, March 7, 2003.

⁵¹ FitchRatings, *Electric and Gas Utility Financial Peer Study*, December, 2002.

1 as provided by Multex Investor⁵². The median debt leverage ratio for the firms
2 included in the Fitch review is 53.3%, which is reasonably close to the 50% ratio
3 provided in the ERI-2 Settlement. As indicated by the table below, the pre-tax
4 interest coverage ratio of 3.23 implied by the ERI-2 Settlement falls within the BBB
5 category of S&P's median coverage ratios for utilities:
6

STANDARD & POOR'S MEDIAN COVERAGE RATIOS ⁵³	
Rating	Pre-Tax Interest Coverage
AA	4.6 – 4.0X
A	4.0 – 3.3X
BBB	3.3 – 2.2X
BB	2.2 – 1.3X
B	1.2 – 0.5X

7
8 Schedule JJR-4 also demonstrates that if a capital structure consisting of 32% equity
9 were to be used, ProvGas' pre-tax coverage would fall to 2.03. Those leverage and
10 coverage ratios fall in the BB range of the S&P medians, and the BBB to BB-
11 medians for utility distribution companies as in the FitchRatings Financial Peer
12 Study.
13

14 **Q. In general, how does leverage effect the cost of equity?**

15 A. As noted earlier, equity analysts frequently have commented on the effect that
16 leverage has on equity valuation. That is because in general, equity investors' claims
17 on cash flows and earnings are junior to those of debt holders. As noted by Bennett
18 Stewart in his book, *The Quest for Value*, "[P]aying fixed interest payments out of
19 uncertain operating profits make bottom-line profits more variable, and hence
20 riskier, than the operating profits."⁵⁴ In other words, as debt leverage increases, the
21 volatility of expected earnings also increases. Since risk is defined as the volatility of

⁵² Multex Investor, Southern Union Company Ratio Comparison, as provided on
www.yahoo.marketguide.com.

⁵³ Standard & Poor's Corporate Credit Rating Criteria, October, 2002.

⁵⁴ Stewart, G. Bennett III, Stern, Stewart & Co., *The Quest for Value: The EVA Management Guide*;
HarperCollins Publishers, Inc., 1991, at 432.

1 unexpected outcomes,⁵⁵ and given that the degree of financial leverage increases the
2 uncertainty of earnings, equity investors face greater risk as debt leverage increases.
3 As a consequence, required equity returns (i.e., the cost of equity) increases with debt
4 leverage.⁵⁶

5
6 Financial leverage clearly is a factor considered by equity analysts in assessing the
7 market value of a company's stock. In a recent report, A.G. Edwards noted
8 Southern Union's "Weak Financial Position" as an "Investment Concern" and noted
9 that "[U]nlike other gas utilities that maintain an equity level nearly equal to debt,
10 SUG has a highly leveraged balance sheet."⁵⁷ A.G. Edwards went on to note that
11 "*SUG's high debt level could make the common stock more volatile to*
12 *interest rate changes than the typical gas utility.*"⁵⁸ (Emphasis added.) The clear
13 implication is that higher levels of leverage negatively affect a company's stock
14 valuation and its ability to obtain equity capital.

15
16 **Q. Is it appropriate to apply an equity cost rate estimated by the DCF model**
17 **based on a proxy group to the Southern Union capital structure?**

18 **A.** No. As correctly pointed out by Witness Kahal, the DCF model specifies the
19 required cost of equity as the expected dividend yield plus the expected annual
20 growth of dividends per share.⁵⁹ That same formula implies that the market value of
21 stock equals the present value of expected future dividends.

22
23 It is important to understand that, because the DCF model is premised on investor
24 expectations, it develops expected returns based on the market value, rather than the
25

55 See, for example, Jorion, Philippe, *Value at Risk*, McGraw-Hill, 1997, at 3.

56 This relationship is fully discussed in most modern finance text books. See, for example, Richard Brealey and Stewart Myers, *Principles of Corporate Finance*, 3rd ed., McGraw-Hill, 1988.

57 A. G. Edwards, Southern Union Company, February 12, 2003.

58 Id.

59 There are many issues and assumptions involved in estimating the appropriate dividend yield and expected growth rate. The point of this analysis is not to establish a position with respect to any of those issues and assumptions. Rather it is to demonstrate that the cost of equity as specified in the DCF model increases with the level of debt leverage.

1 book value of stock. From the perspective of equity investors, a risk and earnings
2 disparity arises from the fact that the DCF model is based on market values (and,
3 therefore, expectations), but is applied to a book value capital structure. Since the
4 market value of common equity generally exceeds the book value of equity, the DCF
5 model assumes a lower level of debt leverage than that which is utilized for rate-
6 setting purposes. Consequently, assuming a market to book ratio for equity of
7 greater than one, the DCF model generally understates the degree of financial
8 leverage and risk borne by equity holders. That disparity is exacerbated if the DCF
9 model is developed based on a proxy group of companies with essentially balanced
10 capital structures⁶⁰ and is applied to a highly leveraged book capitalization, such as
11 Southern Union's.

12
13 **Q. Have you considered the effect that the market value of debt would have on**
14 **the market value capitalization?**

15 **A.** Yes. The effect of market-based equity valuations in calculating the capital structure
16 is only somewhat offset when taking into consideration the market value of debt. In
17 general, financial managers have the ability (subject to provisions of the underlying
18 agreements) to refinance debt when the interest rate on existing debt becomes
19 substantially out of line with prevailing market rates. All else being equal, therefore,
20 one would not expect the market value of debt to be substantially different than the
21 book value. As of June 30, 2002, for example, the market value of Southern Union's
22 debt was less than 1% different than its book value.⁶¹ Consequently, the use market-
23 based capitalizations generally will assume lower levels of leverage than is calculated
24 based on book amounts.

25
26 **Q. Please demonstrate the effect of leverage on earnings and equity risk in the**
27 **context of the ERI-2 Settlement capitalization ratios and cost rates.**

⁶⁰ See Direct Testimony of John C. Dunn, November, 2001, Exhibit JCD-1.

⁶¹ Southern Union Form 10-K, June, 2002.

1 A. As demonstrated on Schedule JJR-5, the difference between the debt leverage ratio
2 defined in the ERI-2 Settlement and Southern Union capital structure creates a wider
3 range of possible earnings outcomes under the highly leveraged scenario. If for
4 example, Pre-Tax Income was 10% lower than expected, the Return on Equity
5 would be 9.15% under the ERI-2 Settlement capital structure, but 8.59% under the
6 more leveraged capital structure. To develop a more complete view of the
7 relationship between debt leverage and earnings, I performed a simple Monte Carlo
8 analysis for each of the two capital structure alternatives, assuming a normal
9 distribution and 7.5% standard deviation around the Pre-Tax Income (Earnings
10 Before Interest and Taxes).⁶² The results of those analyses confirm that the volatility
11 of equity returns is greater under the higher leverage alternative. Since the risk to
12 shareholders increases as leverage increases, it is axiomatic that the return required by
13 shareholders (i.e., the cost of equity) also will increase.

14
15 **Q. How do the terms of the earnings cap and floor under the ERI-2 Settlement**
16 **affect your analysis?**

17 A. Under the ERI-2 Settlement, equity returns in excess of 10.7% would be credited to
18 ratepayers. Consequently, under the higher leverage scenario, the earnings cap would
19 be triggered at lower levels of earnings. Again, this increased level of risk is not
20 reflected in the existing allowed equity cost rate.

21
22 **Q. Please demonstrate how the change in capitalization from the 50% debt**
23 **leverage specified in the ERI-2 Settlement would affect ProvGas' historical**
24 **earnings.**

25 A. The effect on ProvGas' historical earnings would be significant. For the purpose of
26 this analysis, assuming the data presented as the "Division Position" in Schedules

⁶² 7.5% is approximately one half of the difference between the authorized ROE of 10.70% and the 12.25% return cap for the ERI-1 ESM. In addition, a 7.5% increase over the 10.70% authorized return results in a proforma ROE of approximately 11.50%, which is reasonably close to the 11.6% five year average ROE for the gas utility sector as reported, for example, by Multex Investor.

1 DJE-1S and 2S of Division Witness Effron's February 19, 2003 testimony⁶³, shifting
2 to a capital structure of 32% common equity would substantially reduce ProvGas'
3 realized return. As demonstrated in Schedule JJR-6, for the twelve months ended
4 September, 2001, the calculated ROE would have been inflated to 17.59% as
5 opposed to the 13.1% calculated by Witness Effron. After taking into consideration
6 the effect of the earnings cap, ProvGas' ROE (based on the 50% equity ratio) would
7 have been 6.85%, which is 385 basis points below the authorized return. Thus, the
8 use of the more highly leveraged capital structure creates the illogical result of
9 requiring ProvGas to relinquish a substantial amount of earnings, even though such
10 an action would lead to ProvGas earning a substantially lower than authorized ROE.

