

STATE OF NEW HAMPSHIRE
BEFORE THE
PUBLIC UTILITIES COMMISSION

IN THE MATTER OF:)
Carrying Charge Rate on Cash Working Capital)

DG 07-072

DIRECT TESTIMONY
OF
ROBERT B. HEVERT

August 29, 2008

List of Attachments

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Attachment RBH-2	Response of James A. Rothschild to Data Request PSNH 1-10, June 2, 2008
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1 **I. INTRODUCTION AND QUALIFICATIONS**

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

3 A. My name is Robert B. Hevert. My business address is 293 Boston Post Road West, Suite
4 500, Marlborough, Massachusetts 01752.

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

7 A. I am President of Concentric Energy Advisors, Inc. (“Concentric”). Concentric is a
8 management consulting firm specializing in financial and economic services to the
9 energy industry. In addition to providing consulting services, my responsibilities at
10 Concentric include the day-to-day management of the firm and, along with other senior
11 officers, the development of the firm’s resources and capabilities, the development of
12 new business and clients, and assuring the quality and control of services delivered to our
13 firm’s clients.

14
15 **Q. PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND.**

16 A. I hold a Bachelors degree in Business and Economics from the University of Delaware,
17 and an MBA with a concentration in Finance from the University of Massachusetts. In
18 addition, I hold the Chartered Financial Analyst designation.

19
20 **Q. PLEASE DESCRIBE YOUR PROFESSIONAL BACKGROUND AND
21 EXPERIENCE.**

22 A. I have served as an executive and manager with other consulting firms (REED
23 Consulting Group and Navigant Consulting, Inc.), and as a financial officer of Bay State

1 Gas Company (“Bay State”). In my role as Vice President and Assistant Treasurer for
2 Bay State, I had responsibilities for the daily cash management and long-term financings
3 of Bay State and its subsidiaries (which, at the time, included Northern Utilities). I have
4 provided expert testimony regarding strategic and financial matters, including the cost of
5 capital, before the state utility regulatory agencies of Arkansas, Colorado, Maine,
6 Massachusetts, Minnesota, New Jersey, New Mexico, New York, Rhode Island, Texas,
7 Utah, Vermont and Virginia, as well as the Federal Energy Regulatory Commission
8 (“FERC”). In addition, I have advised numerous energy and utility clients on a wide
9 range of financial and economic issues including both asset and corporate-based
10 transactions. I have included my résumé as Appendix A to my direct testimony.

11
12 **Q. ON WHOSE BEHALF ARE YOU SUBMITTING THIS TESTIMONY?**

13 A. I am submitting this testimony before the New Hampshire Public Utilities Commission
14 (“Commission”) on behalf of Unitil Energy Systems, Inc. (“Unitil”), EnergyNorth
15 Natural Gas, Inc. d/b/a National Grid NH, Granite State Electric Company d/b/a National
16 Grid, and Northern Utilities, Inc. – New Hampshire Division (“Northern”) (collectively,
17 the “Companies”, individually a “Company”).

18
19 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS PROCEEDING?**

20 A. The purpose of my testimony is to: (i) address certain issues raised in the Second
21 Revised Direct Testimony of James A. Rothschild submitted on behalf of the
22 Commission Staff (“Staff”); (ii) review industry standard cash management and balance
23 sheet management practices in the context of Mr. Rothschild’s testimony; (iii) provide a

1 review of the carrying charge treatment of supply-related working capital in other
2 jurisdictions; and (iv) present alternative approaches to Mr. Rothschild's recommendation
3 for determining the carrying charge on supply-related working capital.
4

5 **Q. WHAT ARE THE PRIMARY CONCLUSIONS AND RECOMMENDATIONS**
6 **CONTAINED IN MR. ROTHSCHILD'S TESTIMONY?**

7 A. Mr. Rothschild recommends that the Commission require the Companies to calculate the
8 revenue requirement associated with supply-related working capital based on the cost of
9 short-term debt.¹ In support of his position, Mr. Rothschild develops and presents a
10 decision tree analysis ("Decision Tree") that he applies to data from each of the
11 Companies. As discussed later in my testimony, regardless of an individual Company's
12 circumstances, Mr. Rothschild reaches the consistent conclusion that the cost of short-
13 term debt is the appropriate rate for calculating supply-related working capital carrying
14 costs.
15

16 **Q. PLEASE SUMMARIZE THE GENERAL CONCLUSIONS OF YOUR**
17 **TESTIMONY.**

18 A. Based on my review of Mr. Rothschild's testimony, the other materials reviewed and
19 discussed throughout my testimony, and my practical experience in managing treasury
20 operations for regulated utilities, my general conclusions are as follows:

¹ New Hampshire Public Utilities Commission, DG 07-072, Second Revised Testimony of James A. Rothschild, June 2, 2008, p. 4.

- 1 • Mr. Rothschild’s Decision Tree is not an appropriate tool for establishing or
2 supporting the carrying charge for supply-related working capital, since his
3 underlying analysis: (1) presumes a hierarchy for the use of short-term debt
4 that does not comport with the reality of corporate financing practices; (2) is
5 inconsistent with the Commission’s finding that individual sources of
6 financing cannot be tracked to specific assets; (3) inappropriately ignores the
7 corollary adjustment that should be made to the percentage of short-term debt
8 in the capital structure used to determine base rates; (4) is based on a set of
9 decision rules that are ambiguous and subjective, enabling Mr. Rothschild to
10 always arrive at the same conclusion, *i.e.*, that the supply-related working
11 capital carrying charge should be the short-term debt rate; and (5) fails to
12 consider the many factors that are involved in the day-to-day financing
13 decisions made by utilities, and as such, is far too simplistic.
- 14 • Supply-related working capital is not financed separately from other working
15 capital requirements as Mr. Rothschild implies. Rather, the aggregate
16 working capital requirement of the utility is evaluated on a daily basis and
17 financed as necessary. Consequently, Mr. Rothschild’s Decision Tree is an
18 unreasonably simplistic portrayal of the corporate financing process.
- 19 • There are two alternatives that provide a fair and reasonable manner for
20 recovery of the supply-related working capital costs incurred by the
21 Companies, and recognize that the determination of the appropriate carrying
22 charge for supply-related working capital is inextricably linked to the capital
23 structure used to determine base rates: (1) account for short-term debt as a

