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**STATE OF NEW HAMPSHIRE
BEFORE THE
PUBLIC UTILITIES COMMISSION**

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Unitil Energy Systems and Granite State Electric Company)

8

Review of 2008 Lead/Lag Studies)

9

Docket Nos. DE 09-009 and 010

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**DIRECT TESTIMONY
OF
GEORGE R. McCLUSKEY**

17

I. INTRODUCTION

18

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

19

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.

22

23

Q. WHAT IS YOUR POSITION WITH THE NHPUC?

24

A. I am an analyst within the Electric Division.

25

26

Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THE COMMISSION?

27

A. Yes, on several occasions.

28

1 Q. PLEASE DESCRIBE YOUR EDUCATION AND YOUR BUSINESS
2 EXPERIENCE.

3 A. I am a ratemaking specialist with over 20 years experience in utility economics.
4 I rejoined the NHPUC in March 2005 after working as a consultant for La
5 Capra Associates, a Boston-based consulting firm that specializes in electric
6 industry restructuring, wholesale and retail power procurement, and market
7 price and risk analysis. Prior to joining La Capra Associates, I directed the
8 electric utility restructuring division of the Commission and before that was
9 manager of least cost planning at the Commission, directing and supervising the
10 review and implementation of electric utility least cost plans and demand-side
11 management programs. I have participated in electric and gas restructuring-
12 related activities in New Hampshire, Arkansas, Pennsylvania, California and
13 Ohio. A copy of my resume is included as Exhibit GRM-1.

14
15 Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS
16 PROCEEDING?

17 A. My testimony presents the results of Staff's investigation of the 2008 lead/lag
18 studies filed by Unitil Energy Systems (UES) and Granite State Electric
19 Company (Granite) in Dockets DE 09-009 and DE 09-010 respectively. These
20 studies, which relate to default service costs and revenues, were included in the
21 March 2009 default service filings of the two companies and serve the purpose
22 of supporting the proposed supply-related cash working capital allowances.

23

1 Q. PLEASE EXPLAIN WHY YOU ARE ADDRESSING THESE STUDIES
2 NOW.

3 A. Because the expedited nature of default service proceedings does not provide
4 Staff an adequate opportunity to review the studies and prepare appropriate
5 recommendations at hearing, the Commission in Order Nos. 24,949 and 24,953
6 approved the cash working capital allowances of UES and Granite on an interim
7 basis pending the outcome of Staff's investigation. Staff was directed to file a
8 report on its conclusions and recommendations before the June 2009 default
9 service filings.

10

11 Q. BEFORE YOU BEGIN YOUR CRITIQUE OF THE STUDIES, PLEASE
12 SUMMARIZE YOUR CONCLUSIONS AND RECOMMENDATIONS.

13 A. My conclusions and recommendations are summarized as follows:

14 (1) UES overstated its revenue lag by including the time to print and mail
15 bills in its billing lag. This time is already captured in the Company's
16 collections lag. Accordingly, I recommend that UES remove printing
17 and mailing from its billing lag calculation in future lead/lag studies.

18 (2) Granite's proposed payment processing and bank float lag of zero
19 days is not supported by the evidence. In the absence of a detailed study, I
20 recommend that Granite use a payment processing and bank float lag of
21 one day in future lead/lag studies.

1 (3) UES understated its expense leads for default service and RECs by
2 excluding the due date from its calculations. In addition, UES incorrectly
3 assumed that REC payments associated with its 2008 RPS obligations are
4 due June 30, 2009 when in fact they are due on or before July 1, 2009. I
5 recommend that these errors be rectified in future lead/lag studies.

