STATE OF NEW HAMPSHIRE

PUBLIC UTILITIES COMMISSION

DG 07-050

In the Matter of:
KeySpan Energy Delivery New England
Indirect Gas Costs

Direct Testimony

of

George R. McCluskey
Utility Analyst

June 22, 2007

I. INTRODUCTION

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is George McCluskey, and my business address is the New Hampshire Public Utilities Commission ("NHPUC"), 21 South Fruit Street, Suite 10, Concord, NH 03301.

Q. WHAT IS YOUR POSITION WITH THE NHPUC?

A. I am a Utility Analyst within the Electricity Division of the NHPUC. I also assist the staff of the Gas & Water Division on gas-related policy issues.

Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THE COMMISSION ON GAS-RELATED ISSUES?

A. Yes, on several occasions.

Q. PLEASE DESCRIBE YOUR EDUCATION AND YOUR BUSINESS EXPERIENCE.

A. I am a utility ratemaking specialist with over 20 years experience in utility economics. I rejoined the NHPUC in March 2005 after working as a consultant for La Capra Associates, a Boston-based consulting firm that specializes in electric industry restructuring, wholesale and retail power procurement, and market price and risk analysis. Prior to joining La Capra Associates, I directed the electric utility restructuring division of the Commission and before that was manager of least cost planning, directing and supervising the review and

implementation of electric utility least cost plans and demand-side management programs. I have participated in electric and gas restructuring-related activities in New Hampshire, Arkansas, Pennsylvania, California and Ohio. A copy of my resume is included as Exhibit GRM-1.

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

A. My testimony addresses two issues. First, I describe the results of Staff's investigation of the KeySpan Energy Delivery New England ("KeySpan" or "Company") lead/lag study that underlies the current allowance for supply-related cash working capital. This study was filed September 2006 in DG 06-121. Second, I address an issue related to the calculation of the bad debt percentage which governs the amount of bad debt expense recovered through the Cost of Gas ("COG") rate. The currently effective bad debt percentage was also derived in Docket DG 06-121.

Q. PLEASE EXPLAIN WHY YOU ARE ADDRESSING THESE ISSUES NOW, ALMOST A YEAR AFTER THEY WERE FIRST RAISED IN DG 06-121.

A. In Order No. 24,688 (October 27, 2006), the Commission stated that a COG proceeding is an expedited process that does not provide an adequate opportunity to examine changes in KeySpan's indirect gas costs. As a result, the Commission approved on an interim basis a bad debt percentage agreed to by Staff and the parties but indicated its intent to revisit the issue following

further investigation. Regarding the lead/lag study, Staff recommended in a report filed with the Commission on March 29, 2007 that a docket be opened to address the reasonableness of the study.

For these reasons, the Order of Notice issued April 10, 2007 in this proceeding identifies among other things KeySpan's bad debt percentage and lead/lag study as issues for investigation.

Q. THE RELATIONSHIP BETWEEN KEYSPAN'S RECONCILATION CALCULATION AND ALLOWANCE FOR CASH WORKING CAPITAL WAS ALSO IDENTIFIED IN THE ORDER OF NOTICE AS A POTENTIAL ISSUE FOR THIS PROCEEDING. WHY DOES YOUR TESTIMONY NOT ADDRESS THIS ISSUE?

A. The issue in question is the possible over collection of carrying costs on supply-related cash working capital due to the interplay of two adjustments to the COG rate: one to recover/repay monthly under/over collection balances and a second to recover the allowance for cash working capital. The allowance for cash working capital recovers the cost to finance the Company's supply-related cash working capital.[1] A Staff report addressing this issue for KeySpan was filed March 29, 2007. A similar report addressing the same issue for Northern Utilities was filed with the Commission on March 14, 2006. Because the issues

[1] The level of capital to serve utility customers is not limited to net plant in service. The non-plant capital items are referred to as working capital and include inventories, prepayments, and the cash needed to support the timing differences between receipt of revenues from customers and payment of costs to suppliers (i.e., cash working capital). Supply-related cash working capital is the portion of cash working capital that relates to gas supply service.

in the Northern report have already been addressed at hearing in DG 07-033 and a Commission decision is imminent, KeySpan informed Staff that it did not intend raising any new arguments in this docket and that it planned on accepting whatever decision the Commission issues in DG 07-033. For this reason, Staff has decided not to repeat in this testimony the arguments made in its March 29 report. Instead, Staff incorporates the analysis contained in its March 29, 2007 report as its testimony on this issue. Further, Staff reserves the right to file supplemental testimony that is responsive to any KeySpan rebuttal testimony on this issue..