1 component of the overall capital structure and use the pre-tax rate of return for
2 purposes of determining the utilities' supply-related working capital
3 allowance and return on rate base; or (2) if the short-term debt rate is used for
4 purposes of determining the utilities' supply-related working capital
5 allowance, then at that same time, the level of short-term debt accounted for in
6 the determination of the Companies' overall capital structure and rate of
7 return applicable to rate base should be reduced or short-term debt should be
8 excluded entirely from the capital structure, depending on the circumstances
9 for each utility. However, for alternative (2) above, the short-term debt rate
10 should only be applied to supply-related working capital in those instances
11 where the utility actually has sufficient short-term debt outstanding to fully
12 cover all of its short term financing needs including the supply-related
13 working capital requirement. If there is not sufficient short-term debt
14 outstanding to cover all of the company's short term financing needs
15 including its supply-related working capital requirements, then the pre-tax rate
16 of return (excluding short-term debt, if any) should be used to calculate the
17 supply-related working capital allowance for that portion of the working
18 capital requirement for which there is insufficient short-term debt outstanding.
19 Of the two alternatives, the most practical approach is the first since it
20 eliminates the time and expense of individual rate proceedings.

21 Finally, putting aside the flaws contained in Mr. Rothschild's analysis and
22 recommendations, I note that simply because the current proceeding is not a base rate
23 proceeding does not justify ignoring the clear effect that a significant change in the

1 supply-related working capital carrying charge rate will have on other elements of the
2 ratemaking process that, in turn, will affect the overall revenue requirement. In that
3 regard, Mr. Rothschild’s recommendation appears to constitute single issue ratemaking.

4
5 **II. INDUSTRY-ACCEPTED CASH AND BALANCE SHEET**
6 **MANAGEMENT PRACTICES**

7 **Q. WHAT IS THE DIFFERENCE BETWEEN WORKING CAPITAL, NET**
8 **WORKING CAPITAL AND SUPPLY-RELATED WORKING CAPITAL?**

9 A. Net working capital is the difference between a company’s current assets and current
10 liabilities. Net working capital thus represents the daily cash surplus (to be invested) or
11 need (to be financed) of a company. As in Mr. Rothschild’s testimony, the terms “net
12 working capital” and “working capital” sometimes are used interchangeably, although
13 many analysts use the term “working capital” to refer only to a company’s current
14 assets.² As defined by Mr. Rothschild, supply-related working capital, which is a
15 component of a utility’s overall working capital, is the difference between the supply-
16 related current assets (receivables) and supply-related current liabilities (payables); to the
17 extent that difference is a positive amount (*i.e.*, receivables are greater than payables), it is
18 an amount that must be financed. Importantly, while working capital amounts can vary
19 over time, it is not unusual for companies to have a level of “permanent” working capital
20 that is not susceptible to such variation.

21
22
² In order to minimize confusion, I have adopted Mr. Rothschild’s convention of using the two terms interchangeably.

1 **Q. IS THERE A GENERAL FINANCING APPROACH TYPICALLY USED BY**
2 **UTILITY COMPANIES?**

3 A. Yes, there is. As a preliminary matter, it is important to keep in mind that utilities invest
4 in, and therefore must finance, both long-term assets such as property, plant, and
5 equipment, and short-term assets such as net working capital requirements. A common
6 financing practice, sometimes referred to as “maturity matching”, involves matching the
7 maturities of assets and liabilities. In practice, the weighted average maturity of
8 outstanding debt is matched with the expected life of the underlying assets, such that the
9 income produced from the asset over its life can cover the debt service payments used to
10 finance the asset.³ As noted by Brigham and Houston, “[t]his strategy minimizes the risk
11 that the firm will be unable to pay off its maturing obligations.”⁴ (See, Attachment RBH-
12 1.) Brigham and Houston went on to note that:

13 In practice, firms don’t finance each specific asset with a type of capital
14 that has a maturity equal to the asset’s life. However, academic studies do
15 show that most firms tend to finance short-term assets from short-term
16 sources and long-term assets from long-term sources.⁵
17

18 **Q. WHAT TYPES OF SHORT-TERM FINANCING ARE AVAILABLE?**

19 A. There are numerous types of short-term financing available depending on the size and
20 creditworthiness of the borrower. While all types may not be available to all companies,
21 commercial paper, lines of credit and money pools are all used to finance short-term

³ A variant of this approach is to match the “duration” of the debt with the life of the long-term assets being financed. While this approach is computationally different, the intent is the same; matching the tenor of the financing with the life of the asset being financed reduces interest rate risk.

⁴ Brigham, Eugene F. and Joel F. Houston, *Fundamentals of Financial Management*, Concise 4th Ed., Thomson South-Western, 2004, p. 574.

⁵ *Id.*

1 liquidity requirements. Each of these financing vehicles have different available
2 maturities, ranging from one day to 364 days, with some having fixed maturities, *e.g.*, 30
3 days, 60 days, 90 days, and others having variable maturities that expire by action of
4 either the lender or borrower. As such, because not all short-term financing options may
5 be available to each borrower, there is typically not a perfect match between the short-
6 term liquidity needs of the borrower and the maturity of the short-term financing vehicle.

7
8 **Q. HOW ARE LONG-TERM ASSETS TYPICALLY FINANCED?**

9 A. Long-term assets are typically financed with a mix of long-term capital, *i.e.*, long-term
10 debt and equity, and, to a lesser degree, preferred stock. Because debt holders have a
11 senior claim on the earnings and on the cash flows generated by a company, the cost of
12 debt typically is lower than the cost of equity. However, since debt is a fixed obligation,
13 a capital structure that is too highly leveraged (*i.e.*, with too much debt) will increase the
14 risk of financial distress, resulting in increases in costs of both debt and equity. As a
15 consequence, companies typically use a mix of long-term debt and equity in order to
16 strike an optimal balance between overall financing costs and financial stability.