11
12 The same situation applies to the results for the twelve months ended June, 2002.
13 Based on Witness Effron's analysis, ProvGas earned an ROE of 10.86%. Assuming
14 an equity ratio of 32%, however, would have resulted in an inflated ROE of 11.12%.
15 Again, this creates the illogical result of an adjusted return (based on the 50% equity
16 ratio) of 6.85% while requiring ProvGas to forfeit a significant amount of income.
17 Thus ProvGas would be put in the untenable position of relinquishing income even
18 though from its shareholders' perspective, it did not earn its required return.

19
20 That situation also would apply to ProvGas for the fiscal years 1997 through 1999.
21 As shown on Schedule JJR-7, using the reported capital structure, the ProvGas
22 would have earned equity returns of 9.72%, 10.32% and 10.87% in 1997, 1998 and
23 1999, respectively.⁶⁴ Had the earnings calculation used an artificial 32% equity ratio,
24 the calculated equity returns would have been inflated to 10.92%, 11.91% and
25 13.23%, respectively. After giving effect to the earnings cap, the earned ROE (based
26 on the reported capital structure) would have been 7.80% in 1997, 7.68% in 1998,
27 and 7.39% in 1999. Again, the lower equity ratio would have created the difficult

⁶³ The use of Witness Effron's data is for analytical purposes only and does not constitute an acceptance by Witness Reed of analyses, assumptions or results contained therein.

⁶⁴ Based on ProvGas' quarterly PUC Reports.

1 position of forfeiting net income despite having earned less than ProvGas'
2 authorized return.

3
4 **VIII. SUMMARY AND CONCLUSIONS**

5 **Q. Please summarize the conclusions reached in your testimony.**

6 A. At issue is the capital structure to be used in determining ProvGas' ROE in the
7 context of the earnings cap calculation. In my opinion, the answer to this question is
8 clear: the 50% debt, 50% equity default capital structure specified in the ERI-2
9 Settlement should be used. This capital structure is the applicable capital structure
10 when, after the Southern Union merger, ProvGas' capital structure has an equity
11 ratio that exceeds 50%. That has now occurred. The ProvGas equity ratio is nearly
12 100%, since the debt has been assumed (and partially refinanced) at the Southern
13 Union level, which is attested to by the ProvGas Annual Report submitted to the
14 Commission.

15
16 Even if the ERI-2 Settlement were silent, which it is not, as to which capital structure
17 to use, it would remain necessary for the earnings cap calculation of ROE to be
18 consistent with the allowed ROE calculation in ProvGas' underlying rates. The
19 earnings cap is a retrospective calculation, based on revenues, expenses and earnings
20 for a prior year. If the earnings cap were to use a capital structure or cost of capital
21 level that is inconsistent with the levels which created those revenues, expenses and
22 earnings in the first place, the calculation would have no meaning. In fact, the
23 application of the much more highly leveraged Southern Union corporate-wide
24 capital structure has the direct effect of refunding to customers earnings which are
25 *below* that authorized return level built into rates.

26
27 In addition, even if one were to attempt to use the Southern Union corporate-wide
28 capital structure, it would be inappropriate to use it without adjustment, because
29 Southern Union's capital has been used to finance hundreds of millions of dollars of
30 goodwill that the Commission, and other state commissions, have explicitly ruled

1 cannot be included in NEG's rate base. To deny these costs rate base treatment,
2 but to then include the capital used to pay for the goodwill to reduce the applicable
3 equity ratio, is grossly inconsistent and inequitable. Exclusion of the capital used to
4 finance the goodwill leads to a result that is very close to the default 50/50
5 debt/equity capital structure called for in the ERI-2 Settlement.

6
7 Finally, there can be no doubt that ProvGas' rates do not include an ROE that
8 compensates it for the far greater financial risks it would face if it operated under the
9 highly leveraged capital structure that Southern Union currently has in place
10 corporate-wide. The Division's Witness Kahal, as well as NEG's witnesses, have
11 all concluded that Southern Union's corporate-wide capital structure is not
12 appropriate for use in ratemaking. Both parties recommended the use of a
13 hypothetical capital structure in recognition that the Southern Union capital structure
14 was not appropriate for rate setting purposes. Abandoning these prior findings in a
15 case involving the retrospective application of the earnings cap is highly
16 inappropriate. If the Commission wishes to change its position on the appropriate
17 capital structure for ProvGas, it should only do so in a rate proceeding setting rates
18 for a future period, and then, only after considering all of the ramifications of such a
19 change on the financial condition of ProvGas. As discussed in this testimony, such a
20 dramatic change in ProvGas' capital structure, absent a very significant change in the
21 costs of equity and debt, would (a) severely impair ProvGas' financial condition, (b)
22 deny it access to capital on reasonable terms, (c) be inconsistent with the earnings
23 and risks of comparable utilities, and (d) be inconsistent with numerous regulatory
24 precedents and court decisions regarding fair rate of return and just and reasonable
25 rates.

26
27 **Q. Does this conclude your Direct Testimony?**

28 **A. Yes, it does.**

John J. Reed
Chairman and Chief Executive Officer

John J. Reed is a financial and economic consultant with more than 25 years of experience in the energy industry. Mr. Reed has also been the CEO of an NASD member securities firm, and Co-CEO of the nation's largest publicly traded management consulting firm (NYSE: NCI). He has provided advisory services in the areas of mergers and acquisitions, asset divestitures and purchases, strategic planning, project finance, corporate valuation, energy market analysis, rate and regulatory matters and energy contract negotiations to clients across North and Central America. Mr. Reed's comprehensive experience includes the development and implementation of nuclear, fossil, and hydroelectric generation divestiture programs with an aggregate valuation in excess of \$20 billion. Mr. Reed has also provided expert testimony on financial and economic matters on more than 125 occasions before the FERC, Canadian regulatory agencies, state utility regulatory agencies, various state and federal courts, and before arbitration panels in the United States and Canada. After graduation from the Wharton School of the University of Pennsylvania, Mr. Reed joined Southern California Gas Company, where he worked in the regulatory and financial groups, leaving the firm as Chief Economist in 1981. He served as executive and consultant with Stone & Webster Management Consulting and R.J. Rudden Associates prior to forming REED Consulting Group (RCG) in 1988. RCG was acquired by Navigant Consulting in 1997, where Mr. Reed served as an executive until leaving Navigant to join CEA as Chairman and Chief Executive Officer.

REPRESENTATIVE PROJECT EXPERIENCE

Executive Management

As an executive-level consultant, worked with CEOs, CFOs, other senior officers, and Boards of Directors of many of North America's top electric and gas utilities, as well as with senior political leaders of the U.S. and Canada on numerous engagements over the past 20 years. Directed merger, acquisition, divestiture, and project development engagements for utilities, pipelines and electric generation companies, repositioned several electric and gas utilities as pure distributors through a series of regulatory, financial, and legislative initiatives, and helped to develop and execute several "roll-up" or market aggregation strategies for companies seeking to achieve substantial scale in energy distribution, generation, transmission, and marketing.

Financial and Economic Advisory Services

Retained by many of the nation's leading energy companies and financial institutions for services relating to the purchase, sale or development of new enterprises. These projects included major new gas pipeline projects, gas storage projects, several non-utility generation projects, the purchase and sale of project development and gas marketing firms, and utility acquisitions. Specific services provided include the development of corporate expansion plans, review of acquisition candidates, establishment of divestiture standards, due diligence on acquisitions or financing, market entry or expansion studies, competitive assessments, project financing studies, and negotiations relating to these transactions.

Litigation Support and Expert Testimony

Provided expert testimony on more than 125 occasions in administrative and civil proceedings on a wide range of energy and economic issues. Clients in these matters have included gas distribution utilities, gas pipelines, gas producers, oil producers, electric utilities, large energy consumers, governmental and regulatory agencies, trade associations, independent energy project developers, engineering firms, and gas and power marketers. Testimony has focused on issues ranging from broad regulatory and economic policy to virtually all elements of the utility ratemaking process. Also frequently testified regarding energy contract interpretation, accepted energy industry practices, horizontal and vertical market power, quantification of damages, and management prudence. Have been active in regulatory contract and litigation matters on virtually all interstate pipeline systems serving the U.S. Northeast, Mid-Atlantic, Midwest, and Pacific regions.

Also served on FERC Commissioner Terzic's Task Force on Competition, which conducted an industry-wide investigation into the levels of and means of encouraging competition in U.S. natural gas markets. Represented the interests of the gas distributors (the AGD and UDC) and participated actively in developing and presenting position papers on behalf of the LDC community.

Resource Procurement, Contracting and Analysis

On behalf of gas distributors, gas pipelines, gas producers, electric utilities, and independent energy project developers, personally managed or participated in the negotiation, drafting, and regulatory support of hundreds of energy contracts, including the largest gas contracts in North America, electric contracts representing billions of dollars, pipeline and storage contracts, and facility leases.

These efforts have resulted in bringing large new energy projects to market across North America, the creation of hundreds of millions of dollars in savings through contract renegotiation, and the regulatory approval of a number of highly contested energy contracts.

