

THE STATE OF NEW HAMPSHIRE

PUBLIC UTILITIES COMMISSION

DE 10-188

ELECTRIC AND GAS UTILITIES

2011-2012 CORE Electric Energy Efficiency Programs and Natural Gas Energy Efficiency Programs

REBUTTAL TESTIMONY OF

**ANGELA LI AND BRIAN KEARNEY ON BEHALF OF
ENERGYNORTH NATURAL GAS, INC. D/B/A NATIONAL GRID NH**

**AND THOMAS PALMA, ESQ. ON BEHALF OF
NORTHERN UTILITIES INC.**

NOVEMBER 15, 2010

1 **I. INTRODUCTION AND PURPOSE OF REPLY TESTIMONY (Northern and**
2 **National Grid NH)**

3 **Qualifications of Angela Li**

4 **Q. Please state your name, position business address, and professional**
5 **background for the record.**

6 A. My name is Angela Li. My business address is 40 Sylvan Road, Waltham,
7 Massachusetts. I am employed by National Grid as a Senior Analyst within the Policy and
8 Evaluation group in Energy Efficiency Products, which includes responsibility for EnergyNorth
9 Natural Gas, Inc. d/b/a National Grid NH's energy efficiency programs. Previously I worked in
10 the New Product Development group for National Grid and at Arthur D. Little as a Management
11 Consultant. I hold a Bachelor of Arts Degree in Biology and Economics from Wellesley College
12 and a Masters in Business Administration from Babson College.

13

14 **Qualifications of Brian Kearney**

15 **Q. Please state your name, position, business address, and professional**
16 **background for the record.**

17 A. My name is Brian Kearney. My business address is 40 Sylvan Road, Waltham,
18 Massachusetts. I am employed by National Grid as a Manager of Residential Energy Efficiency
19 programs for National Grid NH. Prior to my current position, I managed the Energy Star Homes
20 program for all jurisdictions in which National Grid does business. From 2005 to the time of
21 KeySpan's acquisition by National Grid, I worked for KeySpan in its Residential gas conversion
22 services for both new and existing homes. I hold a Bachelor of Arts degree from St. Lawrence
23 University.

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Qualifications of Thomas Palma

Q. Please state your name, position, and business address for the record.

A. My name is Thomas Palma, Esq. I am the Manager of Distributed Energy Resources, Planning and Design, for Unitil Service Corp. My business address is 325 West Road, Portsmouth, New Hampshire 03801.

Q. What are your background and qualifications?

A. I have been employed by Unitil Service Corp. since November, 2009. As part of my responsibilities, I perform work for Northern Utilities, Inc.’s (“Northern” or the “Company”) and Unitil Energy Systems, Inc.’s (“Unitil” or “UES”) energy efficiency programs. Previously I worked for the New Hampshire Electric Cooperative. During my career I have gained extensive knowledge of renewable energy systems and energy efficiency systems. I have created renewable energy programs and researched renewable energy and energy efficiency technologies. I have also managed projects regarding the below-mentioned topics. I hold a Bachelor of Science Degree in Mechanical Engineering from the University of Massachusetts, Amherst and a Juris Doctorate Degree from Suffolk University. I am also a member of the Massachusetts Bar.

I have also been active in leadership roles in various organizations including the New Hampshire Sustainable Energy Association, the Northeast Sustainable Energy Association, and the Cooperative Research Network.

1 **Q. Have you previously testified before the Commission?**

2 A. Yes. I testified on March 2, 2010 in Docket DE 09-137: Investment in and Rate
3 Recovery of Distributed Energy Resources and on July 13, 2010 in Docket DG 09-053: Request
4 to Modify Energy Efficiency Components.

5 **Purpose of Testimony**

6 **Q. What is the purpose of your testimony?**

7 A. The purpose of our rebuttal testimony is to respond to some issues that have been
8 raised in the testimony submitted by James Cunningham and Al-Azad Iqbal on behalf of
9 Commission Staff, the testimony submitted by Stephen Eckberg on behalf of the Office of
10 Consumer Advocate (“OCA”), as well as some issues that have arisen during the discovery
11 phase of this proceeding.

12 The issues we will address in this testimony include:

- 13 • .Methodology used to determine annual savings (both);
- 14 • The percentage of total budget allocated to Home Energy Assistance (both);
- 15 • The Home Performance with Energy Star Program (both);
- 16 • Administration of the Home Performance with Energy Star Program (National Grid NH);
- 17 • Issuance of Requests for Production (both)
- 18 • Performance Incentive design (both);
- 19 • Application of the GDS Study to Northern’s Proposal (Northern);
- 20 • The Energy Star Homes Program (Northern); and
- 21 • National Grid NH’s Residential Energy Efficiency Reporting (National Grid NH).