17
18 **Q. CAN INDIVIDUAL SOURCES OF FINANCING BE TRACKED TO SPECIFIC**
19 **ASSETS?**

20 A. No, it is not feasible to track individual sources of short-term or long-term financing to
21 individual assets; rather, as noted by Brigham and Houston, companies tend to employ a
22 more general “maturity matching” strategy. Short-term debt is borrowed to satisfy the
23 overall, day-to-day, fluctuating, and somewhat unpredictable, cash needs of a utility, not

1 to finance an individual function within the utility. In that regard, the daily cash
2 requirements of a utility are a direct result of the timing associated with the receipt and
3 disbursement of cash attributable to various activities, including supply-related working
4 capital, non-supply-related working capital and for capital expenditures before permanent
5 long-term financing has been obtained.⁶ Thus, the cash management function is
6 performed based upon the daily cash needs of all of these working capital elements
7 combined; each specific element of working capital is not financed independently. In
8 other words, the daily cash needs of a given utility (regardless of whether or not the
9 utility participates in a money pool) are not traceable to any specific working capital
10 need, *e.g.*, supply-related working capital versus non-supply-related working capital
11 versus construction work in progress (“CWIP”) financing, on a daily basis.

12
13 **Q. IN PRIOR ORDERS, HAS THE COMMISSION ACKNOWLEDGED THAT A**
14 **UTILITY’S FINANCING ACTIVITIES CANNOT BE TRACKED TO**
15 **SPECIFIC INVESTMENTS?**

16 A. Yes. In an order concerning Verizon New Hampshire, the Commission stated:

17 We find that sound principles of finance caution against any attempt to
18 ‘track’ dollars raised by a company to any specific purpose. A firm raises
19 capital in a variety of ways, trying always to achieve an overall balance of
20 sources to minimize its cost of money. Short term capital is routinely
21 raised not only when working capital is required, but also when financing
22 is needed for plant investments. Short term debt raised for whatever
23 purpose is routinely rolled over into long term debt when an economic
24 opportunity arises.⁷

⁶ To that end, certain utilities, including each of the Companies in this docket, are part of a corporate money pool whereby the daily cash requirements of the utility and its affiliates are pooled together, evaluated on a combined basis and financed in the aggregate based on the overall need.

⁷ New Hampshire Public Utilities Commission, DT 02-110, Order No. 24,625, January 1, 2004.

1 Thus, it is evident that the Commission has previously acknowledged that a utility's
2 financing cannot and should not be tracked to specific assets.

3
4 **Q. HOW ARE SUPPLY-RELATED WORKING CAPITAL REQUIREMENTS**
5 **TYPICALLY FINANCED?**

6 A. To a certain extent, the financing needs created by the supply function, which are co-
7 mingled with all other working capital requirements, are financed with short-term debt
8 due to the variable and short-term nature of the cash requirements. Specifically, the
9 supply function is characterized by the volatility in commodities prices (*i.e.*, either
10 natural gas or electric energy) and the day-to-day variability in the consumption of either
11 natural gas or electric energy, coupled with the variability in cash receipts from
12 customers, which makes short-term debt an appropriate method of financing the working
13 capital cash requirements that include the supply function.⁸ However, to the extent that
14 any portion of a utility service or function, including the supply function, creates a
15 relatively constant or “permanent” working capital need, those levels lend themselves to
16 long-term financing. Thus, although short-term debt may typically be used to fund a
17 portion of supply-related working capital needs, it does not necessarily follow that the
18 short-term debt interest rate should always be applied to the entirety of supply-related
19 working capital balances.

20

⁸ The price of supply contracts does not always vary, but rather can be fixed. However, even with fixed price supply contracts, contract payment terms for supply costs may require payments several times a month, whereas customer payments for supply are received daily as part of total customer receipts, and it is this timing difference that causes the magnitude of the working capital requirement to change from day-to-day.

1 **III. REBUTTAL OF ISSUES RAISED BY MR. ROTHSCHILD**

2 **Q. WHAT APPROACH HAS MR. ROTHSCHILD RECOMMENDED TO**
3 **DETERMINE THE CARRYING CHARGE RATE FOR SUPPLY-RELATED**
4 **WORKING CAPITAL?**

5 A. Mr. Rothschild's approach in determining his recommended carrying charge rate for
6 supply-related working capital includes both his Decision Tree, and an assessment of the
7 extent to which the respective Companies have experienced a seasonal pattern to their
8 respective supply-related working capital requirements.

9
10 **Q. PLEASE EXPLAIN MR. ROTHSCHILD'S DECISION TREE.**

11 A. Mr. Rothschild's Decision Tree first compares the total amount of short-term debt
12 outstanding for each company to the total amount of short-term debt allocated to finance
13 (i) CWIP, and (ii) rate base (*i.e.*, the amount of short-term debt accounted for in the
14 Commission-approved capital structure). If there is short-term debt that is in excess of
15 the sum of (i) and (ii) above, and the remaining amount of short-term debt outstanding is
16 at least as large as the amount required to finance supply-related working capital, Mr.
17 Rothschild concludes that there is sufficient short-term debt available to finance supply-
18 related working capital. In this instance, Mr. Rothschild concludes that the short-term
19 debt rate should be used as the carrying charge in the calculation of the carrying cost for
20 supply-related working capital.

21
22 If, however, the short-term debt outstanding is less than the sum of (i) and (ii) above, or
23 the amount of short-term debt outstanding remaining after allocating it to (i) and (ii)

1 above is less than the supply-related working capital requirement, the Decision Tree asks
2 an additional question: “Is the short-term debt being used by the company high enough?”
3 Importantly, the Decision Tree contains no explanation as to what may or may not
4 constitute “high enough”, nor does Mr. Rothschild provide a criterion by which an
5 analyst might make that determination. In effect, Mr. Rothschild has posed a highly
6 subjective question (Is the short-term debt being used by the company high enough?), for
7 which there appears to be only a qualitative answer (*i.e.*, yes or no) with no clear decision
8 rule as to how to arrive at that answer.

9
10 Putting aside the ambiguity inherent in that component of the Decision Tree, if the
11 answer is “yes”, Mr. Rothschild concludes that supply-related working capital is being
12 financed with short-term debt. If the answer is “no”, it may be that Mr. Rothschild would
13 conclude that the company has not “properly avail[ed]”⁹ itself of short-term debt; it also
14 may be that the “company is already using a reasonable amount of short-term debt” and
15 “it would not be proper to assign any short-term debt to supply-related working
16 capital.”¹⁰ Here again, Mr. Rothschild provides no specific guidance as to how one might
17 determine the propriety of the subject company’s financing strategy. As a practical
18 matter, however, none of those issues appear to be of any consequence because Mr.
19 Rothschild always arrives at the same conclusion. As Mr. Rothschild plainly states at
20 the beginning of his testimony, the Companies “should be required to use the cost of

⁹ New Hampshire Public Utilities Commission, DG 07-072, Second Revised Testimony of James A. Rothschild, June 2, 2008, p. 11.