6 (4) [BEGIN CONFIDENTIAL] [REDACTED]
7 [REDACTED]
8 [REDACTED]
9 [REDACTED] [END

10 CONFIDENTIAL].

11 (5) Finally, I recommend that the payment terms for UES and Granite be
12 standardized. Beginning with the next default service RFP, the payment
13 terms for each company should be based on the following language:

14 The buyer shall pay seller the amount of the invoice, less any amounts in dispute, on
15 or before the later of the last business day of each month, or the tenth day after
16 receipt of the invoice, or, if such day is not a business day, then on the next
17 following business day.
18

19 **II. SUPPLY-RELATED CASH WORKING CAPITAL**

20 Q. WHAT IS SUPPLY-RELATED CASH WORKING CAPITAL?

21 A. Supply-related cash working capital is the amount of investor supplied capital
22 needed to fund the timing difference between a utility's payment of supply-
23 related expenses and its receipt of supply-related revenues from customers. If
24 the payment of expenses occurs before the receipt of revenues, there is a
25 positive cash working capital need. Likewise, if the payment of expenses
26 occurs after revenues are received, there is a negative cash working capital

1 need. The allowance for supply-related cash working capital in default service
2 rates is intended to compensate the utility for the cost to finance the investor
3 supplied working capital.

4

5 Q. WHAT DETERMINES THE AMOUNT OF SUPPLY-RELATED CASH
6 WORKING CAPITAL TO BE INCLUDED IN RATES?

7 A. Because cash working capital is not recorded in a utility's books, the amount
8 included in rates must be quantified using a detailed lead/lag study.¹ A lead/lag
9 study is a systematic analysis of a utility's cash flows for the purpose of
10 determining the average net time lag or lead, expressed in days, for a particular
11 service. Such studies are comprised of two major components: the calculation
12 of a revenue lag, which is defined as the average number of days between the
13 provision of service to customers and the collection of the related revenues; and
14 the calculation of an expense lead, which is defined as the average number of
15 days between the receipt of services supplied by contractors and the payment
16 for such services. The net of these two quantities is divided by the number of
17 days in the year to produce a ratio that is then multiplied by the corresponding
18 annual expense² to produce the utility's cash working capital requirement.

19

¹ The amount to be included in rates can also be determined using a formula method. The most common method is referred to as the 45-day formula.

² The supply-related expense if the net lag corresponds to default service.

1 Q. WHAT WERE THE RESULTS OF THE 2008 LEAD/LAG STUDIES
 2 SUBMITTED BY UES AND GRANITE?
 3 A. As shown in table 1 below, Granite’s study produced a revenue lag of 45.63
 4 days and an expense lead of 38.41 days, resulting in net lag of 7.22 days for all
 5 default service customers. UES’ study addressed small and large customers
 6 separately. Combining the results of those separate analyses produced an
 7 overall revenue lag of 49.12 days and an overall expense lead of 33.90 days,
 8 resulting in a net lag of 15.22 days for all default service customers.

TABLE 1

**Net Lag
 All Customers
 Calendar Year 2008**

	UES	Granite
	Lag/Lead	Lag/Lead
	<u>Days</u>	<u>Days</u>
Service Lag	15.25	15.25
Billing Lag	3.16	1.45
Collections Lag	29.58	28.93
Payment Proc/Bank Float Lag	<u>1.13</u>	<u>0.00</u>
Revenue Lag Days	49.12	45.63
Expense Lead Days	<u>33.90</u>	<u>38.41</u>
9 Net Lag Days	15.22	7.22

10

1 Q. WHAT ACCOUNTS FOR THE EIGHT DAY DIFFERENCE?

2 A. There are several reasons, some of which relate to the development of the
3 expense lead and some to the development of the revenue lag. The revenue lag
4 differences are discussed next, followed by a discussion of the expense lead
5 differences.

6

7 1. Revenue Lag

8 Q. PLEASE SUMMARIZE THE CALCULATION OF THE AVERAGE
9 REVENUE LAG.

10 A. The revenue lag comprises four components:

- 11 A. Service lag;
- 12 B. Billing lag;
- 13 C. Collections lag; and
- 14 D. Payment processing and bank float lag

15

16 Both studies effectively included lags of 15.25 days from power supply service
17 to meter reading (i.e., service lag). The meter reading to billing lag (i.e., billing
18 lag) is 3.16 days for UES and 1.45 days for Granite. The billing to collection
19 lag (i.e., collections lag) is 29.58 days for UES and 28.93 days for Granite.

20 Finally, the collection to receipt of funds lag (i.e., payment processing and bank
21 float lag) is 1.13 days for UES and zero days for Granite. Considered together,
22 these four components produce a total revenue lag of 49.12 days for UES and
23 45.63 days for Granite. See Table 1 above.