Strategic Planning and Utility Restructuring

Acted as a leading participant in the restructuring of the natural gas and electric utility industries over the past fifteen years, as an adviser to local distribution companies (LDCs), pipelines, electric utilities, and independent energy project developers. In the recent past, provided services to many of the top 50 utilities and energy marketers across North America. Managed projects that frequently included the redevelopment of strategic plans, corporate reorganizations, the development of multi-year regulatory and legislative agendas, merger, acquisition and divestiture strategies, and the development of market entry strategies. Developed and supported merchant function exit strategies, marketing affiliate strategies, and detailed plans for the functional business units of many of North America's leading utilities.

PROFESSIONAL HISTORY**Commonwealth Energy Advisors, Inc. (2002 – Present)**

Chairman and Chief Executive Officer

Navigant Consulting, Inc. (1997- 2002)

President, Navigant Energy Capital (2000 – 2002)

Executive Director (2000 – 2002)

Co-Chief Executive Officer, Vice Chairman (1999 – 2000)

Executive Managing Director (1998 – 1999)

President, REED Consulting Group, Inc. (1997 – 1998)
REED Consulting Group (1988-1997)
Chairman, President and Chief Executive Officer

R.J. Rudden Associates, Inc. (1983-1988)
Vice President

Stone & Webster Management Consultants, Inc. (1981-1983)
Senior Consultant
Consultant

Southern California Gas Company (1976-1981)
Corporate Economist
Financial Analyst
Treasury Analyst

EDUCATION AND CERTIFICATION

BS, Economics and Finance, Wharton School, University of Pennsylvania, 1976
Licensed Securities Professional: NASD Series 7, 63, and 24 Licenses.

BOARDS OF DIRECTORS (PAST AND PRESENT)

Commonwealth Energy Advisors, Inc.
Navigant Consulting, Inc.
Navigant Energy Capital
Nukern, Inc.
New England Gas Association
R. J. Rudden Associates
REED Consulting Group

AFFILIATIONS

National Association of Business Economists
International Association of Energy Economists
American Gas Association
New England Gas Association
Society of Gas Lighters
Guild of Gas Managers

EXPERT TESTIMONY OF JOHN J. REED
--REGULATORY AGENCIES--

SPONSOR	DATE	CASE/APPLICANT	DOCKET NO.	SUBJECT
Alaska Public Utilities Commission				
Chugach Electric	12/86	Chugach Electric	Docket No. U-86-11	Cost Allocation
Chugach Electric	6/87	Enstar Natural Gas Company	Docket No. U-87-2	Tariff Design
Chugach Electric	12/87	Enstar Natural Gas Company	Docket No. U-87-42	Gas Transportation
Chugach Electric	2/88	Chugach Electric	Docket No. U-87-35	Cost of Capital
California Energy Commission				
Southern California Gas Co.	8/80	Southern California Gas Co.	Docket No. 80-BR-3	Gas Price Forecasting
California Public Utility Commission				
Southern California Gas Co.	3/80	Southern California Gas Co.	TY 1981 G.R.C.	Cost of Service, Inflation
Pacific Gas Transmission Co.	10/91	Pacific Gas & Electric Co.	App. 89-04-033	Rate Design
Pacific Gas Transmission Co.	7/92	Southern California Gas Co.	A. 92-04-031	Rate Design
Colorado Public Utilities Commission				
AMAX Molybdenum	2/90	Commission Rulemaking	Docket No. 89R-702G	Gas Transportation
AMAX Molybdenum	11/90	Commission Rulemaking	Docket No. 90R-508G	Gas Transportation
Conn. Department of Public Utilities Control				
Connecticut Natural Gas	12/88	Connecticut Natural Gas	Docket No. 88-08-15	Gas Purchasing Practices
United Illuminating	3/99	United Illuminating	Docket No. 99-03-04	Nuclear Plant Valuation
District Of Columbia PSC				
Potomac Electric Power Company	3/99	Potomac Electric Power Company	Docket No. 945	Divestiture of Gen. Assets & Purchase Power Contracts (Direct)
Potomac Electric Power Company	5/99	Potomac Electric Power Company	Docket No. 945	Divestiture of Gen. Assets & Purchase Power Contracts (Supplemental Direct)

EXPERT TESTIMONY OF JOHN J. REED
--REGULATORY AGENCIES--

SPONSOR	DATE	CASE/APPLICANT	DOCKET NO.	SUBJECT
Potomac Electric Power Company	7/99	Potomac Electric Power Company	Docket No. 945	Divestiture of Gen. Assets & Purchase Power Contracts (Rebuttal)
Federal Energy Regulatory Commission				
Western Gas Interstate Company	5/84	Western Gas Interstate Company	Docket No. RP84-77	Load Fcst. Working Capital
Southern Union Gas	4/87	El Paso Natural Gas Company	Docket No. RP87-16-000	Take-or-Pay Costs
Connecticut Natural Gas	11/87	Penn-York Energy Corporation	Docket No. RP87-78-000	Cost Alloc./Rate Design
AMAX Magnesium	12/88	Questar Pipeline Company	Docket No. RP88-93-000	Cost Alloc./Rate Design
Western Gas Interstate Company	6/89	Western Gas Interstate Company	Docket No. RP89-179-000	Cost Alloc./Rate Design, Open-Access Transportation
Associated CD Customers	12/89	CNG Transmission	Docket No. RP88-211-000	Cost Alloc./Rate Design
Utah Industrial Group	9/90	Questar Pipeline Company	Docket No. RP88-93, Phase II	Cost Alloc./Rate Design
Iroquois Gas Trans. System	8/90	Iroquois Gas Transmission System	Docket No. CP89-634-000	Gas Markets, Rate Design, Cost of Capital, Capital Structure
Boston Edison Company	1/91	Boston Edison Company	Docket No. ER91-243-000	Electric Generation Markets
Cincinnati Gas and Electric Co., Union Light, Heat and Power Company, Lawrenceburg Gas Company	7/91	Texas Gas Transmission Corp.	Docket No. RP90-104-000, RP88-115-000, RP90-192-000	Cost Alloc./Rate Design Comparability of Svc.
Ocean State Power	7/91	Ocean State Power II	ER89-563-000	Competitive Market Analysis, Self-dealing
Brooklyn Union/PSE&G	7/91	Texas Eastern	RP88-67, et al	Market Power, Comparability of Service
Northern Natural Gas Company	9/92	Northern Distributor Group	RP92-1-000, et al	Cost of Service

EXPERT TESTIMONY OF JOHN J. REED
--REGULATORY AGENCIES--

SPONSOR	DATE	CASE/APPLICANT	DOCKET NO.	SUBJECT
Canadian Association of Petroleum Producers and Alberta Pet. Marketing Comm.	10/92	Lakehead Pipe Line Co. L.P.	IS92-27-000	Rate Case Analysis Cost of Service
Colonial Gas, Providence Gas	7/93	Algonquin Gas Transmission	RP93-14	Cost Allocation, Rate Design
Colonial Gas, Providence Gas	8/93	Algonquin Gas Transmission	RP93-14 - Rebuttal	Cost Allocation, Rate Design
Iroquois Gas Transmission	94	Iroquois Gas Transmission	RP94-72-000	Cost of Service and Rate Design
Transcontinental Gas Pipeline Corporation	1/94	Transco Customer Group	Docket No. RP92-137- 000	Rate Design, Firm to Wellhead
Pacific Gas Transmission	2/94	Pacific Gas Transmission	Docket No. RP94-149- 000	Rolled-In vs. Incremental Rates
Tennessee Gas Pipeline Company	1/95	Tennessee GSR Group	Docket Nos. RP93-151- 000, RP94-39-000, RP94-197-000, RP94- 309-000	GSR Costs
Pacific Gas Transmission	2/95	Pacific Gas Transmission	RP94-149-000	Rate Design
Tennessee Gas Pipeline Company	3/95	Tennessee GSR Customer Group	Docket Nos. RP93-151- 000, RP94-39-000, RP94-197-000, RP94- 309-000	GSR Costs
Central Hudson Gas & Electric, Consolidated Co. of New York, Niagara Mohawk Corporation, Dynegy Power Inc.	10/2000	Central Hudson Gas & Electric, Consolidated Co. of New York, Niagara Mohawk Power Corporation, Dynegy Power Inc.	Docket No. EC00-____	Market Power 203/205 Filing
Tennessee Gas Pipeline Company	1/96	ProGas and Texas Eastern	RP93-151	Declaration
El Paso Natural Gas Company	96	PG&E and SoCal Gas	RP92-18	Stranded Costs
Iroquois Gas Transmission System, L.P.	97	Iroquois Gas Transmission System, L.P.	RP97-126-000	Cost of Service, Rate Design
BEC Energy - Commonwealth Energy System	2/99	Boston Edison Company/ Commonwealth Energy System	EC99-____-000	Market Power Analysis - Merger