¹⁰ *Id.*

1 short-term debt when determining the revenue requirement associated with supply-related
2 working capital.”¹¹

3
4 **Q. DO YOU BELIEVE THAT MR. ROTHSCHILD’S DECISION TREE IS AN**
5 **APPROPRIATE APPROACH IN THIS INSTANCE?**

6 A. No, I do not. First, the Decision Tree is inconsistent with industry practice in that it is
7 premised on an initial allocation of short-term debt to existing long-term assets (non-
8 supply-related working capital in rate base) and long-lived assets under construction
9 (CWIP). Any remaining short-term debt available is then allocated to supply-related
10 working capital. By its very nature, the Decision Tree implies that there is a hierarchy for
11 the use of utilities’ short-term debt, and that hierarchy begins with financing long-lived
12 assets, a proposition that Mr. Rothschild supports.¹² (*See*, Attachment RBH-2.) Mr.
13 Rothschild’s presumed “hierarchy”, however, does not comport with either the reality of
14 how utilities finance their daily operations (*i.e.*, with such operations encompassing both
15 their supply and non-supply related functions), or with the Commission’s position that
16 “...sound principles of finance caution against any attempt to ‘track’ dollars raised by a
17 company to any specific purpose.”¹³

18
19 In addition, the Decision Tree focuses on providing a conclusion concerning the supply-
20 related working capital financing rate and ignores the effect that such a determination

¹¹ *Id.*, p. 4.

¹² New Hampshire Public Utilities Commission, DG 07-072, Response of James A. Rothschild to Data Request PSNH 1-10, June 2, 2008.

¹³ New Hampshire Public Utilities Commission, DT 02-110, Order No. 24,625, January 1, 2004.

1 would have on the appropriate amount of short-term debt included in the overall capital
2 structure used to establish base rates. Thus, a significant concern with the Decision Tree
3 is that it looks at a single element of a utility’s financing/ratemaking structure in
4 isolation, *i.e.*, supply-related working capital, without considering the overall financing
5 requirements of the utility and the clear effect of that determination on the rate-making
6 capital structure. This amounts to unbalanced, single issue ratemaking, a practice which
7 is “frowned upon in utility ratemaking”¹⁴ because it ignores “completely what changes
8 may have taken place in the other factors of net income” and expenses.¹⁵

9
10 **Q. DOES THE DECISION TREE ACCURATELY REFLECT HOW UTILITY**
11 **FINANCING DECISIONS TYPICALLY ARE MADE?**

12 A. No, it does not. Mr. Rothschild’s analysis fails to appropriately evaluate standard utility
13 cash management and balance sheet management practices, and does not reflect how the
14 Companies actually manage their daily aggregate cash requirements. While the supply-
15 related working capital of a utility represent a large portion of the overall working capital
16 requirement, it is not always entirely variable, as a portion of the requirement can be
17 permanent in nature.

18
19 Moreover, supply-related working capital is not financed separately from the other
20 working capital requirements of the Companies, as Mr. Rothschild’s recommendation
21 implies. Rather, as noted earlier, the aggregate working capital requirement (*i.e.*, cash

¹⁴ New Hampshire Public Utilities Commission, DE 01-232, Order No. 23,884, December 31, 2001.

¹⁵ *Id.*

1 need) is evaluated on a daily basis and financed as necessary. While Mr. Rothschild's
2 recommendation seeks to use the short-term debt rate as the carrying charge for supply-
3 related working capital, it does not re-evaluate the necessity for short-term debt in the
4 overall capital structure. The carrying charge rate for supply-related working capital
5 should not be evaluated in isolation, but rather in the context of the Companies' overall
6 capital structure. Simply put, simultaneously including short-term debt in the ratemaking
7 capital structure *and* applying the short-term debt rate in calculating the carrying cost of
8 supply-related working capital effectively double-counts the comparatively low short-
9 term debt rate. In my view, that approach violates fair, equitable and sound ratemaking
10 practices.

11
12 **Q. DOES STAFF OR MR. ROTHSCHILD ACKNOWLEDGE THAT IT WOULD BE**
13 **INAPPROPRIATE TO CHANGE ONLY THE RATE FOR DETERMINING THE**
14 **SUPPLY-RELATED WORKING CAPITAL ALLOWANCE WITHOUT**
15 **CONSIDERING THE CONSEQUENTIAL EFFECTS OF THAT CHANGE?**

16 A. No. Staff stated that, since the current proceeding is not a base rate proceeding, it has not
17 evaluated, nor has Mr. Rothschild evaluated, the effect that its recommendation in this
18 proceeding would have on the Companies' capital structure applicable to rate base.¹⁶
19 (*See, Attachment RBH-3.*) I agree with Staff that the determination of the ratemaking
20 capital structure is best done in a full rate proceeding; however, that does not mean that
21 the impacts of Staff's recommendation on other elements outside of the current

¹⁶ New Hampshire Public Utilities Commission, DG 07-072, Response of James A. Rothschild to Data Requests UES 1-5 and 1-6, June 2, 2008.

1 proceeding should be ignored or dealt with at some undetermined future time. Simply
2 because the current proceeding is not a base rate proceeding does not justify ignoring the
3 clear effect that a significant change in the supply-related working capital carrying charge
4 rate will have on other elements of the ratemaking process that determine each
5 Company's respective overall revenue requirement.