24

1 Q. DO YOU HAVE ANY CONCERNS WITH HOW THE REVENUE LAG
2 COMPONENTS WERE CALCULATED?

3 A. Yes, I have concerns with the billing lag and payment processing lag
4 calculations.

5
6 1(a). Billing Lag

7 Q. WHAT ARE YOUR CONCERNS ABOUT THE PROPOSED BILLING
8 LAGS?

9 A. UES's billing lag of 3.16 days is more than double the 1.45 days reported by
10 Granite for 2008 and 1.34 days longer than the figure (1.82 days) UES reported
11 in 2007 just prior to the installation of its Advanced Metering Infrastructure
12 (AMI). The 1.82 days lag was based on UES' 2006 lead/lag study. These
13 differences raise questions about the validity of UES' 2008 estimate.

14
15 Q. DO THE BILLING LAGS FOR UES AND GRANITE RELATE TO THE
16 SAME TIME PERIOD?

17 A. Apparently not. Although billing lag is normally defined as the period between
18 when the meter is read and ending when the bill is processed, UES' estimate of
19 3.16 days covers a longer period. The billing lag for UES extends from the
20 scheduled meter reading date to the date bills are printed and mailed.⁴ In
21 contrast, Granite's billing lag does not include the time to print and mail bills to
22 customers.

23

⁴ See UES Response to Staff 1-1 in Exhibit GRM-2.

1 Q. WHAT JUSTIFICATION DID GRANITE GIVE FOR EXCLUDING
2 PRINTING AND MAILING?

3 A. Granite believes that it would be inappropriate to add the time to print and mail
4 bills to its billing lag because accounts receivable is debited for the amounts
5 owed as soon as bills are calculated. Debiting accounts receivable when bills
6 are calculated means that the time to print and mail bills is covered by
7 collections lag, which is calculated using the accounts receivable turnover
8 method. Stated differently, Granite recognizes that adding these additional
9 steps to the billing lag would overstate the revenue lag.

10

11 Q. DOES UES ALSO DEBIT ITS ACCOUNTS RECEIVABLE WHEN BILLS
12 ARE CALCULATED?

13 A. Yes. Accordingly, UES overstated its revenue lag by including printing and
14 mailing in its billing lag.

15

16 Q. WHAT IS THE MAGNITUDE OF THE OVERSTATEMENT?

17 A. Printing and mailing takes UES on average one day⁵ to complete, which means
18 that the comparable billing lag to Granite's 1.45 days is 2.16 days. Leaving
19 aside the fact that in 2006, before AMI was available, the meter reading and
20 billing functions⁶ were completed in just 1.82 days, UES has not adequately
21 explained why in 2008 it needed more time than Granite to complete these
22 functions.

⁵ See Footnote 4.

⁶ And maybe printing and mailing.

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Q. WHAT DO YOU RECOMMEND?

A. I recommend that UES remove printing and mailing from its billing lag calculation in all future lead/lag studies. In addition, UES' next lead/lag study should include a detailed step-by-step description of the meter reading and billing processes as well as information on the time to complete each step.

1(b). Payment Processing and Bank Float

Q. DO YOU HAVE ANY COMMENTS REGARDING THE PAYMENT PROCESSING AND BANK FLOAT LAGS PROPOSED BY UES AND GRANITE?

A. Yes, Granite's proposed lag of zero days is not supported by the evidence. In particular, Granite states that the method it uses to process customer payments by check could result in a delay of up to one day, depending on the time of deposit. Since approximately 85% of large customers and 70% of small customers pay their bills by check, such a delay is clearly not consistent with a lag of zero days. In addition, not all deposits made to the Company's bank account are immediately available. Specifically, payments made by check not drawn on Bank of America are available the next business day after deposit. For these reasons, I believe the proposed zero days lag is not realistic given Granite's circumstances. In the absence of a detailed study, I recommend that