EXPERT TESTIMONY OF JOHN J. REED
--REGULATORY AGENCIES--

SPONSOR	DATE	CASE/APPLICANT	DOCKET NO.	SUBJECT
Hawaii Public Utility Commission				
Hawaiian Electric Light Company, Inc. (HELCO)	6/2000	Hawaiian Electric Light Company, Inc.	Docket No. 99-0207	Standby Charge
Indiana Utility Regulatory Commission				
Northern Indiana Public Service Company	10/2001	Northern Indiana Public Service Company	Docket No. 99-0207	Direct Testimony, Valuation of Electric Generating Facilities
Maine Public Utility Commission				
Northern Utilities	5/96	Granite State and PNGTS	Docket No. 95-480, 95-481	Transportation Service and PBR
Maryland Public Service Commission				
Eastalco Aluminum	3/82	Potomac Edison	Docket No. 7604	Cost Allocation
Potomac Electric Power Company	8/99	Potomac Electric Power Company	Docket No. 8796	Stranded Cost & Price Protection (Direct)
Mass. Department of Public Utilities				
Haverhill Gas	5/82	Haverhill Gas	Docket No. DPU #1115	Cost of Capital
New England Energy Group	1/87	Commission Investigation		Gas Transportation Rates
Energy Consortium of Mass.	9/87	Commonwealth Gas Company	Docket No. DPU-87-122	Cost Alloc./Rate Design
Mass. Institute of Technology	12/88	Middleton Municipal Light	DPU #88-91	Cost Alloc./Rate Design
Energy consortium of Mass.	3/89	Boston Gas	DPU #88-67	Rate Design
PG&E Bechtel Generating Co./ Constellation Holdings	10/91	Commission Investigation	DPU #91-131	Valuation of Environmental Externalities
The Berkshire Gas Company	5/92	The Berkshire Gas Company	DPU #92-154	Gas Purchase Contract Approval
Essex County Gas Company	5/92	Essex County Gas Company	DPU #92-155	Gas Purchase Contract Approval

EXPERT TESTIMONY OF JOHN J. REED
--REGULATORY AGENCIES--

SPONSOR	DATE	CASE/APPLICANT	DOCKET NO.	SUBJECT
Fitchburg Gas and Elec. Light Co.	5/92	Fitchburg Gas and Elec. Light Co.	DPU #92-156	Gas Purchase Contract Approval
Boston Edison Company	7/92	Boston Edison	DPU #92-130	Least Cost Planning
Boston Edison Company	7/92	The Williams/Newcorp Generating Co.	DPU #92-146	RFP Evaluation
Boston Edison Company	7/92	West Lynn Cogeneration	DPU #92-142	RFP Evaluation
Boston Edison Company	7/92	L'Energia Corp.	DPU #92-167	RFP Evaluation
Boston Edison Company	7/92	DLS Energy, Inc.	DPU #92-153	RFP Evaluation
Boston Edison Company	7/92	CMS Generation Co.	DPU #92-166	RFP Evaluation
Boston Edison Company	7/92	Concord Energy	DPU #92-144	RFP Evaluation
The Berkshire Gas Company	11/93	The Berkshire Gas Company	DPU #93-187	Gas Purchase Contract Approval
Colonial Gas Company	11/93	Colonial Gas Company	DPU #93-188	Gas Purchase Contract Approval
Essex County Gas Company	11/93	Essex County Gas Company	DPU #93-189	Gas Purchase Contract Approval
Fitchburg Gas and Electric Company	11/93	Fitchburg Gas and Electric Company	DPU #93-190	Gas Purchase Contract Approval
Bay State Gas Company	10/93	Bay State Gas Company	Docket No. 93-129	Integrated Resource Planning
Boston Edison Company	94	Boston Edison	DPU #94-49	Surplus Capacity
Hudson Light & Power Department	4/95	Hudson Light & Power Dept./ Town of Stow	DPU #94-176	Stranded Costs - Direct
Essex County Gas Company	5/96	Essex County Gas Company	Docket No. 96-70	Unbundled Rates
Boston Edison Company	8/97	Boston Edison Company	D.P.U. No. 97-63	Holding Company Corporate Structure
Berkshire Gas Company	6/98	Berkshire Gas Mergeco Gas Co.	D.T.E. 98-87	Regulatory Issues

EXPERT TESTIMONY OF JOHN J. REED
--REGULATORY AGENCIES--

SPONSOR	DATE	CASE/APPLICANT	DOCKET NO.	SUBJECT
Eastern Edison Company	8/98	Montaup Electric Company	D.T.E. 98-83	Marketing for divestiture of its generation business.
Boston Edison Company	98	Boston Edison Company	D.T.E. 97-113	Fossil Generation Divestiture
Boston Edison Company	98	Boston Edison Company	D.T.E. 98-119	Nuclear Generation Divestiture
Eastern Edison Company	12/98	Montaup Electric Company	D.T.E. 99-9	
Mass. Energy Facilities Siting Council				
Mass. Institute of Technology	1/89	M.M.W.E.C.	EFSC-88-1	Least-Cost Planning
Boston Edison Company	9/90	Boston Edison	EFSC-90-12	Electric Generation Mkts
Silver City Energy Ltd. Partnership	11/91	Silver City Energy	D.P.U. 91-100	State Policies; Need for Facility
Michigan Public Service Commission				
Detroit Edison Company	9/98	Detroit Edison Company	Case No. U-11726	Market Value of Generation Assets
Montana Public Service Commission				
Great Falls Gas Company	10/82	Great Falls Gas Company	Docket No. 82-4-25	Gas Rate Adjust. Clause
Nat. Energy Board of Canada				
Alberta-Northeast	2/87	Alberta Northeast Gas Export Project	Docket No. GH-1-87	Gas Export Markets
Alberta-Northeast	11/87	TransCanada Pipeline	Docket No. GH-2-87	Gas Export Markets
Alberta-Northeast	1/90	TransCanada Pipeline	Docket No. GH-5-89	Gas Export Markets
Indep. Petroleum Association of Canada	1/92	Interprovincial Pipe Line, Inc.	RH-2-91	Pipeline Valuation, Toll
The Canadian Association of Petroleum Producers	11/93	Transmountain Pipe Line	RH-1-93	Cost of Capital
Maritimes & Northeast Pipeline	97	Sable Offshore Energy Project	GH-6-96	Market Study

EXPERT TESTIMONY OF JOHN J. REED
--REGULATORY AGENCIES--

SPONSOR	DATE	CASE/APPLICANT	DOCKET No.	SUBJECT
New Hampshire Public Utilities Commission				
Bus & Industry Association	6/89	P. S. Co. of New Hampshire	Docket No. DR89-091	Fuel Costs
Bus & Industry Association	5/90	Northeast Utilities	Docket No. DR89-244	Merger & Acq. Issues
Eastern Utilities Associates	6/90	Eastern Utilities Associates	Docket No. DF89-085	Merger & Acq. Issues
EnergyNorth Natural Gas	12/90	EnergyNorth Natural Gas	Docket No. DE90-166	Gas Purchasing Practices
Northern Utilities	7/90	EnergyNorth Natural Gas	Docket No. DR90-187	Special Contracts, Discounted Rates
Northern Utilities, Inc.	12/91	Commission Investigation	Docket No. DR91-172	Generic Discounted Rates
New Jersey Board of Public Utilities				
Hilton/Golden Nugget	12/83	Atlantic Electric	B.P.U. 832-154	Line Extension Policies
Golden Nugget	3/87	Hilton New Jersey Corp.	B.P.U. No. 837-658	Line Extension Policies
New Jersey Natural Gas	2/89	New Jersey Natural Gas	B.P.U. GR89030335J	Cost Alloc./Rate Design
New Jersey Natural Gas	1/91	New Jersey Natural Gas	B.P.U. GR90080786J	Cost Alloc./Rate Design
New Jersey Natural Gas	8/91	New Jersey Natural Gas	B.P.U. GR91081393J	Rate Design; Weather Norm. Clause
New Jersey Natural Gas	4/93	New Jersey Natural Gas	B.P.U. GR93040114J	Cost Alloc./Rate Design
South Jersey Gas	4/94	South Jersey Gas	BRC Docket No. GR080334	Revised levelized gas adjustment
New Jersey Utilities Association	9/96	New Jersey Utilities Association	BPU AX96070530	PBOP Cost Recovery
New Mexico Public Service Commission				
Gas Company of New Mexico	11/83	Public Service Co. of New Mexico	Docket No. 1835	Cost Alloc./Rate Design
New York Public Service Commission				
Iroquois Gas. Transmission	12/86	Iroquois Gas Transmission System	Case No. 70363	Gas Markets
Brooklyn Union Gas Company	8/95	Brooklyn Union Gas Company	Case No. 95-6-0761	Panel on Industry Directions