II. LEAD/LAG STUDY

1. Net Lag

Q. AS NOTED ABOVE, KEYSPAN IS AUTHORIZED TO COLLECT THROUGH ITS COG RATE AN ALLOWANCE FOR SUPPLY-RELATED CASH WORKING CAPITAL. HOW DOES KEYSPAN CALCULATE THIS ALLOWANCE?

A. The amount of the allowance included in KeySpan's COG rate is a function of the net lag between the receipt of gas supply revenues and the payment of gas supply costs. The net lag proposed by KeySpan in DG 06-121 is based on a lead/lag study that uses the year 2005 as a reference base (2005 study). Lead/lag studies are used to analyze the lag time in days between the date customers receive service and the date that customers' payments are available to the utility. The 2005 study produced a total revenue lag of 60.28 days. This lag

is offset by a lead in days during which the utility receives supplies, but pays for them at a later date. The 2005 study produced a total expense lead of 39.99 days, resulting in net lag (i.e., revenue lag minus expense lead) of 20.2 days.

Q. DO YOU HAVE ANY CONCERNS WITH THE CONCLUSION OF THE 2005 STUDY?

A. Yes, I have two major concerns. The first is that the 20.2 net lag days is an increase of almost 80% on the 11.3 net lag days used by KeySpan to calculate cash working capital prior to filing the 2005 study. Because the 11.3 net lag results from a lead/lag study submitted by KeySpan's predecessor, ENGI, in Docket No. DR 91-212, I refer to that study as the ENGI study.

The second concern is that the 20.2 days compares with net lags of 1.52 days for National Grid; 6.33 days for Northern Utilities;[2] and 13 days for Unitil Energy Services. Absent a showing that these differences are attributable to factors that distinguish KeySpan's service area from the others, these data indicate that either the Company's revenue collection processes and/or expense payment procedures are out of step with those of other New Hampshire utilities.

Q. HAS THE COMPANY EXPLAINED THE INCREASE IN ITS NET LAG?

A. Even though the 2005 study proposed to increase the net lag by about 80%, it was submitted without any accompanying testimony justifying the increase.

[2] Northern contends that its net lag has increased to 10.26 days based on a 2006 reference year. Response to Staff 1-5, DG 07-72.

Revenue Lag

Q. TO WHAT DO YOU ATTRIBUTE THE INCREASE IN THE NET LAG TO 20.2 DAYS?

A. As noted above, the net lag is calculated by subtracting the expense lead from the revenue lag. My analysis indicates that the increase is largely the result of a substantial increase in the revenue lag, which I discuss first. The change in the expense lead is discussed later.

The revenue lag typically consists of four components:

A. Service lag;
B. Billing lag;
C. Collections lag; and
D. Payment processing lag (including bank float)

KeySpan's 2005 study includes lags of 15.21 days from gas service to meter reading (i.e., service lag); 1.51 days for meter reading to billing (i.e., billing lag); 43.56 days from billing to collection (i.e., collections lag); and zero days from collection to receipt of funds (i.e., payment processing lag). Considered together, these four components total 60.28 days. This compares with a revenue lag of 43.4 days in the ENGI study.

Based on the assumption that the service and billing lags have not changed significantly from one study to the next, which is a reasonable assumption, the collections lag in the ENGI study is estimated to be 26.88 days. This compares with 43.56 days in the 2005 study, a difference of 16.88 days.

Q. BEFORE YOU ASSESS THE CHANGE IN COLLECTIONS LAG, PLEASE EXPLAIN HOW THE COMPANY DEVELOPED THE NEW ESTIMATE.

A. The collections lag represents the average time in days from the date bills are issued to the date payments are made by customers. To calculate this lag, KeySpan used a version of the accounts receivable turnover method. Under the standard accounts receivable turnover method, the average of the end-of-month accounts receivable balances for a representative period, usually twelve months, is calculated.[3] This average is then divided by the average daily revenue for the same period to arrive at the number of days per month that billings have been outstanding assuming daily billings equal average daily revenue. Since the goal in this proceeding is to determine the average supply-related collections lag, the accounts receivable balances and average daily revenue must be net of delivery revenues.

The accounts receivable method used by KeySpan to calculate collections lag differs from the standard method in a number of respects including dividing each month's supply-related accounts receivable balance not by the average daily revenue but by the average daily gas cost for the twelve months ending that month. The resulting monthly collections lags were then averaged over a thirteen month period to produce the average collections lag for that period. The Company stated that it used gas costs instead of supply-related revenue in the divisor because it assumed gas costs are equal to gas revenue. The inclusion of twelve months of gas costs in the divisor was justified by

[3] The end-of-month accounts receivable balances are net of write-offs and represent the amount owed by customers at that time.