6
7 **Q. ARE THERE ADDITIONAL ISSUES WITH THE DECISION TREE AND MR.**
8 **ROTHSCHILD'S RECOMMENDATION THAT CALL INTO QUESTION THE**
9 **VALUE AND EFFECTIVENESS OF THAT APPROACH?**

10 A. Yes. First, it appears that the Decision Tree is being used by Staff to further reduce the
11 carrying charge of supply-related working capital that currently applies to the electric
12 utilities in New Hampshire. In that regard, less than two years ago in DE 06-123, Staff
13 recommended, and the Commission adopted, the prime interest rate to calculate the
14 supply-related working capital allowance, not the pre-tax rate of return that had been
15 previously used by Unitil for supply-related working capital prior to restructuring. In its
16 Order No. 24,682 in that proceeding, the Commission required Unitil to change the
17 manner in which it calculated the working capital allowance for supply-related working
18 capital to the prime interest rate.¹⁷ As a result of the Unitil proceeding, Granite State
19 Electric Company was also directed by Staff to use the prime rate for calculating its
20 carrying costs on supply-related working capital. However, Staff, through Mr.
21 Rothschild, is now recommending that the short-term debt rate be used for calculating

¹⁷ New Hampshire Public Utilities Commission, DE 06-123, Order No. 24,682, October 23, 2006.

1 recovery of supply-related working capital.¹⁸ In other words, it appears that Staff is now
2 relying on Mr. Rothschild’s Decision Tree to further reduce the rate used for determining
3 the supply-related working capital allowance.¹⁹
4

5 Second, each meaning or outcome of the Decision Tree is not entirely clear.²⁰ As noted,
6 earlier, it appears that Mr. Rothschild’s inevitable conclusion is that the short-term debt
7 rate should be used in determining the revenue requirement associated with supply-
8 related working capital. When asked what he believes would be an appropriate interest
9 rate for supply-related working capital if a company did not have any short-term debt on
10 its books and did not have short-term debt considered in its capital structure for
11 ratemaking purposes, Mr. Rothschild responded that it would be “an interest rate that is

¹⁸ It is my understanding that Staff’s rationale for recommending a change in the carrying charge rate for supply-related working capital in DE 06-123 was that the utility faced lower risk for the recovery of supply-related costs than it faced for the balance of its distribution operations. While that is not the same rationale sponsored by Mr. Rothschild on behalf of Staff in this proceeding, I disagree with Staff’s position in DE 06-123.

¹⁹ For example, the prime interest rate for January through August 2007 was 8.25% (*See*, “Bank Prime Loan Rate Changes: Historical Dates of Changes and Rates” at <http://research.stlouisfed.org/fred2/data/PRIME.txt>), however, Unutil’s effective short-term debt rate through its Cash Pooling and Loan Agreement for that same period ranged from 5.74% to 5.76%. Similar variations between the prime rate and Unutil’s short-term debt rate existed through the remainder of 2007 as well. (*See*, New Hampshire Public Utilities Commission, DG 07-072, Response of Unutil Energy Systems, Inc. to Data Request Staff 1-4 (Attachment A) and Staff 1-5 (Attachment 1), March 10, 2008 (collectively, presented as Attachment RBH-4)).

²⁰ In one box of the Decision Tree, it asks: “Is the short-term debt being used by the company high enough?” Pursuant to the Decision Tree, if the company does not have at least enough short-term debt to cover CWIP and rate base, but the amount of short-term debt being used by the company is deemed high enough, then the Decision Tree states “no savings related to short-term debt financing working capital.” It is unclear what this means and what outcome, if any, Mr. Rothschild would recommend be applicable to the Companies. To this point, Mr. Rothschild states in his Second Revised Testimony at page 11 that “it would not be proper to assign any short-term debt to supply-related working capital.” But again, it is not clear what Mr. Rothschild would recommend in this instance. In addition, when asked in a data request what he intended by the phrase “high enough” in his Decision Tree, Mr. Rothschild’s response was equally vague, as he stated that it would mean “at a reasonable level to properly utilize this low cost source of capital.” (*See*, New Hampshire Public Utilities Commission, DG 07-072, Response of James A. Rothschild to Data Request Northern 2-4, July 10, 2008 (Attachment RBH-5)).

1 typical of the rate being paid by similar companies at approximately the same time.”²¹
2 (See, Attachment RBH-6.) Again, this response is vague and unclear and therefore does
3 not form a sound basis upon which to depart from the traditional regulatory approach to
4 calculating the carrying cost of supply-related working capital, *i.e.*, using the pre-tax rate
5 of return. Mr. Rothschild further stated in his testimony that:

6 ...even if the amount of supply-related working capital did not fluctuate
7 very much, it may still be appropriate *because of economics* to assign
8 short-term debt to supply related working capital provided there is or
9 should be short-term debt in excess of the amount that is allocated to
10 CWIP eligible for AFUDC and rate base.²² (Emphasis added.)

11 Again, Mr. Rothschild provides no explanation as to how he would determine the
12 appropriate level of short-term debt that “should be” used by the utility, and implies that
13 the short-term debt rate should be used to calculate the supply-related working capital
14 allowance simply because the short-term debt rate is lower than other forms of capital.
15 As discussed earlier, however, financing long-lived assets with short-term debt is entirely
16 inconsistent with standard practice and would expose the Companies to increased interest
17 rate risk. Regardless, it appears that in every outcome of his Decision Tree analysis, Mr.
18 Rothschild recommends that the short-term interest rate be used in calculating the supply-
19 related working capital allowance. As a practical matter, if the outcome of the Decision
20 Tree is pre-determined and the answer is always “the short-term debt rate”, there is no
21 need or reason for such an approach.
22

²¹ New Hampshire Public Utilities Commission, DG 07-072, Response of James A. Rothschild to Data Request Northern 2-5, July 10, 2008.

²² New Hampshire Public Utilities Commission, DG 07-072, Second Revised Testimony of James A. Rothschild, June 2, 2008, p. 12.

1 Lastly, certain language in Mr. Rothschild’s Decision Tree appears to suggest that the
2 analysis could be used in the determination of the prudence or imprudence of the
3 Companies’ short-term debt financing activities.²³ As noted earlier, one of the decision
4 nodes of the Decision Tree asks: “Is the short-term debt being used by the company high
5 enough?” Mr. Rothschild does not specify in his testimony how it would be determined
6 what level of short-term debt would be considered “high enough”,²⁴ who would make
7 such a determination, or what would happen if the short-term debt balance was or was not
8 “high enough” (*i.e.*, presumably too high or too low). The implication is that a utility
9 could be deemed to be imprudent if its short-term debt balance was considered to be too
10 high or too low, based on a vague standard contained in the Decision Tree.