EXPERT TESTIMONY OF JOHN J. REED
--REGULATORY AGENCIES--

SPONSOR	DATE	CASE/APPLICANT	DOCKET NO.	SUBJECT
Central Hudson, ConEdison and Niagara Mohawk	9/2000	Central Hudson, ConEdison and Niagara Mohawk	Case No. 96-E-0909 Case No. 96-E-0897 Case No. 94-E-0098 Case No. 94-E-0099	Section 70
Central Hudson, New York State Electric & Gas, Rochester Gas & Electric	5/2001	Joint Petition of NiMo, NYSEG, RG&E, Central Hudson, Constellation and Nine Mile Point	Case No. 01-E-0011	Section 70, Rebuttal Testimony
Oklahoma Corporation Commission				
Oklahoma Natural Gas Company	6/98	Oklahoma Natural Gas Company	Case PUD No. 980000177	Evaluate their use of storage
Pennsylvania Public Utility Commission				
Pennsylvania Public Utility Commission	4/95	ATOC	Docket No. R-00943272	Tariff Changes
Pennsylvania Public Utility Commission	3/96	ATOC	Docket No. P-00940886	Rate Service - Direct
Rhode Island Public Utilities Commission				
Newport Electric	7/81	Newport Electric	Docket No. 1599	Rate Attrition
South County Gas	9/82	South County Gas	Docket No. 1671	Cost of Capital
New England Energy Group	7/86	Providence Gas Company	Docket No. 1844	Cost Alloc./Rate Design
Providence Gas	8/88	Providence Gas Company	Docket No. 1914	Load Forecast, Least-Cost Planning
Providence Gas Company and The Valley Gas Company	1/01	Providence Gas Company and The Valley Gas Company	Docket No. 1673 and 1736	Gas Cost Mitigation Strategy
Texas Public Utility Commission				
Southwestern Electric	5/83	Southwestern Electric		Cost of Capital, CWIP
P.U.C. General Counsel	11/90	Texas Utilities Electric Company	Docket No. 9300	Gas Purchasing Practices

EXPERT TESTIMONY OF JOHN J. REED
 --REGULATORY AGENCIES--

SPONSOR	DATE	CASE/APPLICANT	DOCKET No.	SUBJECT
Texas Railroad Commission				
Southern Union Gas	5/85	Southern Union Gas Company	G.U.D. 1891	Cost of Service
Utah Public Service Commission				
AMAX Magnesium	1/88	Mountain Fuel Supply Company	Case No. 86-057-07	Cost Alloc./Rate Design
AMAX Magnesium	4/88	Utah P&L/Pacific P&L	Case No. 87-035-27	Merger & Acquisition
Utah Industrial Group	7/90	Mountain Fuel Supply	Case No. 89-057-15	Gas Transportation Rates
AMAX Magnesium	9/90	Utah Power & Light	Case No. 89-035-06	Energy Balancing Account
AMAX Magnesium	8/90	Utah Power & Light	Case No. 90-035-06	Electric Service Priorities
Vermont Public Service Board				
Green Mountain Power	8/82	Green Mountain Power	Docket No. 4570	Rate Attrition
Green Mountain Power	12/97	Green Mountain Power	Docket No. 5983	Tariff Filing
Green Mountain Power	7/98	Green Mountain Power	Docket No. 6107	Direct Testimony
Green Mountain Power	9/2000	Green Mountain Power	Docket No. 6107	Rebuttal Testimony
Wisconsin Public Service Commission				
WEC & WICOR	11/99	WEC	Docket No. 9401-YO-100 Docket No. 9402-YO-101	Approval to Acquire the Stock of WICOR

EXPERT TESTIMONY OF JOHN J. REED
--REGULATORY AGENCIES--

SPONSOR	DATE	CASE/APPLICANT	DOCKET NO.	SUBJECT
American Arbitration Association, Chicago, IL				
Michael Polsky	3/91	M. Polsky vs. Indeck Energy		Corporate Valuation, Damages
Commonwealth of Massachusetts, Suffolk Superior Court				
John Hancock	1/84	Trinity Church v. John Hancock	C.A. No. 4452	Damages Quantification
State of Colorado District Court, County of Garfield				
Questar Corporation, et al	11/2000	Questar Corporation, et al.	Case No. 00CV129-A	Partnership Fiduciary Duties
American Arbitration Association				
ProGas Limited	7/92	ProGas Limited v. Texas Eastern	Arbitration Panel	Gas Contract Arbitration
International Court of Arbitration				
Wisconsin Gas Company, Inc.	2/97	Wisconsin Gas Co. vs. Pan-Alberta	Case No. 9322/CK	Contract Arbitration
Minnegasco, A Division of NorAm Energy Corp.	3/97	Minnegasco vs. Pan-Alberta	Case No. 9357/CK	Contract Arbitration
Utilicorp United Inc.	4/97	Utilicorp vs. Pan-Alberta	Case No. 9373/CK	Contract Arbitration
IES Utilities	97	IES vs. Pan-Alberta	Case No. 9374/CK	Contract Arbitration
U.S. Securities and Exchange Commission				
Eastern Utilities Association	10/92	EUA Power Corporation	File No. 70-8034	Value of EUA Power
State of Rhode Island, Providence City Court				
Aquidneck Energy	5/87	Laroche vs. Newport		Least-Cost Planning
State of Texas Hutchinson County Court				
Western Gas Interstate	5/85	State of Texas vs. Western Gas Interstate Co.	Case No. 14,843	Cost of Service

EXPERT TESTIMONY OF JOHN J. REED
--REGULATORY AGENCIES--

SPONSOR	DATE	CASE/APPLICANT	DOCKET NO.	SUBJECT
U.S. Bankruptcy Court, District of New Hampshire				
EUA Power Corporation	7/92	EUA Power Corporation	Case No. BK-91-10525-JEY	Pre-Petition Solvency
U. S. District Court, Boulder County, Colorado				
KN Energy, Inc.	3/93	KN Energy vs. Colorado GasMark, Inc.	Case No. 92 CV 1474	Gas Contract Interpretation
U. S. District of California				
Pacific Gas & Electric Co./PGT PG&E/PGT Pipeline Exp. Project	4/97	Norcen Energy Resources Limited	Case No. C94-0911 VRW	Fraud Claim
U.S. District Court, Massachusetts				
Eastern Utilities Associates & Donald F. Pardus	3/94	NECO Enterprises Inc. vs. Eastern Utilities Associates	Civil Action No. 92-10355-RCL	Seabrook Power Sales
U. S. District Court, Montana				
KN Energy, Inc.	9/92	KN Energy v. Freepport MacMoRan	Docket No. CV 91-40-BLG-RWA	Gas Contract Settlement
U. S. District Court, Southern District of New York				
Central Hudson Gas & Electric	11/99	Central Hudson v. Riverkeeper, Inc., Robert H. Boyle, John J. Cronin	Civil Action 99 Civ 2536 (BDP)	Expert Report, Shortnose Sturgeon Case
Central Hudson Gas & Electric	8/2000	Central Hudson v. Riverkeeper, Inc., Robert H. Boyle, John J. Cronin	Civil Action 99 Civ 2536 (BDP)	Revised Expert Report, Shortnose Sturgeon Case
U. S. District Court, Portland Maine				
ACEC Maine, Inc. et al.	10/91	CIT Financial vs. ACEC Maine	Docket No. 90-0304-B	Project Valuation
Combustion Engineering	1/92	Combustion Eng. vs. Miller Hydro	Docket No. 89-0168P	Output Modeling; Project Valuation