KeySpan on the ground that accounts receivable turnover method understates the collections lag in periods of escalating costs, and overstates collections lag in periods of declining costs. By employing the rolling twelve months of gas costs in its calculation, Keyspan argued that its method better reflects trends in gas costs.

Q. DO YOU AGREE THAT THE COMPANY'S METHOD IS AN IMPROVEMENT OVER THE STANDARD METHOD?

A. No, for several reasons. First, my analysis does not support the assumption that gas costs are equal to gas revenue. Using data from the Company's reconciliation filings, I was able to confirm the twelve-month-ending firm gas costs reported by KeySpan on page 7, column (a) of the lead/lag study. Using the same data sources, I obtained the corresponding twelve-month-ending supply-related revenue. Exhibit GRM-2 shows that in every month of the analysis period, supply-related revenue exceeds gas costs, in some months by as much as $5 million. Accordingly, I recommend that the use of gas costs as a proxy for gas revenues be rejected.

Second, I disagree with KeySpan's use of rolling twelve month gas costs to calculate monthly collections lags. The inclusion in the divisor of gas costs associated with the previous twelve months creates a mismatch with the end-of-month accounts receivable monthly balance in the numerator. This is because a great majority of the revenues that make up accounts receivable balances relate

to accounts that have been outstanding for less than 30 days.[4] Thus, if the average gas price over the previous twelve months is significantly lower (higher) than the average for the current month, the ratio of the accounts receivable balance to the average daily revenue will overstate (understate) the collections lag. For these reasons, I recommend that the use of rolling twelve months of gas costs be rejected.

Third, I disagree with the adjustment that KeySpan has made to the accounts receivable monthly balances in its version of the accounts receivable turnover method. KeySpan adjusts those monthly balances for net write-offs (i.e., gross write-offs less amounts collected that were previously written off) instead of gross write-offs. This is inappropriate because once an account is written-off it is no longer considered a receivable and the amounts written off are booked to the write-off account. When a payment is recovered on a written off account, the amount received is credited to the write-off account and the write-off balance is reduced.

[4] See Exhibit GRM-4, page 1, which shows that on average 55% of KeySpan's monthly accounts receivables in 2006 were outstanding for less than 30 days.

Q. IS IT COMMON PRACTICE TO ADJUST ACCOUNTS RECEIVABLES FOR NET WRITE-OFFS, AS KEYSPAN DID?

A. No, it is not. Northern, Unitil and National Grid adjust their accounts receivables for gross write-offs when implementing the accounts receivable turnover method.

Q. DID YOU QUANTIFY THE EFFECTS OF THESE METHODOLOGICAL DIFFERENCES?

A. Yes. Exhibit GRM-3 shows that using the standard accounts receivable turnover method reduces the collections lag to 37.68 days, a difference of 5.88 days.

Q. LEAVING ASIDE METHODOLOGICAL DIFFERENCES, ARE THERE OTHER REASONS FOR THE LARGE INCREASE IN COLLECTIONS LAG.

A. Yes, I believe the increase of 16.88 days is explained in part by a decline in revenue collections performance since KeySpan acquired ENGI. A decline in collections performance will generally increase the average number of days accounts are outstanding and increase the accounts receivable balances, resulting in a longer revenue lag and more write-offs. The decline for KeySpan is clearly reflected in the substantial increase in the percentage of billings written off over the five year period ending 2005. As can be seen in Table 1, net write-offs as a percentage of revenues increased from 1.3% in 2001 to 2.4%

in 2005. The percentage of dollars written off is a reliable measure of collections performance.

TABLE 1

KeySpan
Write-Offs as Percent of Revenue*

	Total Revenue	Net Write-Off	Percent Sales Revenue
2001	$129,763,705	$1,691,115	1.30%
2002	$95,067,779	$2,178,173	2.29%
2003	$131,979,547	$2,465,592	1.87%
2004	$145,178,018	$2,449,307	1.69%
2005	$165,286,895	$3,918,737	2.37%
2006	$159,797,895	$3,953,135	2.47%

* Sources: Revenue - Annual Reports, Table 41
Net Write-Offs - Staff 2-85 in DG 06-121

Q. PLEASE EXPLAIN WHY YOU BELIEVE THE PERCENTAGE OF BILLINGS WRITTEN OFF IS A RELIABLE MEASURE OF COLLECTIONPERFORMANCE.

A. Since accounts are written-off after all pre-write-off collection actions have been taken and delinquent customers still fail to make payment on the balances owed, one of the factors contributing to the change in total dollars written-off is collections performance. Other factors include sales growth and changing gas prices. By expressing billings written off as a percentage of revenues, the effects of temporal changes in sales growth and gas prices can be eliminated, thus creating a reliable measure of collections performance.