1 **II. METHODOLOGY USED TO DETERMINE ANNUAL SAVINGS (Northern and**
2 **National Grid NH)**

3 **Q. Please describe the methodology used by Staff in their direct testimony to**
4 **calculate the 2011 gas companies' annual savings goal.**

5 A. Staff took the 2011 budget for each energy efficiency program and divided the
6 budget by the 2009 actual dollars spent per participant to calculate the number of participants
7 projected for the 2011 programs. Staff then multiplied this number of participants by the actual
8 MMBtu savings per participant in 2009 to calculate a hypothetical MMBtu total savings goal for
9 2011.

10 **Q. Do you have any concerns about application of this methodology?**

11 A. Yes. First, we support the view regarding Staff's methodology that is stated in the
12 rebuttal testimony submitted by Angela Li, Carol Woods, Thomas R. Belair, and Thomas Palma
13 (together, the "Electric Utilities Testimony") in this docket. The gas utilities perform an analysis
14 of savings goals similar to the Electric Utilities which includes an analysis of trends in cost per
15 MMBtu saved, increases in measure costs, changes in measure life, energy code changes, federal
16 guidelines, and measure mix. We believe that this is the most accurate way to calculate savings
17 goals associated with the gas energy efficiency programs.

18 Second, Staff's analysis does not take into account certain circumstances which occurred
19 in 2009. For example, Northern was able to offer an incentive for a large multi-family project
20 that had an unusually low dollar spent per MMBtu saved. This skewed the data making the 2009
21 actual dollar per participant spent lower than it would have been without this project, thus
22 increasing the 2011 savings goal.

1 In addition, the Staff's calculation relies heavily on only one calendar year instead of
2 normalizing the data across several years. Perhaps most importantly, Staff's analysis does not
3 take into account any changes in the operations of the energy efficiency programs. It does not
4 consider factors such as increased costs of materials and labor, gas prices, changes in ownership
5 of the companies, and weather, all of which affect projected savings. It also does not consider
6 changes in the calculation of average MMBtu. As explained in the Electric Utilities Testimony,
7 over the years, the utilities have adjusted the savings associated with particular measures, as
8 more information has become available regarding actual savings. In that case, the MMBtus
9 saved associated with a measure could decrease, but through no fault of the utilities. Instead, as
10 described in the Electric Utilities Testimony, the decrease in estimated savings is due to data-
11 based analysis of the work performed, which provides the most accurate analysis of what those
12 savings will be.

13 **III. PERCENTAGE OF TOTAL BUDGET ALLOCATED TO THE HOME ENERGY**
14 **ASSISTANCE ("HEA") PROGRAM (Northern and National Grid NH)**

15 **Q. What percentage of the total energy efficiency budget is set aside for the low**
16 **income HEA program by Northern and National Grid?**

17 A. In his testimony, Mr. Eckberg raised questions about whether the gas utilities
18 should raise the percentage of funds used for the low income programs to meet the percentages
19 applied by the electric utilities. There has been no formula approved by the Commission
20 regarding the percentage of budget for income eligible customers of the gas utilities. However,
21 the gas utilities have worked to increase both the amount of funds available to the Home Energy
22 Assistance program, and the percent of total funds available to that program.

1 Northern has raised its Income Eligible budget from \$81,427 in 2010 (twelve month) to
2 \$110,000 in 2011 and \$130,000 in 2012 as filed. In 2011 and 2012, the percentage of Northern's
3 energy efficiency funds dedicated to the HEA program is 13%

4 National Grid NH has raised its Income Eligible budget from \$635,997 in 2010 (twelve
5 month) to \$730,895 in 2011 and \$773,062 in 2012. In 2011 and 2012, the percentage of
6 National Grid NH's energy efficiency funds dedicated to the HEA program is 11.5%.

7 The gas utilities look forward to continuing to work with the parties in this docket and in
8 future dockets to find ways to serve the needs of New Hampshire's low income population in a
9 way that is equitable to all ratepayers.

10 **Q. Reference OCA pages 24 – 27. Do you agree with the OCA's position for**
11 **increased funding of the Income Eligible Program?**

12
13 A. National Grid NH does not support the position that a larger percentage of the energy
14 efficiency dollars should be allocated to the gas low income budget in the interest of more
15 closely aligning the electric and gas EE programs. The low income budget was developed from
16 the bottom up meaning that the demand and need for low income gas customers is reviewed and
17 a reasonable budget is developed. The proposed budget for 2011 is \$100,000 greater than the
18 2010 budget. National Grid NH believes this increase allows for deeper installation of energy
19 efficiency measures within a customer's residence.