11
12 As the Commission is aware, there are many factors that are involved in the financing
13 decisions of a utility, *e.g.*, the availability and cost of different forms of financing at a
14 particular time, existing and projected capital market conditions, the level of existing and

²³ In addition to the language in the Decision Tree, Mr. Rothschild’s testimony also implies potential imprudence. *See, e.g.*, New Hampshire Public Utilities Commission, DG 07-072, Second Revised Testimony of James A. Rothschild, June 2, 2008, p. 13, ll. 3-6; p. 17, ll. 4-8; p. 19, ll. 3-11; and p. 23, ll. 3-6.

²⁴ In a data response, Mr. Rothschild noted that there was no absolute way in which to determine an adequate amount of short-term debt, but suggested that using a sample of similarly-situated companies could be used to determine an “adequate” or “reasonable” level of short-term debt. (*See*, New Hampshire Public Utilities Commission, DG 07-072, Response of James Rothschild to Data Request National Grid 1-1, June 2, 2008. (Attachment RBH-7))

1 proposed debt relative to rating agency criteria,²⁵ peak requirements during a year,
2 planned and existing capital spending plans, lead times associated with changing from
3 short-term to long-term financing for construction projects, and regulatory requirements
4 regarding the amount and cost of financing. Mr. Rothschild's Decision Tree, however,
5 only evaluates short-term debt levels at four discrete points during the year and does not
6 take into consideration any of the myriad factors that must be considered in making
7 prudent financing decisions. As such, in addition to its inherent ambiguity, the Decision
8 Tree is far too simplistic to be of any practical use. In fact, Mr. Rothschild has responded
9 to data requests in this proceeding confirming that he has not evaluated nor does he have
10 a specific recommendation as to the standard by which utilities' short-term debt level
11 should be evaluated.²⁶ (*See*, Attachment RBH-9.) Furthermore, the Commission has
12 already established upper limits on the amount of short-term debt that each of the utilities
13 in New Hampshire can utilize.²⁷ As such, the Decision Tree should not be used by the

²⁵ One of the important factors that the Decision Tree does not consider is impact of rating agency criteria on the ability and cost of utility financing. Energy prices have increased substantially and are quite volatile relative to the levels these prices have been historically, which has increased the financing needs of utilities. For example, Standard & Poor's has acknowledged the increased need for short-term financing, but has also cautioned utilities about the level of short-term debt to assume. As Standard & Poor's noted, "**Continued regulatory support is paramount to credit quality for LDCs, especially during periods of prolonged high natural gas prices and the likely need for LDCs to fund working capital needs with additional debt. LDCs will remain challenged in this elevated gas price environment to reduce short-term debt balances and avoid creeping debt leverage, which could trigger deterioration in credit quality.**" (Standard and Poor's, Key Credit Factors For U.S. Natural Gas Distributors, February 28, 2006. (Emphasis added.)) (*See*, Attachment RBH-8.)

²⁶ New Hampshire Public Utilities Commission, DG 07-072, Response of James A. Rothschild to Data Requests UES 2-2 and UES2-3, July 10, 2008.

²⁷ *See, e.g.*, N.H. Rev. Stat. Ann. § 369:7; New Hampshire Public Utilities Commission, DF 91-186, Order No. 20,369, January 14, 1992 (Granite State); New Hampshire Public Utilities Commission, DG 02-203, Order No. 24,095, December 13, 2002 (Northern Utilities); New Hampshire Public Utilities Commission, DE 07-070, Order No. 24,781, August 3, 2007 (PSNH); New Hampshire Public Utilities Commission, DE 08-085, Order No. 24,875, July 23, 2008 (Unitil); New Hampshire Public Utilities Commission, DG 07-101, Order No. 24,825, February 29, 2008 (EnergyNorth).

1 Commission to provide any indication of the relative merit of the Companies' financing
2 activities.

3
4 **IV. RECOMMENDED APPROACH**

5 **Q. PRIOR TO UTILITY UNBUNDLING IN NEW HAMPSHIRE, HOW WAS THE**
6 **CARRYING COST OF SUPPLY-RELATED WORKING CAPITAL**
7 **RECOVERED FROM CUSTOMERS?**

8 A. It is my understanding that prior to gas and electric unbundling in New Hampshire, the
9 Companies' supply-related working capital was included in rate base and thus the
10 carrying cost associated with the supply-related working capital was included in the base
11 distribution rates of each utility. Further, the carrying cost associated with all working
12 capital – supply-related working capital, non-supply-related working capital and working
13 capital to finance CWIP – was determined based on each utility's Commission-approved
14 pre-tax rate of return, *i.e.*, the pre-tax cost of equity plus the cost of debt. The calculation
15 of the pre-tax rate of return included a mix of equity and debt that was used to finance the
16 total asset base of the company.

17
18 **Q. NOW THAT THE COMPANIES HAVE UNBUNDLED SUPPLY AND**
19 **DISTRIBUTION COSTS, HOW IS THE CARRYING COST OF SUPPLY-**
20 **RELATED WORKING CAPITAL CURRENTLY RECOVERED FROM**
21 **CUSTOMERS?**

22 A. In order to separate supply-related costs from base rates, the Companies subsequently
23 unbundled their rates such that the carrying cost of supply-related working capital is now

1 recovered through either the default service adjustment charge (electric utilities) or the
2 cost of gas adjustment clause (gas utilities), and is no longer included in rate base. As
3 such, a substantial component of the Companies' borrowing needs, *i.e.*, supply-related
4 working capital, has been moved out of rate base and is recovered separately through the
5 periodic adjustment clause. Certainly the nature of the working capital expense has not
6 changed, only the method by which that cost has been recovered.

7
8 **Q. DO THE COMPANIES UTILIZE SHORT-TERM DEBT TO FINANCE**
9 **WORKING CAPITAL ACTIVITIES THAT REMAIN IN BASE RATES?**

10 A. Yes, to a certain extent. Since all of those activities contribute to daily cash deficits or
11 surpluses, the Companies continue to utilize short-term debt to finance non-supply-
12 related working capital needs, *e.g.*, operation and maintenance costs, prepayments,
13 materials and supplies and CWIP. However, supply-related working capital is generally
14 the largest component of a utility's short-term financing needs and, as discussed above,
15 these short-term financing needs are no longer part of the Companies' rate base.