Q. HOW DOES KEYSPAN COMPARE TO OTHER NEW HAMPSHIRE UTILITIES?

A. KeySpan has a higher percentage of write-offs to revenues than any other New Hampshire utility. Table 2 shows that KeySpan wrote-off about 2.4% of total revenue in 2005 and 2006 revenue. In comparison, Northern wrote-off about 0.9% of total revenue in 2005 and 2006. UES, National Grid and PSNH performed even better, writing off only 0.2%, 0.5% and 0.3% respectively in those years. These data indicate that while revenue collection tends to be a far greater problem for gas companies than electric companies, the magnitude of the problem for KeySpan is far greater than for Northern.

TABLE 2

New Hampshire Utilities
Write-Offs as Percent of Revenue

	Net Write-Off 2005	Net Write-Off 2006
KeySpan	2.37%	2.47%
Northern	0.77%	0.98%
Unitil	0.19%	0.18%
National Grid	0.46%	0.50%
PSNH	0.30%	0.34%

Q. ARE THERE OTHER INDICATORS OF POOR COLLECTIONS PERFORMANCE?

A. Yes. An aging analysis of KeySpan's monthly accounts receivables shows that 17.6% of the average accounts receivable balance for 2006 relates to accounts that were outstanding for more than 120 days. See Exhibit GRM-4, page 1.

This is far in excess of the corresponding percentages for Northern (2.6%), PSNH (2.5%), National Grid (2.0%) and UES (1.7%).[5] See Exhibit GRM-4, pages 2-5. Although these data indicate that KeySpan's 2006 collections policies/processes were less effective than those of other utilities in improving cash flow, and thereby reducing working capital requirements, additional data is needed to determine whether the source of this sub-standard collections performance is the collections processes or factors that distinguish Keyspan's service area from others, such as unemployment or income levels, urban population concentration, and meter accessibility issues. Service area differences would tend to suggest that the problem is long standing and not related to KeySpan's acquisition of ENGI. In order to answer this question, Staff requested historical accounts receivable aging information covering the period 2001 through 2006. Unfortunately, KeySpan was unable to provide the requested data, claiming that such historical information was discarded because of data storage limitations related to its customer information system.

Q. WHAT IS THE EXPLANATION FOR KEYSPAN'S DECLINING COLLECTION PERFORMANCE?

A. The reasons for the decline in collections performance are addressed in the testimony of Staff witness Amanda Noonan filed in this docket.

[5] Note that the PSNH percentage relates to accounts outstanding for more than 90 days instead of 120 days. This suggests that the percentage for accounts outstanding more than 120 days is less than 2.5%.

Q. PLEASE SUMMARIZE YOUR POSITION ON THE COLLECTIONS LAG.

A. I conclude that the collections lag of 43.56 days proposed by KeySpan is the result of sub-standard lead/lag methodology and ineffective collections processes. Further, allowing KeySpan to base its cash working capital requirement on a 43.56 days collections lag would send a message that it is acceptable to have ineffective collections processes and that improvement in this area is unnecessary. In my opinion, a reasonable collections lag for KeySpan would be less than 37.68 days. In order to reflect the expected improvement in collections performance associated with Staff's recommendation on KeySpan's bad debt percentage, which I address in the next section of this testimony, I recommend a collections lag of 35.68 days. Adding to this collections lag a 15.21 days service lag and a 1.51 days billing lag results in a revenue lag of 52.40 days.

3. Expense Lead

Q. YOU STATED ABOVE THAT THE 2005 STUDY PRODUCED AN EXPENSE LEAD OF 39.99 DAYS. HOW DOES THAT COMPARE TO THE EXPENSE LEAD IN THE ENGI STUDY?

A. The ENGI Study produced a lead of 38.1 days for firm gas supply costs, a small change of 1.9 days.

Q. HOW DID THE COMPANY CALCULATE THE EXPENSE LEAD IN THE 2005 STUDY?

A. KeySpan purchases gas supplies from about a dozen gas suppliers under contracts that contain different payment arrangements. In addition, KeySpan operates a hedging program that generates profits or losses depending on changes in market prices. These profits/losses are generally received/paid within a few days following the end of a month. KeySpan also assigns the rights to a portion of its capacity to non-grandfathered transportation customers, who in return compensate the Company for the associated capacity costs. These capacity payments are due 20 days following the end of each month. Using the 2005 costs and leads under each contract, the Company calculated a weighted expense lead of 39.99 days.

Q. DO YOU HAVE ANY CONCERNS WITH THE COMPANY'S CALCULATION?

A. No, the calculation seems reasonable. Subtracting an expense lead of 39.99 days from a revenue lag of 52.40 days produces a net lag of 12.41 days.