20
21 Further, gas low income funding should not be allocated at the same level as electric low
22 income funding due to equity parity. All customers are electric customers. The funding of the
23 low-income sector is funded proportionately by both residential and commercial and industrial
24 customers based on usage. Therefore, the distribution between commercial & industrial versus

1 residential funding closely matches the general population. Gas, however, is a chosen heating
2 source and the distribution between residential and commercial & industrial customers may not
3 map to the overall population. Therefore, by increasing funding to gas customers, there may be
4 an inequitable burden placed on one sector versus the other which is not consistent with how low
5 income funds have been derived in the past.

6 **Q. What is your conclusion regarding raising the total budget to accommodate**
7 **an HEA budget at 14.5% of the total budget?**

8 A. The gas utilities believe that the amount of funds allocated to low income
9 customers in the 2011-2012 budgets are sufficient to meet existing need given the balancing of
10 the equities at issue.

11 **IV. THE HOME PERFORMANCE WITH ENERGY STAR PROGRAM (Northern**
12 **and National Grid)**

13 **Q. Do you have a response to the Staff, OCA and OEP's testimony regarding**
14 **the Home Performance with Energy Star ("HPWES") program?**

15 A. Yes. With respect to concerns regarding administration and design of the
16 HPWES programs, we agree with the Electric Utilities Testimony, and support a decrease of the
17 rebate levels from 75% to 50% in response to concerns that the rebate levels for the HPWES
18 program were too high.

19 **IV. THE HOME PERFORMANCE WITH ENERGY STAR PROGRAM (National**
20 **Grid)**

21 **Q. In its testimony, OEP states that there are inconsistencies in National Grid NH's**
22 **HPwES program and that National Grid NH should change its program to align with the**
23 **CORE utilities. What is the Company's view on that issue?**

1
2 A. National Grid agrees that there are differences in the structure of its HPwES program
3 from other CORE utilities such as differing incentive levels to participating customers.
4 Currently, National Grids HPwES program rebate differs in regards to offering customers air
5 sealing and no charge to the customer (average value\$600) during the audit. This has been view
6 as a successful program design based on the amount of energy savings achieved along with the
7 removal of an additional barrier to move forward on the weatherization component.

8 The reason for this is based primarily on the Company's desire to align its delivery model
9 across all its service territories in order to achieve operational efficiencies. The Company would
10 be willing to modify its proposed HPwES program for 2011-2012 by incorporating the Home
11 Heating Index (HHI) as a gateway to participation, utilizing common statewide software for the
12 single family program, implementing a \$100 audit fee and incorporating air sealing into the
13 \$4,000 weatherization incentive. With these changes, National Grid's HPwES program would
14 be consistent with those of the other CORE utilities.

15
16 **Q. In his testimony, Mr. Hill recommends that the Commission "open the market"**
17 **to all vendors. How does this recommendation comport with the way in which National**
18 **Grid NH administer its audit services for its HPwES program?**

19 A. National Grid NH uses a lead vendor to ensure consistent and equitable program
20 design to all of its customers receiving services for its HPwES program. This vendor provides
21 services across all of National Grid's service territories (of which New Hampshire is the
22 smallest), which ensures consistency in the provision of services to customers and creates
23 economies of scale. By using one vendor, the Company is able to provide these services
24 efficiently because it is able to minimize its costs to hire and oversee the work of the vendor. If

1 the Company were to “open the market” to all vendors as Mr. Hill suggests, it would incur
2 increased costs to provide these services to customers.

3
4 **V. ISSUANCE OF REQUESTS FOR PRODUCTION (“RFPS”) (Northern and**
5 **National Grid)**

6 **Q. Do you have any response to the OCA’s testimony regarding issuance of**
7 **RFPS?**

8 A. Yes. With respect to OCA’s recommendation that RFPs be issued publically and
9 be available on the utility’s website as well as through public notices, we agree with the Electric
10 Utilities Testimony. As described in the Electric Utilities Testimony, the gas utilities will, to the
11 extent possible, disseminate requests for shows of interest publically.

12 **VI. PERFORMANCE INCENTIVE DESIGN (Northern and National Grid NH)**

13 **Q. Do you have any response to the Staff and OCA’s testimony regarding the**
14 **design of the Performance Incentive?**

15 A. Yes. With respect to design of the performance incentive, and application of
16 “actual” costs to the performance incentive calculation, we agree with the Electric Utilities
17 Testimony. The Gas Utilities believe that relying upon actual costs, instead of “budgeted” costs
18 to determine the Performance Incentive will assure that the performance incentive cannot be
19 earned twice, for example on funds which are carried over from year-to-year.