16
17 **Q. DOES THE SUPPLY FUNCTION OF A UTILITY BENEFIT FROM THE**
18 **OVERALL CAPITAL STRUCTURE OF A UTILITY?**

19 A. Yes. From the financial markets' perspective, the supply function is an integral part of
20 ongoing utility operations. As such, financing the supply function in isolation could not
21 be as effective and efficient without the financial stability that is provided by the utility as
22 a whole. Moreover, as Mr. Rothschild correctly points out, utilities finance their ongoing
23 operations with a mix of capital, including equity, long-term debt, and short-term debt,

1 and as he undoubtedly is aware, utilities' credit profiles and ratings depend in large
2 measure on the relative mix of those sources of capital. The credit rating, in turn, has a
3 significant effect on the utility's ability to efficiently carry out its supply function. For
4 example, a utility's ability to enter into reasonably-priced third-party supply contracts
5 (e.g., power supply, gas supply, gas transportation, storage capacity) is a function of its
6 credit rating. Moreover, many such supply contracts contain credit provisions that
7 require the company to post additional collateral, corporate guarantees or letters of credits
8 if credit metrics such as net worth, capital structure ratios and/or interest coverage ratios
9 deteriorate during the term of the agreement. When these supply contracts are entered
10 into, the supply function of the utility is not looked at in isolation from the rest of the
11 utility by the counterparty for credit purposes, nor does the supply function have its own
12 capital structure upon which the credit requirements of the contract are premised. Rather,
13 it is the capital structure of the contracting utility (or, in certain cases, the corporate
14 parent) that is relied upon as the basis for the underlying creditworthiness and support for
15 the contract.

16
17 **Q. DOES MR. ROTHSCHILD'S RECOMMENDATION REFLECT THE**
18 **FINANCING REALITY OF UTILITIES' SUPPLY FUNCTION?**

19 A. No, quite the opposite. Mr. Rothschild's recommendation implies that the supply
20 function operates effectively as a stand-alone entity with a separate capital structure,
21 which is simply not the case. In essence, Mr. Rothschild is suggesting that specific

1 elements of the working capital requirements of a utility can and should be tracked,
2 which is clearly at odds with financial theory and the Commission's previous findings.²⁸
3

4 **Q. CONSIDERING THAT SUPPLY-RELATED WORKING CAPITAL CARRYING**
5 **COSTS ARE NO LONGER RECOVERED IN RATE BASE/DISTRIBUTION**
6 **RATES, WHAT DO YOU BELIEVE IS A FAIR AND REASONABLE WAY TO**
7 **ACCOUNT FOR THE FINANCING COSTS INCURRED BY THE COMPANIES?**

8 A. In my view, there are two alternatives that provide a fair and reasonable manner for
9 recovery of the working capital-related financing costs incurred by the Companies. First,
10 short-term debt could be accounted for as a component of the overall capital structure, in
11 which case the pre-tax rate of return based on that overall capital structure could be used
12 as the carrying charge for determining the carrying cost associated with supply-related
13 working capital. This methodology is consistent with the Commission's stated position
14 that cautions against any attempt to track dollars raised by a company to a specific
15 purpose. In addition, this methodology is consistent in the treatment of short-term debt in
16 that this methodology recognizes that there is a mix of financing, *i.e.*, short- and long-
17 term, that is used to support rate base investment, CWIP and all working capital
18 requirements.
19

²⁸ New Hampshire Public Utilities Commission, DT 02-110, Order No. 24,625, January 1, 2004. ("We find that sound principles of finance caution against any attempt to 'track' dollars raised by a company to any specific purpose. A firm raises capital in a variety of ways, trying always to achieve an overall balance of sources to minimize its cost of money.")

1 Second, if the Commission concludes that the short-term debt rate (or prime interest rate)
2 instead of the pre-tax rate of return should be used as the carrying charge to calculate the
3 carrying cost associated with supply-related working capital, then at that same time, the
4 level of short-term debt accounted for in the determination of the Companies' overall
5 capital structure and rate of return applicable to rate base should be reduced or excluded
6 entirely from the capital structure, depending on the circumstances of the subject utility.²⁹
7 However, the short-term debt rate should only be used for supply-related working capital
8 in those instances where the utility actually has sufficient short-term debt outstanding to
9 fully cover all of its short term financing needs including the supply-related working
10 capital requirement. If there is not sufficient short-term debt outstanding to cover all of
11 the company's short term financing needs including its supply-related working capital
12 requirements, then the pre-tax rate of return (excluding short-term debt, if any) should be
13 used to calculate the supply-related working capital allowance for that portion of working
14 capital requirement for which there is insufficient short-term debt outstanding.

15
16 **Q. DO YOU HAVE A RECOMMENDATION AS TO WHICH ALTERNATIVE IS**
17 **MORE APPROPRIATE?**

18 A. It is important that a determination of the appropriate rate for the supply-related working
19 capital carrying cost not be established in isolation, but rather be established in concert
20 with a company's overall capital structure applicable to rate base. While I recognize that

²⁹ Removal of short-term debt from the capital structure would not appear to be counter to any existing Commission precedent regarding the inclusion or exclusion of short-term debt in the capital structure. (*See*, New Hampshire Public Utilities Commission, Response of James Rothschild to Data Request UES 1-4, June 2, 2008; "...Staff is not aware that the Commission has articulated a clear policy on the treatment of short-term debt in the capital structure for base ratemaking purposes." (Attachment RBH-10))

1 this proceeding was established to review the carrying charge rate of supply-related
2 working capital and not whether short-term debt should be used in a utility's capital
3 structure, the two issues are inextricably interrelated and should be reviewed
4 concurrently.

5
6 Considering that the Commission-approved rate of return for certain of the Companies
7 already includes short-term debt as a component of the overall capital structure, and the
8 approval of the appropriate capital structure and rate of return is done as part of a general
9 rate proceeding, the simplest and most straightforward approach in this proceeding would
10 be to continue to use the Commission's original (*i.e.*, pre-restructuring) methodology for
11 determining the carrying cost associated with supply-related working capital, *i.e.*, the rate
12 should be the Companies' pre-tax rate of return. In this manner, the regulatory and
13 administrative costs associated with time-consuming and contentious rate proceedings
14 would be eliminated, saving the Companies and their customers the costs associated with
15 such proceedings. This does not suggest, however, that any party would be precluded
16 from arguing a different methodology for calculating the supply-related working capital
17 rate in a future, company-specific rate proceeding. In that circumstance, both the supply-
18 related working capital carrying charge rate and the amount of short-term debt, if any,
19 that should be included in the capital structure, could be evaluated in the same proceeding
20 and, if necessary, adjusted simultaneously.