III. BAD DEBT PERCENTAGE

Q. WHAT IS THE TRADITIONAL RATEMAKING TREATMENT OF BAD DEBT EXPENSE?

A. An amount for bad debt (i.e. the net write-off of accounts receivables) has traditionally been embedded in base rates, with no cost reconciliation between rate cases. In KeySpan Docket No.DG 00-063, however, the gas supply portion

of this amount was unbundled from base rates and recovered through the COG rate.

Q. HOW WAS THE BAD DEBT COMPONENT OF THE CURRENTLY EFFECTIVE COG RATE CALCULATED?

A. The amount of bad debt costs included in the COG rate each period is calculated as the product of a fixed bad debt percentage and gas supply costs for the period. Under this approach, KeySpan's opportunity to recover bad debt expense rises and falls with total gas costs. In Docket DG 06-121, KeySpan's original filing proposed a new bad debt percentage of 3.536% calculated by dividing the 2005 supply-related bad debt cost of $4.192 million by direct gas costs of $118.574 million for the same period. The 2005 bad debt cost in the original filing included costs related to prior years, which when removed resulted in a 2005 supply-related bad debt cost of $3.536 million. Based on this adjusted bad debt cost, KeySpan filed a revised bad debt percentage of 2.98%. Because Staff and the parties could not reach agreement on an appropriate percentage, a figure of 2.57% was recommended to the Commission pending further investigation.

Q. IS THE BAD DEBT COST INCLUDED IN THE COG RATE FULLY RECONCILABLE?

A. Not quite. Because the amount included in the COG rate is based on a fixed bad debt percentage, the amount collected at any time may under/over collect the

actual bad debt expense. The Company can, however, propose a change in the bad debt percentage at any time.

Q. DO YOU HAVE ANY CONCERNS REGARDING THE CALCULATION OF THE BAD DEBT PERCENTAGE?

A. Yes, I have several. First, the $3.536 million cost that KeySpan used to calculate its proposed percentage is not the supply-related portion of the actual net write-off in 2005. That figure is much smaller at around $2.8 million. The $3.536 million cost is in fact the supply-related portion of the uncollectible accounts expense, which the Company developed for financial reporting purposes and is an estimate of the amount that will be written-off during 2005 and after 2005 that relates to consumption in 2005. Accordingly, because the uncollectible accounts expense was not recorded in 2005, it cannot be used to develop a rate supposedly based on 2005 costs and expenses.

Q. WHAT WOULD THE PERCENTAGE HAVE BEEN HAD TEST YEAR EXPENSES BEEN USED?

A. Using the supply-related portion of the actual net write-off in 2005 would result in a bad debt percentage of about 2.37%, which compares with the Company's proposed 2.98% .

Q. DO OTHER NEW HAMPSHIRE UTILITIES USE THE UNCOLLECTABLE ACCOUNTS EXPENSE TO DEVELOP THEIR BAD DEBT PERCENTAGES?

A. No, the other New Hampshire utilities calculate their bad debt percentages based on actual net write-offs.

Q. DO THE MASSACHUSETTS AFFILIATES OF NEW HAMPSHIRE'S GAS COMPANIES, BOSTON GAS COMPANY AND BAY STATE GAS COMPANY, BASE THEIR BAD DEBT RATES ON UNCOLLECTABLE ACCOUNTS EXPENSES?

A. No, both companies use actual write-offs to calculate and reconcile their bad debt expenses.[6]

Q. WHAT OTHER CONCERNS DO YOU HAVE?

A. My second concern relates to an inconsistency in the ratemaking process. As noted above, the Company's allowance for cash working capital is based on a lead/lag study that seeks to determine the difference between the lag in the receipt of gas supply revenues (i.e., revenue lag) and the lead in the payment of gas supply costs (i.e., expense lead). Further, the revenue lag was calculated based on a method that uses accounts receivable balances less amounts written off. Under this method, the smaller the write-offs the larger the accounts receivable balances and the larger the revenue lag. The write-offs used by KeySpan to offset accounts receivable balances were not, however, based on the

[6] See Massachusetts D.T.E. 06-78, October 31, 2006, pages 3-4.

uncollectible accounts expense estimate used to develop the bad debt percentage. Instead, the accounts receivable balances were adjusted for actual write-offs. The use of actual write-offs to develop the revenue lag and uncollectible accounts expense to develop the bad debt percentage is to the Company's financial advantage because it improves cash flow.