1 **VII. APPLICATION OF THE GDS STUDY TO NORTHERN'S PROPOSAL**

2 **(Northern)**

3 **Q. In its direct testimony, the Office of Consumer Advocate discusses the GDS**
4 **Study and the application of the GDS study to Northern's proposal. How did Northern**
5 **utilize the GDS study in its planning for its August 2, 2010 filing?**

6 A. In data request Staff 2-47, which is attached to Mr. Eckberg's testimony, Northern
7 stated that it did not use the GDS Study in its budgetary planning for 2011 and 2012. However,
8 that does not mean that the GDS Study was not used in developing Northern Utilities' proposal
9 for the 2011 and 2012 energy efficiency programs.

10 After experiencing great demand for energy efficiency services during the 2009 program
11 year, Northern Utilities decided to request a significantly increased budget for 2011 over prior
12 years' efficiency budgets, and is now projecting to increase its energy efficiency charge from
13 \$0.01850 per therm to \$0.03400 per therm. This will allow for an increased budget and allows
14 for the associated savings.

15 In preparation for the 2011-2012 filing, Northern analyzed the GDS Study and
16 determined that it would have to raise its energy efficiency charge to \$0.06800 per therm to meet
17 the annual costs in the GDS Study. The table below shows that meeting this energy efficiency
18 charge would require an increase to the average customer of \$36.93 per year, and a total energy
19 efficiency cost of \$50.71 per year. This increase equates to a 267.9% increase over the pre-
20 November 1, 2010 energy efficiency cost.

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TABLE 1

Annual Basis

# of Meters	21,669	# of Therms	16,143,774
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	Required Increase	Usage therms	EE Charge Increase	EE Charge	EE Cost *	Annual Increase *	Percent Increase *
A.	-	745	-	\$0.01850	\$13.78	-	-
B.	-	745	\$0.01600	\$0.03400	\$25.33	\$11.55	83.8%
C.	\$550,000.00	745	\$0.03407	\$0.06807	\$50.71	\$36.93	267.9%

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	Gas Rate	Annual Cost	Percent Increase
A.	\$1.46690	\$1,092.84	-
B.	\$1.48240	\$1,104.39	1.1%
C.	\$1.51647	\$1,129.77	3.4%

Where:

- A. Current natural gas rate with 2010 EE charge
- B. Current natural gas rate with the estimated 2011 EE charge
- C. Current natural gas rate with the estimated 2011 EE charge plus the GDS Study increase

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It is important, in determining the right level of spending for energy efficiency programs for a given company or set of customers, to avoid large increases at any one time. Ramping up rates too quickly could have negative impacts on customer bills, and relying on the GDS Study alone to set rates would ignore this concern.

However, in developing its programs, the Company *did* consider statements in the GDS Study that indicated non-electric Heating Equipment make up a large portion of potential savings for Natural Gas customers in choosing proposed programs, and has proposed programs which seek to benefit from these savings.

1 For example, Tables 54 and 55 in the GDS Study list the Commercial Non-Electric
2 Savings Potential by Measure for Existing Construction and New Construction, respectively.
3 The Company offers prescriptive incentives for three of the top five opportunities listed by GDS.
4 The Company offers incentives for most the top 20 measures listed, provided they are cost-
5 effective. For example, one opportunity listed in both tables is the 92% AFUE Furnace. This
6 measure has been eliminated from the Company's prescriptive offering in 2011 since it is not
7 cost-effective, however, the Company does offer incentives for 94% AFUE furnaces. Also, the
8 Company does not incentivize normal maintenance, like filter replacement, which is listed as an
9 opportunity in both tables. Another opportunity found in both tables is ozone commercial
10 laundry systems. The company has incentivized this measure in the past, but has found
11 conflicting savings information.

12 In conclusion, it is incorrect to conclude that the GDS Study was not used at all by the
13 Company in developing its plan for the 2011-2012 year. While the Study was not relied upon to
14 set the initial budget and rates for Northern customers, it was in fact, considered as described
15 above.

16 **Q. If the GDS Study increase was implemented, what would be the disparity**
17 **between energy efficiency charges for Northern customers versus Unutil customers?**

18 A. One consideration regarding the gas energy efficiency rate is the increased
19 disparity between electric service ratepayers and gas customers. All customers use electricity – a
20 far smaller number use natural gas. As the following table shows the energy efficiency cost for
21 Northern Customers would be \$40.83 more or 413% more than the same average cost for an
22 electric customer. See the table below. Under the rates which have been approved by the
23 Commission, there is already a discrepancy between the energy efficiency costs to electric

1 customers versus the costs to gas customers. Relying on the GDS Study alone will magnify this
2 discrepancy.