1 Granite use a payment processing and bank float lag of 1 day in future lead/lag
2 studies.

3

4 2. Expense Lead

5 Q. PLEASE SUMMARIZE THE EXPENSE LEAD CALCULATIONS.

6 A. As noted above, the expense lead is defined as the average number of days
7 between the receipt of service and the payment for such service. From a
8 ratepayer perspective, longer leads are preferable to shorter leads because a
9 delay in payment offsets the cost to finance the corresponding revenue lag.
10 UES calculated 2008 expense leads for both default service and renewable
11 energy certificates (RECs) as the sum of two components. The first component
12 is the service lead, which is defined as the average number of days between the
13 receipt of service (i.e., default service or RECs) and the date customer meters
14 are read. The second component is the period between meter reading and
15 payment by the utility. Default service and REC expense leads were calculated
16 separately for the G1 and Non-G1 customer groups.
17 Granite's expense lead calculation differed in two important respects from UES'
18 calculation. The first is the exclusion of a service lead. However, because
19 Granite also excluded the service lead in its calculation of revenue lag, the net
20 lag was unaffected. For this reason, and to facilitate comparison with UES,
21 Granite's expense lead as reported here includes the same service lag as UES.

1 The second difference is that Granite's expense lead was calculated for all
2 customers instead of small and large customers separately.

3

4 2(a). Default Service

5 Q. WHAT WERE THE RESULTS OF THE EXPENSE LEAD CALCULATIONS
6 FOR DEFAULT SERVICE?

7 A. UES calculated default service expense leads of 36.29 days and 33.53 days for
8 the G1 and Non-G1 customer groups respectively. The weighted average for all
9 customers is 33.90 days. In comparison, Granite calculated an all customer
10 default service expense lead of 38.41 days, a difference of 4.51 days.

11

12 Q. DOES YOUR ANALYSIS AGREE WITH THESE RESULTS?

13 A. No. My calculations, which are based on 2008 data provided by each company,
14 produced weighted average expense leads of 34.99 days and 36.49 days for
15 UES and Granite respectively, a difference of only 1.5 days.

16

17 Q. BEFORE YOU ADDRESS THE DIFFERENCES BETWEEN UES AND
18 GRANITE PLEASE EXPLAIN WHY YOUR CALCULATIONS DIFFER
19 FROM THE COMPANIES' CALCULATIONS.

20 A. With regard to UES, the difference (i.e., 33.90 v. 34.99) is attributable in large
21 part to the time of day power supply bills are paid.⁸ UES' calculation assumes

⁸ Another difference is the exclusion in my calculation of billing adjustments made in 2008 that relate to 2007 and the inclusion of billing adjustments made in 2009 that relate to 2008. However, these adjustments produce only small differences.

1 that bills are paid at the beginning of the day on which payment is due,⁹ which
2 led UES to exclude the due date from its expense lead calculation. My
3 calculation includes the due date for two reasons. First, UES' master power
4 agreement does not preclude payment at the end of the day payment is due.
5 Second, Granite pays its power supply bills towards the end of the day payment
6 is due demonstrating that this practice is acceptable. It also includes the due
7 date in its expense lead calculation.¹⁰

8
9 Q. WHAT ACCOUNTS FOR THE DIFFERENCE BETWEEN YOUR
10 ANALYSIS AND GRANITE'S?

11 A. The difference (i.e., 38.41 v. 36.49) is attributable primarily to the exclusion in
12 my calculation of billing adjustments made in 2008 that relate to 2007 and the
13 inclusion of billing adjustments made in 2009 that relate to 2008.

14
15 Q. YOUR CALCULATIONS INDICATE A DIFFERENCE OF ONLY 1.5 DAYS
16 BETWEEN UES AND GRANITE. WAS THIS EXPECTED?

17 A. Yes. Most of the power agreements entered into by UES and Granite in 2008
18 effectively contained the same payment language; namely, that the invoice be
19 paid on or before the later of the twentieth day of each month, or the tenth day
20 after receipt of the invoice. Since the invoice is due on the tenth day of the
21 month for each company, this language effectively meant that each utility had
22 up to 20 days after the end of each month to pay its power supply bill.

⁹ See UES Response to Staff 1-17 in Exhibit GRM-3.

¹⁰ See Grid Response to Staff 1-19 in Exhibit GRM-4.