Q. WHAT DO YOU RECOMMEND?

A. Generally, a utility's bad debt percentage should be based on actual net write-offs rather than the uncollectible accounts expense. In KeySpan's case, however, the use of actual net write-offs would not provide an incentive to improve collection performance. Using net write-offs would simply flow the costs of the Company's sub-standard collection practices through to paying customers. Accordingly, I recommend that KeySpan be allowed to collect only a percentage of the amount actually written off in 2005. Expressed as a percentage of 2005 revenue, a reasonable percentage for KeySpan would be 1.54%. This is double Northern's 2005 percentage of 0.77% but less than KeySpan's actual 2005 percentage of 2.37%. Assuming Keyspan responds positively to this incentive, the impact on its bottom line could be substantially mitigated.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes.

EXHIBIT GRM-1

GEORGE R. McCLUSKEY

NEW HAMPSHIRE PUBLIC UTILITIES COMMISSION

Utility Analyst

George McCluskey is a ratemaking specialist with over 20 years experience in utility economics. Since rejoining the New Hampshire Public Utilities Commission ("NHPUC.") in 2005, he has worked on default service and standby rate issues in the electric sector and cost allocation issues in the gas sector. While at La Capra Associates, a Boston-based consulting firm specializing in electric industry restructuring, wholesale and retail power procurement, market price and risk analysis, and power systems models and planning methods, he provided strategic advice to numerous clients on a variety of issues. Prior to joining La Capra Associates, Mr. McCluskey directed the electric utility restructuring division of the NHPUC and before that was manager of least cost planning, directing and supervising the review and implementation of electric and gas utility least cost plans and demand-side management programs. He has testified as an expert witness in numerous electric and gas cases before state and federal regulatory agencies.

ACCOMPLISHMENTS

Recent project experience includes:

Staff of the New Hampshire Public Utilities Commission – Expert testimony before NHPUC regarding integrated resource planning in proceedings involving KeySpan and Public Service Company of New Hampshire.

Staff of the New Hampshire Public Utilities Commission – Expert testimony before NHPUC regarding default service design and pricing issues in case involving Unitil Energy Systems.

Staff of the New Hampshire Public Utilities Commission – Expert testimony before Maine Public Utilities Commission regarding interstate allocation of natural gas capacity costs in case involving Northern Utilities.

Staff of the Arkansas Public Service Commission – Analysis and case support regarding Entergy Arkansas Inc.'s application to transfer ownership and control of its transmission assets to a Transco. Also analyzed Entergy Arkansas Inc.'s stranded generation cost claims.

Massachusetts Technology Collaborative – Evaluated proposals by renewable resource developers to sell Renewable Energy Credits to MTC in reponse to 2003 RFP.

Pennsylvania Office of the Consumer Advocate – Analysis and case support regarding horizontal and vertical market power related issues in the PECO/Unicom merger proceeding. Also advised on cost-of-service, cost allocation and rate design issues in FERC base rate case for interstate natural gas pipeline company.

Staff of the New Hampshire Public Utilities Commission – Expert testimony before the NHPUC regarding stranded cost issues in Restructuring Settlement Agreement submitted by Public Service Company of New Hampshire and various settling parties. Testimony presents an analysis of PSNH's stranded costs and makes recommendations regarding the recoverability of such costs.

Town of Waterford, CT – Advisory and expert witness services in litigation to determine property tax assessment of for nuclear power plant.

Washington Electric Cooperative, Vt – Prepared report on external obsolescence in rural distribution systems in property tax case.

New Hampshire Public Utilities Commission - Expert testimony on behalf of the NHPUC before the Federal Energy Regulatory Commission regarding the Order 888 calculation of wholesale stranded costs for utilities receiving partial requirements power supply service.

Ohio Consumer Council - Expert testimony regarding the transition cost recovery requests submitted by the AEP companies, including a critique of the DCF and lost revenues approaches to generation asset valuation.

EXPERIENCE

New Hampshire Public Utilities Commission (2005 to Present)
Utility Analyst, Electricity Division

La Capra Associates (1999 to 2005)
Senior Consultant

New Hampshire Public Utilities Commission (1987 – 1999)
Director, Electric Utilities Restructuring Division
Manager, Lease Cost Planning
Utility Analyst, Economics Department

Electricity Council, London, England (1977-1984)
Pricing Specialist, Commercial Department
Information Officer, Secretary's Office

EDUCATION:

Ph.D. candidate in Theoretical Plasma Physics, University of Sussex Space Physics Laboratory.
Withdrew in 1997 to accept position with the Electricity Council.