1 **Q. IS THE EXISTING CALCULATION OF THE CARRYING COST FOR SUPPLY-**
 2 **RELATED WORKING CAPITAL IN NEW HAMPSHIRE CONSISTENT WITH**
 3 **OTHER JURISDICTIONS?**

4 A. Yes. Applying the pre-tax rate of return for calculating both supply-related and non-
 5 supply-related working capital carrying costs is the policy that has been in place at many
 6 utilities in various jurisdictions across the United States. While I did not conduct an
 7 exhaustive search across all utilities in all states, the following is a sample of utilities in
 8 the United States, including those in New England, that calculate the carrying cost of
 9 supply-related working capital using the commission-approved pre-tax return from the
 10 last rate proceeding *not* the short-term debt rate that Mr. Rothschild has suggested be
 11 used by the Companies:

<u>Utility</u>	<u>Type</u>	<u>State</u>
All Gas Utilities	Gas	Massachusetts
Fitchburg Gas & Electric	Electric	Massachusetts
Southern Connecticut Gas Co.	Gas	Connecticut
Connecticut Natural Gas	Gas	Connecticut
National Grid	Gas	Rhode Island
Northern Utilities – Maine Division	Gas	Maine
KeySpan Energy Delivery New York	Gas	New York
KeySpan Energy Delivery Long Island	Gas	New York
Consumers Energy	Electric	Michigan
Consumers Energy	Gas	Michigan
Missouri Gas Energy	Gas	Missouri
Columbia Gas	Gas	Kentucky
Columbia Gas	Gas	Maryland
Columbia Gas	Gas	Ohio
Columbia Gas	Gas	Virginia
Columbia Gas	Gas	Pennsylvania

1 **Q. IS MR. ROTHSCHILD’S INTERPRETATION OF THE RHODE ISLAND**
2 **PUBLIC UTILITIES COMMISSION ORDER THAT HE CITED AS SUPPORT**
3 **FOR HIS RECOMMENDATION IN THIS PROCEEDING CORRECT?**

4 A. No. When asked to provide citations to all cases or dockets in any jurisdiction that
5 calculates supply-related working capital according to his recommendation in this case,
6 Mr. Rothschild cited a Rhode Island Public Utilities Commission (“RIPUC”) order in a
7 New England Gas Company (“NE Gas”) (now National Grid) proceeding.³⁰ (*See*,
8 Attachment RBH-11.) However, Mr. Rothschild’s interpretation of that order is mistaken
9 and does not support his recommendation. In fact, the NE Gas order supports the
10 approach for determining the carrying charge for supply-related working capital that I
11 have proposed and that has been used historically in New Hampshire, *i.e.*, the
12 Commission-approved pre-tax rate of return.

13
14 Specifically, as Mr. Rothschild points out in his data response, the RIPUC stated in its
15 order that NE Gas was to “...reduce the short-term debt rate used for the working capital
16 calculations from 4.90% to 2.45%.”³¹ (*See*, Attachment RBH-12.) Mr. Rothschild is
17 correct that the RIPUC required NE Gas to reduce its short-term debt rate for purposes of
18 calculating the gas supply-related working capital carrying cost. However, the critical
19 point missed by Mr. Rothschild was that while NE Gas agreed to update and reduce the
20 short-term debt rate being applied in its supply-related working capital calculations, NE

³⁰ New Hampshire Public Utilities Commission, DG 07-072, Response of James A. Rothschild to Data Request UES 1-11, June 2, 2008.

³¹ Rhode Island Public Utilities Commission, Docket No. 3436, Order, November 21, 2003.

1 Gas was still calculating its overall supply-related working capital allowance based on its
2 weighted average pre-tax cost of capital (which included a short-term debt component at
3 a reduced rate) and *not* solely on the short-term debt rate as Mr. Rothschild suggested.³²
4 (*See*, Attachment RBH-13.)

5
6 In other words, NE Gas initially proposed calculating its supply-related working capital
7 allowance in its Gas Cost Recovery proceeding based on an overall weighted average
8 cost of capital of 9.09%, which included a short-term debt rate for the short-term debt
9 component of the overall capital structure of 4.90%. However, NE Gas subsequently
10 agreed to update the amount of its working capital allowance to reflect the most recent
11 rate for its short-term debt (*i.e.*, 2.45% instead of the 4.90% approved in NE Gas' most
12 recent rate proceeding), which had the effect of reducing NE Gas' overall weighted
13 average cost of capital to 8.88% for purposes of calculating the supply-related working
14 capital carrying cost.

15
16 **Q. IS THERE ADDITIONAL SUPPORT THAT WOULD SUGGEST THAT**
17 **CALCULATING THE CARRYING COST FOR SUPPLY-RELATED WORKING**
18 **CAPITAL BASED ON THE COMPANIES' PRE-TAX RATE OF RETURN IS**
19 **APPROPRIATE?**

20 A. Yes. A fundamental approach for valuing ongoing businesses, including utilities, is the
21 discounted cash flow ("DCF") method. Generally speaking, the DCF model establishes

³² Rhode Island Public Utilities Commission, Docket No. 3436, Response of New England Gas Company to Data Request COMM 1-05, October 23, 2003.

1 the value of an asset or business based on the present value of its future net cash flows,
2 discounted at a risk-adjusted discount rate. The discount rate typically is represented by
3 the weighted average cost of capital, which is calculated by weighting the costs of debt
4 and equity capital by their respective percentages of total capital. When performing a
5 DCF analysis, the cash flows associated with working capital are not discounted
6 separately. Rather the net sum of all cash flows, including working capital, are
7 discounted in aggregate. In other words, the cash flows associated with working capital
8 are not discounted using a short-term debt rate, while the cash flows unrelated to working
9 capital are discounted based on the costs of long-term capital.

10

11 **Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?**

12 A. Yes, it does.