1 The difference of 1.5 days between the two companies is attributable to

2 **[BEGIN CONFIDENTIAL]** [REDACTED]

3 [REDACTED]

4 [REDACTED]

5 [REDACTED]

6 [REDACTED]

7 [REDACTED] **[END CONFIDENTIAL]**

8

9 Q. IS THIS DIFFERENCE APPROPRIATE?

10 A. No. Granite has shown that default service power supply obligations can be met

11 economically and reliably **[BEGIN CONFIDENTIAL]** [REDACTED]

12 [REDACTED]

13 [REDACTED]

14 [REDACTED] **[END CONFIDENTIAL]**

15

16 Q. DO YOU HAVE ANY OTHER OBSERVATIONS REGARDING THE 2008
17 EXPENSE LEAD CALCULATIONS?

18 A. Yes, I do. As shown in Exhibit GRM-5, Granite's 2008 power supply
19 agreements allowed 21.35 days on average to pass after the end of each month
20 before the invoice was paid. This compares with Granite's 2007 power supply
21 agreements, which allowed 28.5 days to pass. The difference can be attributed
22 to the different payment terms in the power agreements. In 2007, most power
23 agreements specified that the invoice be paid on or before the 25th day after

¹¹ Two G1 contracts and eight Non-G1 contracts.

1 receiving the invoice, or up to 35 days after the end of the month. This
2 compares with up to 20 days after the end of the month in 2008. Granite
3 explains that the shorter lead time in 2008 power agreements was due to
4 suppliers requesting different payment terms.

5

6 Q. DID UES RECENTLY CHANGE THE PAYMENT TERMS FOR ITS
7 DEFAULT SERVICE SUPPLIES?

8 A. Yes, the master power agreement for effect November 1, 2009 allows UES up
9 to 30 days after the end of the month to pay the amount due, instead of 20 days
10 in the 2007 master power agreement.

11

12 Q. WHAT DO YOU RECOMMEND?

13 A. I recommend that the payments terms for UES and Granite be standardized.
14 Beginning with each company's next default service RFP, I recommend that the
15 payment terms be based on the following language recently proposed by UES:

16 The buyer shall pay seller the amount of the invoice, less any amounts in dispute, on or
17 before the later of the last business day of each month, or the tenth day after receipt of
18 the invoice, or, if such day is not a business day, then on the next following business
19 day.
20

21 Q. DOES THAT COMPLETE THE PORTION OF YOUR TESTIMONY ON
22 THE SUBJECT DEFAULT SERVICE EXPENSE LEADS?

23 A. Yes, it does.

24

25 2(b). Renewable Energy Certificates

1 Q. WHAT WERE THE RESULTS OF THE EXPENSE LEAD CALCULATIONS
2 FOR RECs?

3 A. UES calculated REC expense leads of 365.83 days and 362.48 days for the G1
4 and Non-G1 customer groups respectively. The weighted average for all
5 customers is 362.81 days. In comparison, Granite calculated an all customer
6 REC expense lead of 364.14 days inclusive of the service lead.

7

8 Q. DOES YOUR ANALYSIS AGREE WITH THESE RESULTS?

9 A. I agree with Granite's calculation but not with UES'. My calculations
10 produced a weighted average expense lead of 364.80 days for UES.

11

12 Q. WHAT ACCOUNTS FOR THE DIFFERENCE BETWEEN YOUR
13 ANALYSIS AND UES'?

14 A. The difference is attributable in part to UES' assumption that payments
15 associated with its 2008 RPS obligations were due June 30, 2009 when in fact
16 Commission rules 2503.02(d) and 2503.03(a) specify that these be made "on or
17 before July 1" 2009. The fact that payment can be made on July 1, 2009
18 without violating the rules accounts half of the two day difference between UES
19 and Staff. The other half is explained by UES' exclusion of the due date (in its
20 case June 30) in the calculation because it assumed that payment would be made
21 at the beginning of the day on which payment is due. For the reasons given
22 above, I believe that is an inappropriate assumption.

23

1 Q. WHAT DO YOU RECOMMEND?

2 A. I recommend that in future lead/lag studies, the REC expense lead for a given
3 compliance year be calculated based on the assumption that payment is due July
4 1 of the following year.

5 Q. DOES THIS CONCLUDE YOUR TESTIMONY?

6 A. Yes.