Name of Respondent		This Report Is:	Date of Report	Year of Report
The New England Gas Company		<input checked="" type="checkbox"/> An Original	(Mo, Da, Yr)	Dec. 31, 2001
D/B/A The Providence Gas Company		<input type="checkbox"/> A Resubmission		
COMPARATIVE BALANCE SHEET (ASSETS AND OTHER DEBITS)				
Line No.	Title of Account (a)	Reference Page Number (b)	Balance at End of Current Year (in dollars) (c)	Balance at End of Previous Year (in dollars) (d)
1	UTILITY PLANT			
2	Utility Plant (101-106,114)	200-201	569,862,243	343,062,208
3	Construction Work in Progress (107)	200-201	6,428,523	7,020,101
4	TOTAL Utility Plant (Total of Lines 2 and 3)	200-201	576,290,766	350,082,309
5	(Less) Accum. Provision for Depr., Amort., Depl. (108, 111, 115)		(133,211,225)	(119,073,459)
6	Net Utility Plant (Total of line 4 less 5)		443,079,541	231,008,850
7	Nuclear Fuel (120.1 thru 120.4, and 120.6)			
8	(Less) Accum. Provision for Amort., of Nuclear Fuel Assemblies (120.5)		-	-
9	Nuclear Fuel (Total of line 7 less 8)		443,079,541	231,008,850
10	Net Utility Plant (Total of Lines 6 and 9)			
11	Utility Plant Adjustments (116)	122		
12	Gas Stored - Base Gas (117.1)	220	213,921	389,201
13	System Balancing Gas (117.2)	220		
14	Gas Stored in Reservoirs and Pipelines - Noncurrent (117.3)	220		
15	Gas Owned to System Gas (117.4)	220		
16	OTHER PROPERTY AND INVESTMENTS			
17	Nonutility Property (121)			
18	(Less) Accum. Provision for Depreciation and Amortization (122)			
19	Investments in Associated Companies (123)	222-223		
20	Investments in Subsidiary Companies (123.1)	224-225		
21	(For Cost of Account 123.1 See Footnote Page 224, line 40)			
22	Noncurrent Portion of Allowances			
23	Other Investments (124)	222-223		
24	Special Funds (125 thru 128)			
25	TOTAL Other Property and Investments (Total of lines 17-20, 22-24)			
26	CURRENT AND ACCRUED ASSETS			
27	Cash (131)		624,741	(2,372,651)
28	Special Deposits (132-134)			
29	Working Funds (135)		13,529	19,712
30	Temporary Cash Investments (136)	222-223		
31	Notes Receivable (141)			
32	Customer Accounts Receivable (142)		25,487,316	39,495,229
33	Other Accounts Receivable (143)		267,850	540,331
34	(Less) Accum. Provision for Uncollectible Accounts - Credit (144)		(3,932,241)	(4,718,740)
35	Notes Receivable from Associated Companies (145)			
36	Accounts Receivable from Associated Companies (146)		104,246,627	22,442,941
37	Fuel Stock (151)			
38	Fuel Stock Expenses Undistributed (152)			
39	Residuals (Elec) and Extracted Products (Gas) (153)		617,735	724,141
40	Plant Materials and Operating Supplies (154)			
41	Merchandise (155)			
42	Other Materials and Supplies (156)			
43	Nuclear Materials Held for Sale (157)			

Name of Respondent The New England Gas Company D/B/A The Providence Gas Company		This Report Is: <input checked="" type="checkbox"/> An Original <input type="checkbox"/> A Resubmission	Date of Report (Mo, Da, Yr)	Year of Report Dec. 31, 2001
COMPARATIVE BALANCE SHEET (ASSETS AND OTHER DEBITS) (Continued)				
Line No.	Title of Account (a)	Reference Page Number (b)	Balance at End of Current Year (in dollars) (c)	Balance at End of Previous Year (in dollars) (d)
44	Allowances (158.1 and 158.2)		-	-
45	(Less) Noncurrent Portion of Allowances		-	-
46	Stores Expense Undistributed (163)			
47	Gas Stored Underground - Current (164.1)	220	11,363,415	14,211,746
48	Liquefied Natural Gas Stored and Held for Processing (164.2 thru 164.3)	220	5,311,812	3,211,512
49	Prepayments (165)	230	21,328,413	3,003,732
50	Advances for Gas (166 thru 167)			
51	Interest and Dividends Receivable (171)			
52	Rents Receivable (172)			
53	Accrued Utility Revenues (173)			
54	Miscellaneous Current and Accrued Assets (174)			
55	TOTAL Current and Accrued Assets (Total of lines 27 thru 54)		165,329,197	76,557,953
56	DEFERRED DEBITS			
57	Unamortized Debt Expense (181)			
58	Extraordinary Property Losses (182.1)	230		
59	Unrecovered Plant and Regulatory Study Costs (182.2)	230		
60	Other Regulatory Assets (182.3)	232		
61	Preliminary Survey and Investigation Charges (Electric) (183)			
62	Preliminary Survey and Investigation Charges (Gas) (183.1, 183.2)			
63	Clearing Accounts (184)			
64	Temporary Facilities (185)			
65	Miscellaneous Deferred Debits (186)	233	30,518,709	36,508,659
66	Deferred Losses from Disposition of Utility Plant (187)			
67	Research, Development, and Demonstration Expend. (188)			
68	Unamortized Loss on Reaquired Debt (189)			
69	Accumulated Deferred Income Taxes (190)	234-235		
70	Unrecovered Purchase Gas Costs (191)			
71	TOTAL Deferred Debits (Total of lines 57 thru 70)		30,518,709	36,508,659
72	TOTAL Assets and Other Debits (Total of lines 10-15,25,55,and 71)		639,141,368	344,464,668

Name of Respondent		This Report Is:	Date of Report	Year of Report
The New England Gas Company		<input checked="" type="checkbox"/> An Original	(Mo, Da, Yr)	Dec. 31, 2001
D/B/A The Providence Gas Company		<input type="checkbox"/> A Resubmission		
COMPARATIVE BALANCE SHEET (LIABILITIES AND OTHER CREDITS)				
Line No.	Title of Account	Reference Page Number	Balance at End of Current Year (in dollars)	Balance at End of Previous Year (in dollars)
	(a)	(b)	(c)	(d)
1	PROPRIETARY CAPITAL			
2	Common Stock Issued (201) **	250-251	1,243,598	1,243,598
3	Preferred Stock Issued (204)	250-251		
4	Capital Stock Subscribed (202, 205)	252		
5	Stock Liability for Conversion (203, 206)	252		
6	Premium on Capital Stock (207) **	252	42,751,716	42,751,716
7	Other Paid-in Capital (208-211)	253		
8	Installments Received on Capital Stock (212)	252		
9	(Less) Discount on Capital Stock (213)	254		
10	(Less) Capital Stock Expense (214)	254		
11	Retained Earnings (215, 215.1, 216) **	118-119	89,578,330	59,874,262
12	Unappropriated Undistributed Subsidiary Earnings (216.1)	118-119		
13	(Less) Reacquired Capital Stock (217)	250-251		
14	TOTAL Proprietary Capital (Total of lines 2 thru 13)		133,573,644	103,869,576
15	LONG TERM DEBT			
16	Bonds (221)	256-257		
17	(Less) Reacquired Bonds (222)	256-257		
18	Advances from Associated Companies (223)	256-257		
19	Other Long-Term Debt (224)	256-257	414,433	1,104,449
20	Unamortized Premium on Long-Term Debt (225)	258-259		
21	(Less) Unamortized Discount on Long-Term Debt-Dr. (226)	258-259		
22	(Less) Current Portion of Long-Term Debt		(479,648)	(773,577)
23	TOTAL Long-Term Debt (Total of lines 16 thru 22)		(65,215)	330,872
24	OTHER NONCURRENT LIABILITIES			
25	Obligations Under Capital Leases - Noncurrent (227)			
26	Accumulated Provision for Property Insurance (228.1)			
27	Accumulated Provision for Injuries and Damages (228.2)			
28	Accumulated Provision for Pensions and Benefits (228.3)			
29	Accumulated Miscellaneous Operating Provisions (228.4)			
30	Accumulated Provision for Rate Refunds (229)			
31	TOTAL Other Noncurrent Liabilities (Total of lines 25 thru 30)			

** On 9/28/00, Providence Gas Company merged with and into Southern Union Company therefore the Company no longer has capital stock. Subsequent to the merger the company has not eliminated the stockholders equity section from its balance sheet.

Name of Respondent The New England Gas Company D/B/A The Providence Gas Company	This Report Is: <input checked="" type="checkbox"/> An Original <input type="checkbox"/> A Resubmission	Date of Report (Mo, Da, Yr)	Year of Report Dec. 31, 2001
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COMPARATIVE BALANCE SHEET (LIABILITIES AND OTHER CREDITS)(Continued)

Line No.	Title of Account (a)	Reference Page Number (b)	Balance at End of Current Year (in dollars) (c)	Balance at End of Previous Year (in dollars) (d)
32	CURRENT AND ACCRUED LIABILITIES			
33	Current Portion of Long-Term Debt		479,648	773,577
34	Notes Payable (231)			
35	Accounts Payable (232)		25,014,374	66,422,524
36	Notes Payable to Associated Companies (233)			
37	Accounts Payable to Associated Companies (234)		448,140,322	130,373,353
38	Customer Deposits (235)		2,725,925	2,619,692
39	Taxes Accrued (236)	262-263	(3,843,629)	7,575,829
40	Interest Accrued (237)		35,865	35,201
41	Dividends Declared (238)			
42	Matured Long-Term Debt (239)			
43	Matured Interest (240)			
44	Tax Collections Payable (241)		467,536	2,385,875
45	Miscellaneous Current and Accrued Liabilities (242)	268	(3,578,113)	(9,878,899)
46	Obligations Under Capital Leases-Current (243)		-	
47	TOTAL Current and Accrued Liabilities (Total of lines 33 thru 46)		469,441,928	200,307,152
48	DEFERRED CREDITS			
49	Customer Advances for Construction (252)			
50	Accumulated Deferred Investment Tax Credits (255)		1,883,130	1,883,130
51	Deferred Gains from Disposition of Utility Plant (256)			
52	Other Deferred Credits (253)	269	10,663,834	14,442,317
53	Other Regulatory Liabilities (254)	278		
54	Unamortized Gain on Reaquired Debt (257)	260		
54.1	Contributions in aid of Construction (271)			
55	Accumulated Deferred Income Taxes (281-283)		23,644,047	23,631,616
56	TOTAL Deferred Credits (Total of lines 49 thru 55)		36,191,011	39,957,063
57	TOTAL Liabilities and Other Credits (Total of lines 14, 23,31,47, and 56)		639,141,668	344,464,668