B.S., University of Sussex, England, 1975.
Theoretical Physics

KeySpan
Comparison of Gas Costs
and Revenues

EXHIBIT GRM-2

	Actual Gas Costs	Deferred Gas Costs	Total Firm Gas Costs	TME Actual Gas Costs	Collected Gas Costs with interest	Collected Gas Costs w/o interest	Total Collected Gas Costs	TME Firm Collected Cost
Jan-04	$19,862,340		$19,862,340	$19,862,340	$15,598,123	$989,202	$16,587,325	
Feb-04	$12,681,513		$12,681,513	$32,543,853	$18,661,235	$1,141,617	$19,802,852	
Mar-04	$10,025,527		$10,025,527	$42,569,380	$13,608,880	$815,475	$14,424,355	
Apr-04	$6,083,805		$6,083,805	$48,653,185	$9,540,558	$594,215	$10,134,773	
May-04	$3,069,817	$460,578	$3,530,395	$52,183,580	$4,330,156	$281,078	$4,611,234	
Jun-04	$2,723,646	$438,533	$3,162,179	$55,345,759	$2,533,638	$157,644	$2,691,282	
Jul-04	$2,336,210	$504,734	$2,840,944	$58,186,703	$2,032,335	$111,811	$2,144,146	
Aug-04	$2,178,077	$473,774	$2,651,851	$60,838,554	$2,007,510	$103,818	$2,111,328	
Sep-04	$2,172,127	$472,937	$2,645,064	$63,483,618	$2,079,780	$106,921	$2,186,701	
Oct-04	$5,080,922	$472,472	$5,553,394	$69,037,012	$2,809,760	$152,155	$2,961,915	
Nov-04	$8,674,360		$8,674,360	$77,711,372	$6,086,688	$338,530	$6,425,218	
Dec-04	$15,777,101		$15,777,101	$93,488,473	$10,942,088	$588,644	$11,530,732	$95,611,861
Jan-05	$17,938,217		$17,938,217	$91,564,350	$16,902,486	$922,383	$17,824,869	$96,849,405
Feb-05	$14,572,489		$14,572,489	$93,455,326	$17,655,061	$971,150	$18,626,211	$95,672,764
Mar-05	$13,100,373		$13,100,373	$96,530,172	$15,392,850	$842,747	$16,235,597	$97,484,006
Apr-05	$5,924,511		$5,924,511	$96,370,878	$11,078,288	$575,395	$11,653,683	$99,002,916
May-05	$4,501,473	$513,669	$5,015,142	$97,855,625	$6,693,766	$207,141	$6,900,907	$101,292,589
Jun-05	$2,899,510	$489,485	$3,388,995	$98,082,441	$4,265,445		$4,265,445	$102,866,752
Jul-05	$2,734,362	$488,358	$3,222,720	$98,464,217	$2,410,054		$2,410,054	$103,132,660
Aug-05	$2,171,422	$488,812	$2,660,234	$98,472,600	$2,072,653		$2,072,653	$103,093,985
Sep-05	$3,281,445	$483,624	$3,765,069	$99,592,605	$2,552,052		$2,552,052	$103,459,336
Oct-05	$7,124,375	$490,377	$7,614,752	$101,653,963	$3,576,679		$3,576,679	$104,074,100
Nov-05	$13,097,244		$13,097,244	$106,076,847	$8,842,166		$8,842,166	$106,491,048
Dec-05	$20,823,227		$20,823,227	$111,122,973	$18,353,237		$18,353,237	$113,313,553

KeySpan
Collections Lag
Accounts Receivable Turnover Method

EXHIBIT GRM-3

		Total Accounts Receivable	Firm Accounts Receivable	Gas Accounts Receivable (Net Write-offs)	Gas Accounts Receivable (GrossWrite-offs)	Gas Revenues with interest	Gas Revenues w/o interest	Total Gas Revenues	Gross less Net Write-offs	Collections Lag (Days)
2005	January	$21,793,379	$21,781,964	$14,394,065	$14,334,683	$16,902,486	$922,383	$17,824,869	$59,382	
	February	$26,462,190	$26,461,590	$18,078,078	$18,057,242	$17,655,061	$971,150	$18,626,211	$20,836	
	March	$25,272,690	$25,272,490	$17,555,756	$17,506,480	$15,392,850	$842,747	$16,235,597	$49,276	
	April	$23,593,178	$23,579,719	$16,163,303	$16,122,087	$11,078,288	$575,395	$11,653,683	$41,216	
	May	$20,290,960	$20,290,960	$13,866,037	$13,834,329	$6,693,766	$207,141	$6,900,907	$31,708	
	June	$16,360,626	$16,324,453	$11,033,577	$10,987,215	$4,265,445		$4,265,445	$46,362	
	July	$13,958,597	$13,944,984	$9,441,402	$9,411,547	$2,410,054		$2,410,054	$29,855	
	August	$10,754,556	$10,533,578	$7,138,727	$7,110,711	$2,072,653		$2,072,653	$28,016	
	September	$9,466,652	$9,438,172	$6,449,839	$6,422,664	$2,552,052		$2,552,052	$27,175	
	October	$8,228,023	$8,228,023	$5,719,754	$5,692,540	$3,576,679		$3,576,679	$27,214	
	November	$9,960,750	$9,755,043	$6,957,564	$6,914,838	$8,842,166		$8,842,166	$42,726	
	December	$19,672,827	$19,641,902	$13,977,611	$13,969,456	$18,353,237		$18,353,237	$8,155	
Average Accounts Receivable Balance					$11,696,983					
Average Daily Revenue								$310,448		
Average Collections Lag										37.68
Difference - Staff v Company										5.88