Southern Union LDC Acquisition Financing Summary

	New England			Missouri Gas Energy
	Operations	Pennsylvania Enterprises		
Acquisition Price	\$ 590,000	\$ 500,000	\$ 401,600	
Equity	\$ 28,000	\$ 172,000	\$ 49,351	(1)
Cash- Financed Through Note	\$ 422,000	\$ 38,000	\$ 352,249	(1)
Long Term Debt Assumed	\$ 140,000	\$ 45,000	-	
Long Term Debt Refinanced	\$ -	\$ 135,000	-	
Revolving Lines Refinanced	\$ -	\$ 110,000	-	
Goodwill	\$355,000	\$ 261,000	\$ 68,000	
Debt Ratio	95.3%	65.6%	87.7%	

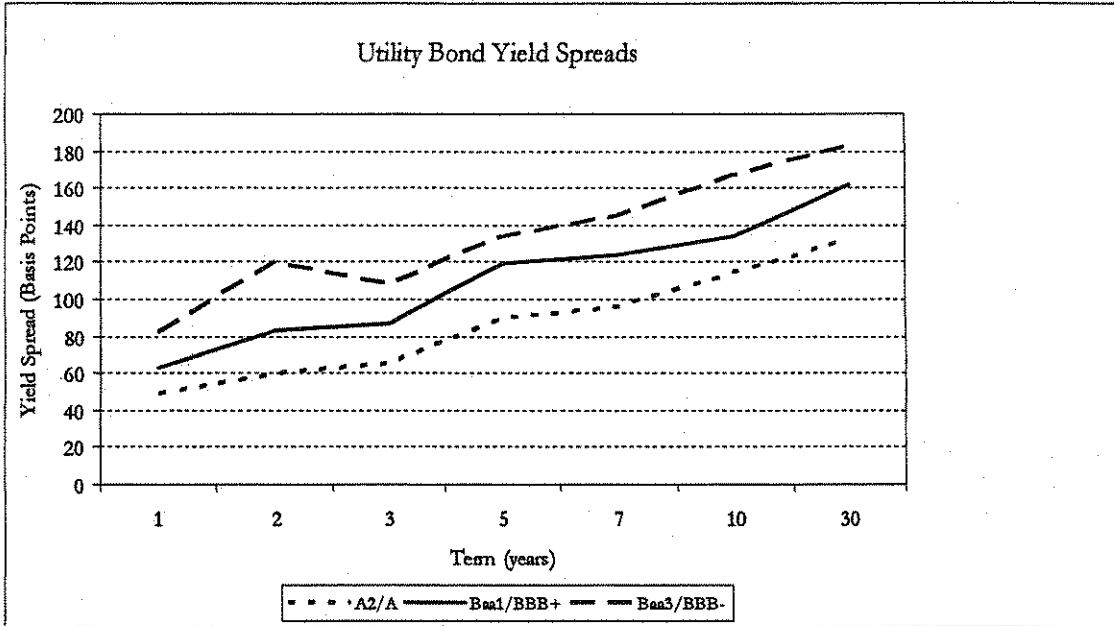
Weighted Average Debt Ratio 83.3%
 Total Goodwill \$684,000

(1) Southern Union issued common stock and senior debt securities to fund this acquisition and other activities. Assumed 100% of the equity issued was used for this acquisition and the rest was funded through the note.
 Sources: SEC 10-Ks, 8-Ks

	Adjusted Total Capitalization as of June 30, 2002 (2)	
Common Stockholder's Equity	\$ 685,364	\$ (114,344)
Preferred Stock	100,000	
Long Term Debt and Capital Lease Obligation	1,082,210	\$ (569,656)
Short Term Debt and Current Maturity of Long Term Debt	240,003	
Total Capitalization	\$ 2,107,577	\$ (684,000)

Debt Ratio 62.74% 52.86%

(2) Excludes Deferrals and Other Liabilities



Source: Reuters Corporate Spreads for Utilities, as provided via bondchannel.bridge.com

Common Equity Ratio Based on Settlement Capital Structure (1)

	Ratio	Cost Rate	Weighted Cost	Income Tax Rate	Pre-Tax Return
Short Term Debt	8.40%	4.86%	0.41%		0.41%
Long Term Debt	41.60%	7.88%	3.28%		3.28%
Common Equity	50.00%	10.70%	5.35%	35.00%	8.23%
	100.00%		9.04%		11.92%

Rate Base (2)	\$ 205,724
Pre-Tax Income	16,933
Interest Expense	7,584
Pre-Tax Operating Income	<u>\$ 24,516</u>
Pre-Tax Interest Coverage	3.23

Common Equity Ratio Based on SUG Capital Structure

	Ratio	Cost Rate	Weighted Cost	Income Tax Rate	Pre-Tax Return
Short Term Debt	8.40%	4.86%	0.41%		0.41%
Long Term Debt	59.60%	7.88%	4.70%		4.70%
Common Equity (3)	32.00%	10.70%	3.42%	35.00%	5.27%
	100.00%		8.53%		10.37%

Rate Base (2)	\$ 205,724
Pre-Tax Income	10,837
Interest Expense	10,502
Pre-Tax Operating Income	<u>\$ 21,339</u>
Pre-Tax Interest Coverage	2.03

(1) Source: Testimony and Exhibits of David J. Effron, September 30, 2002, Schedule DJE-1, Page 1

(2) Source: Testimony and Exhibits of David J. Effron, September 30, 2002, Schedule DJE-1, Page 2

(3) Source: Company response to Data Request Comm 3-01.

Settlement Agreement Capital Structure (1)

	Ratio	Cost Rate	Weighted Cost	Income Tax Rate	Pre-Tax Return
Short Term Debt	8.40%	4.86%	0.41%		0.41%
Long Term Debt	41.60%	7.88%	3.28%		3.28%
Common Equity	50.00%	10.70%	5.35%	35.00%	8.23%
	100.00%		9.04%		11.92%

Change in Pre-Tax Income -10%

Rate Base (2)	\$ 205,724	\$ 205,724
Pre-Tax Income	24,516	22,065
Interest Expense	7,584	7,584
Profit Before Taxes	\$ 16,933	\$ 14,481
Income Taxes	5,926	5,068
Net Income	\$ 11,006	\$ 9,413
Common Equity	\$ 102,862	\$ 102,862
Return on Equity	10.70%	9.15%

Leveraged Capital Structure

	Ratio	Cost Rate	Weighted Cost	Income Tax Rate	Pre-Tax Return
Short Term Debt	8.40%	4.86%	0.41%		0.41%
Long Term Debt	59.60%	7.88%	4.70%		4.70%
Common Equity (3)	32.00%	10.70%	3.42%	35.00%	5.27%
	100.00%		8.53%		10.37%

Change in Pre-Tax Income -10%

Rate Base (2)	\$ 205,724	\$ 205,724
Pre-Tax Income	21,339	19,205
Interest Expense	10,502	10,502
Profit Before Taxes	\$ 10,837	\$ 8,703
Income Taxes	3,793	3,046
Net Income	\$ 7,044	\$ 5,657
Common Equity	\$ 65,832	\$ 65,832
Return on Equity	10.70%	8.59%

(1) Source: Testimony and Exhibits of David J. Efron, September 30, 2002, Schedule DJE-1, Page 1

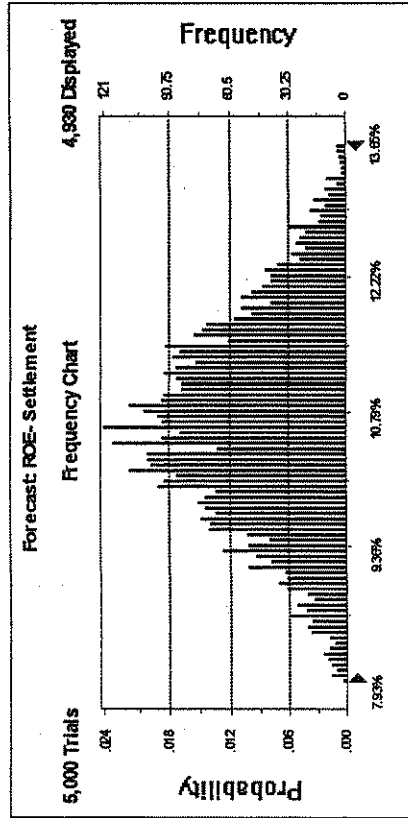
(2) Source: Testimony and Exhibits of David J. Efron, September 30, 2002, Schedule DJE-1, Page 2

(3) Source: Company response to Data Request Comm 3-01.

Settlement Agreement Capital Structure

Summary:
 Display Range is from 7.93% to 13.65%
 Entire Range is from 6.66% to 14.89%
 After 5,000 Trials, the Std. Error of the Mean is 0.02%

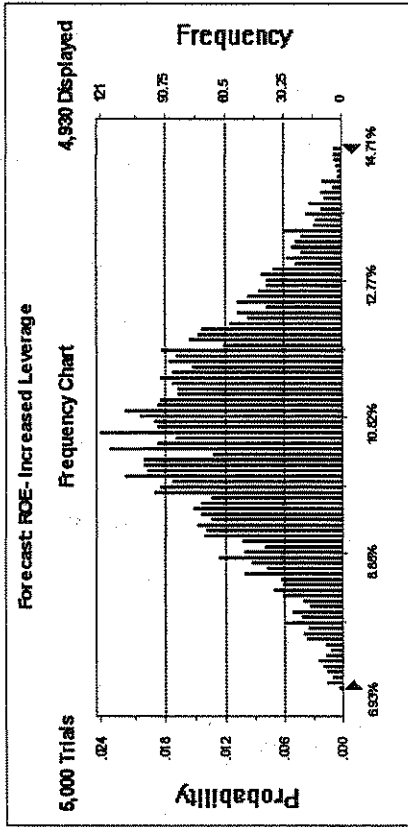
Statistics:	Value
Trials	5000
Mean	10.68%
Median	10.67%
Mode	—
Standard Deviation	1.14%
Variance	0.01%
Skewness	0.02
Kurtosis	3.01
Coeff. of Variability	0.11
Range Minimum	6.66%
Range Maximum	14.89%
Range Width	8.23%
Mean Std. Error	0.02%



Leveraged Capital Structure

Summary:
 Display Range is from 6.93% to 14.71%
 Entire Range is from 5.21% to 16.40%
 After 5,000 Trials, the Std. Error of the Mean is 0.02%

Statistics:	Value
Trials	5000
Mean	10.67%
Median	10.66%
Mode	—
Standard Deviation	1.55%
Variance	0.02%
Skewness	0.02
Kurtosis	3.01
Coeff. of Variability	0.15
Range Minimum	5.21%
Range Maximum	16.40%
Range Width	11.19%
Mean Std. Error	0.02%



Capital Structure Basis	12 Months Ended 6/30/2002		12 Months Ended 9/30/2001	
	Settlement	Leveraged	Settlement	Leveraged
Revenue	\$ 197,357	\$ 194,386	\$ 266,533	\$ 266,533
Operating Expenses:				
O&M Expense	\$ 142,638	\$ 142,638	\$ 205,223	\$ 205,223
Depreciation	17,455	17,455	17,102	17,102
Other Taxes	13,100	13,100	16,755	16,755
Income Taxes (at 35%)	5,829	3,778	6,973	5,959
Operating Expenses	179,022	176,971	246,053	245,039
Operating Income	18,335	17,415	20,480	21,494
Interest Expense	7,509	10,399	7,530	10,427
Income Available for Common Equity	10,826	7,016	12,950	11,067
AFUDC	232	232	433	433
Adjusted Income Available for Common Equity	\$ 11,058	\$ 7,248	\$ 13,383	\$ 11,500
Common Equity	\$ 101,855	\$ 65,187	\$ 102,129	\$ 65,363
Return on Equity	10.86%	11.12%	13.10%	17.59%
Earnings Subject to 10.70% Earnings Cap	\$ 159	\$ 273	\$ 2,455	\$ 4,506
Adjusted Net Income	\$ 10,898	\$ 6,975	\$ 10,928	\$ 6,994
Adjusted Return on Equity	10.70%	6.85%	10.70%	6.85%
Capital Structure and Cost of Capital				
Common Equity Percent of Total Capitalization	50.00%	32.00%	50.00%	32.00%
Common Equity Cost Rate	10.70%	10.70%	10.70%	10.70%
Short Term Debt Percent of Total Capitalization	8.40%	8.40%	8.40%	8.40%
Short Term Debt Cost Rate	4.86%	4.86%	4.86%	4.86%
Long Term Debt Percent of Total Capitalization	41.60%	59.60%	41.60%	59.60%
Long Term Debt Cost Rate	7.88%	7.88%	7.88%	7.88%
Total Capitalization	100.00%	100.00%	100.00%	100.00%
Weighted Average Cost of Capital	9.04%	8.53%	9.04%	8.53%
Total Rate Base	\$ 203,709	\$ 203,709	\$ 204,258	\$ 204,258
Common Equity	\$ 101,855	\$ 65,187	\$ 102,129	\$ 65,363
Effective Tax Rate	35.00%	35.00%	35.00%	35.00%

Source: Additional Supplemental Testimony of David J. Efron, RIPUC Docket No. 3459, February 19, 2003, Schedules DJE-1A, DJE-2A

	Year Ended September 30, 1997	Year Ended September 30, 1997 - Adjusted	Year Ended September 30, 1998	Year Ended September 30, 1998 - Adjusted	Year Ended September 30, 1999	Year Ended September 30, 1999 - Adjusted
Revenue	\$ 211,051,249	\$ 211,051,249	\$ 184,295,012	\$ 184,295,012	\$ 179,622,749	\$ 179,622,749
O&M Expense	163,825,524	163,825,524	137,257,893	137,257,893	127,470,946	127,470,946
Depreciation and Amortization	12,404,994	12,404,994	13,482,846	13,482,846	16,565,165	16,565,165
State and Other Taxes	13,455,695	13,455,695	13,091,170	13,091,170	13,560,490	13,560,490
Federal Income Taxes	4,989,345	4,288,610	4,630,860	3,943,373	5,182,466	4,437,119
Operating Expenses	\$ 194,675,558	\$ 193,974,823	\$ 168,462,769	\$ 167,775,282	\$ 162,779,067	\$ 162,033,720
Operating Income	\$ 16,375,691	\$ 17,076,426	\$ 15,832,243	\$ 16,519,730	\$ 16,843,682	\$ 17,589,029
Other Income	(602,310)	(602,310)	20,801	20,801	51,316	51,316
Earnings Before Interest Expense	\$ 15,773,381	\$ 16,474,116	\$ 15,853,044	\$ 16,540,531	\$ 16,894,998	\$ 17,640,345
Interest	7,002,801	9,111,864	7,094,482	9,196,322	7,099,889	9,248,664
Net Income	\$ 8,770,580	\$ 7,362,252	\$ 8,758,562	\$ 7,344,209	\$ 9,795,109	\$ 8,291,681
Preferred Dividends	626,400	626,400	487,200	487,200	348,000	348,000
Net Income Applicable to Common Equity	\$ 8,144,180	\$ 6,735,852	\$ 8,271,362	\$ 6,857,009	\$ 9,447,109	\$ 7,943,681
Other Adjustments	(990,000)	(990,000)				
Adjusted Net Income Available to Common	\$ 7,156,490	\$ 6,348,162	\$ 8,250,561	\$ 6,836,208	\$ 9,395,793	\$ 7,892,365
Actual ROE Calculation						
Common Equity	\$ 79,793,191	\$ 58,133,161	\$ 79,940,086	\$ 57,397,148	\$ 86,408,730	\$ 59,650,975
Earned ROE	9.72%	10.92%	10.32%	11.91%	10.87%	13.23%
ROE Calculation assuming 32% Common Equity Capitalization						
Common Equity	\$ 58,133,161	\$ 58,133,161	\$ 57,397,148	\$ 57,397,148	\$ 59,650,975	\$ 59,650,975
Adjusted Net Income Applicable to Common Equity (1)	\$ 6,348,162	\$ 6,348,162	\$ 6,836,208	\$ 6,836,208	\$ 7,892,365	\$ 7,892,365
Adjusted ROE	10.92%	10.92%	11.91%	11.91%	13.23%	13.23%
ROE Calculation assuming 32% Common Equity Capitalization						
Income in Excess of 10.70% ROE	\$ 127,913	\$ 127,913	\$ 694,713	\$ 694,713	\$ 1,509,710	\$ 1,509,710
ROE Calculation after Ratepayer Sharing						
Net Income less Amount to Ratepayers	\$ 6,220,248	\$ 6,220,248	\$ 6,141,495	\$ 6,141,495	\$ 6,382,654	\$ 6,382,654
Actual Common Equity	\$ 79,793,191	\$ 79,793,191	\$ 79,940,086	\$ 79,940,086	\$ 86,408,730	\$ 86,408,730
Earned ROE less Amount to Ratepayers	7.80%	7.80%	7.68%	7.68%	7.39%	7.39%
Total Debt	\$ 94,939,603	\$ 94,939,603	\$ 94,092,667	\$ 94,092,667	\$ 96,267,235	\$ 96,267,235
Effective Interest Rate	7.38%	7.38%	7.54%	7.54%	7.38%	7.38%
Total Capitalization	\$ 181,666,127	\$ 181,666,127	\$ 179,366,086	\$ 179,366,086	\$ 186,409,298	\$ 186,409,298

Notes: (1) Assumes 35% federal income tax rate
Source: Providence Gas Company Quarterly PUC Reports