KeySpan
Accts Receivable
Aging Analysis*

		0-30	121+	Total
2006	January	$19,651,669	$2,340,385	$26,807,074
	February	$16,633,434	$2,233,373	$25,906,715
	March	$15,257,005	$2,134,102	$24,215,100
	April	$10,587,237	$2,270,476	$20,412,025
	May	$6,327,578	$2,654,610	$15,928,186
	June	$4,528,805	$2,918,324	$12,597,441
	July	$4,336,881	$3,628,635	$11,719,621
	August	$3,160,361	$3,851,316	$9,415,546
	September	$3,964,404	$3,484,546	$9,313,563
	October	$5,172,949	$3,144,466	$9,991,969
	November	$7,621,243	$2,936,010	$12,383,713
	December	$11,899,337	$2,851,571	$17,322,211
	Annual Avg	$9,095,075	$2,870,651	$16,334,430
	Percent	55.68%	17.57%	

* Source: Docket DG 07-050, Response to Staff 1-11.

Northern
Accts Receivable
Aging Analysis*

		0-30	121+	Total
2006	January	$6,881,486	$125,607	$8,209,083
	February	$6,329,639	$129,660	$7,692,755
	March	$6,004,986	$129,038	$6,831,054
	April	$5,012,669	$174,465	$7,125,328
	May	$2,271,704	$169,820	$3,352,743
	June	$1,827,176	$186,568	$2,651,527
	July	$1,488,086	$208,893	$2,142,786
	August	$1,234,859	$99,255	$1,460,123
	September	$1,640,123	$50,710	$1,814,876
	October	$1,743,284	$12,608	$2,023,232
	November	$3,301,562	$21,400	$3,831,801
	December	$5,017,470	$41,481	$5,657,902
	Annual Avg	$3,562,754	$112,459	$4,399,434
	Percent	80.98%	2.56%	

* Source: Docket DG 07-033, Response to Staff 1-17.

PSNH
Accts Receivable
Aging Analysis*

		0-30	90+	Total
2006	Annual Avg	$97,136,153	$2,957,000	$117,245,006
	Percent	82.85%	2.52%	

* Source: Personal mCommunication, S Hall, 6/19/07.

National Grid
Accts Receivable
Aging Analysis*

		0-30	121+	Total
2006	January	$6,266,384	$133,687	$7,303,221
	February	$4,995,691	$159,065	$6,301,178
	March	$5,185,072	$177,372	$6,251,580
	April	$4,371,543	$116,930	$5,348,334
	May	$4,972,026	$114,413	$5,836,036
	June	$6,130,250	$133,416	$7,066,222
	July	$7,946,901	$155,939	$9,089,438
	August	$7,776,519	$131,730	$8,035,522
	September	$6,477,763	$113,589	$6,930,926
	October	$5,532,954	$113,706	$6,795,088
	November	$5,589,154	$140,890	$6,795,088
	December	$6,526,645	$191,776	$7,887,083
	Annual Avg	$5,980,909	$140,209	$6,969,976
	Percent	85.81%	2.01%	

* Source: Docket DG 07-012, Responses to Staff 1-4.

UES
Accts Receivable
Aging Analysis*

		0-30	121+	Total
2006	January	$8,744,173	$189,686	$10,375,986
	February	$7,887,373	$230,630	$9,707,003
	March	$7,818,922	$203,552	$9,704,952
	April	$7,450,239	$180,696	$9,191,884
	May	$7,633,875	$167,485	$9,440,657
	June	$8,266,730	$167,655	$9,553,466
	July	$10,759,569	$170,090	$12,180,485
	August	$10,001,982	$163,382	$12,015,752
	September	$8,914,908	$144,002	$10,723,439
	October	$8,313,218	$150,170	$9,845,787
	November	$8,928,932	$191,055	$10,638,203
	December	$10,247,914	$223,640	$12,621,948
	Annual Avg	$8,747,320	$181,837	$10,499,963
	Percent	83.31%	1.73%	

* Source: Docket DG 07-059, Responses to Staff 1-12.