3 **TABLE 2**

	Usages Units	Rate	Annual Cost	EE Charge	Annual EE Cost
UES Average Customer	6,589	\$0.1680	\$1,107	\$0.0015	\$9.88
NU Average Customer	745	\$1.5165	\$1,130	\$0.0681	\$50.71
Delta					\$40.83
Gas Percent Higher than Electric					413%

4

5 **VII. ENERGY STAR HOMES PROGRAM (Northern)**

6 **Q. Why did Northern decide not to offer an Energy Star Homes program in its**
7 **filing?**

8 A. Northern decided not to request approval for the Energy Star Homes program in
9 2011 and 2012 for the following reasons:

10 (1) New home starts are slow due to the current economic climate. Currently,
11 Northern has no builders or homeowners interested in this program for 2011 project
12 completions.

13 (2) All Northern customers can participate in their electric company's ENERGY
14 STAR Homes Program; thus, they can still be served if building a new home.

15 (3) Northern has had an overwhelming response to its Residential High Efficiency
16 Heating, Water Heating and Controls Program (Gas Networks) and its Home
17 Performance with ENERGY STAR Program in the 2009 program year and both
18 programs had to be closed early. Northern projects the same overwhelming interest in

1 2011 and 2012 and accordingly budgeted all its non-income eligible residential funding
2 into these two programs.

3 **Q. If Northern implemented an Energy Star Homes program, as suggested by**
4 **the Office of Consumer Advocate, what impact on rates and energy efficiency charges**
5 **would this have on Northern customers?**

6 A. The Company believes that including an Energy Star program by reallocating
7 funds from the residential Gas Networks program and the HPwES program would adversely
8 affect those programs as these programs have been oversubscribed in the past. The only other
9 option is to raise the energy efficiency charge. As discussed earlier, the Company is concerned
10 about raising the energy efficiency charge too quickly for its customers especially during the
11 difficult economic climate locally and nationally.

12 In addition, deploying and funding energy efficiency programs for natural gas consumers,
13 while not correspondingly deploying and funding energy efficiency programs for oil heat
14 consumers, may result in two very negative consequences. First, doing so discriminates between
15 two sets of consumers by providing benefits to the natural gas consumers that are not offered to
16 equivalently situated oil heat consumers. Second, and perhaps more significantly, imposing a
17 natural gas efficiency charge while not simultaneously imposing an oil heat efficiency charge
18 introduces a pricing distortion that will tend, over time, to encourage oil consumption and
19 discourage natural gas consumption. Increasing the gas energy efficiency charge too quickly
20 could have the effect of escalating such a migration.

21 The 2010 energy efficiency charge was \$0.0180 per therm and it is estimated to be
22 \$0.034 per therm in 2011, an 84% increase. The Company believes \$75,000 would be sufficient
23 to administer an Energy Star Homes program, if such a program were mandated. To increase

1 energy efficiency funding by \$75,000, the average customer's bill would have to increase \$15.01
 2 per customer per year, for a total increase of 109%. The below table outlines the pre-Nov. 1,
 3 2010 energy efficiency cost, the energy efficiency cost as filed, and the energy efficiency cost
 4 from the Energy Star Homes program.

5 **TABLE 3**

	Required Increase	Usage therms	EE Charge Increase	EE Charge	EE Cost *	Annual Increase *	Percent Increase *
A.	-	745	-	\$0.01850	\$13.78	-	-
B.	-	745	\$0.01600	\$0.03400	\$25.33	\$11.55	83.8%
C.	\$75,000.00	745	\$0.00465	\$0.03865	\$28.79	\$15.01	108.9%

6

	Gas Rate	Annual Cost	Percent Increase
A.	\$1.46690	\$1,092.84	-
B.	\$1.48240	\$1,104.39	1.1%
C.	\$1.48705	\$1,107.85	1.4%

Where:

- A. Current natural gas rate with 2010 EE charge
- B. Estimated 2011 EE charge
- C. Estimated 2011 EE charge plus the Energy Star Homes increase

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8 **Q. If Northern implemented an Energy Star Homes program, what would be**
 9 **the disparity between energy efficiency charges for Northern customers versus Unitil**
 10 **customers?**

11 A. The following table compares the average Northern customer to the average
 12 Unitil customer if rates were raised for an Energy Star Homes program. The average Northern
 13 customer would pay \$18.91 more than the average Unitil customer, which is 191% higher.
 14 Importantly, such an increase would raise the energy efficiency charge for Northern Customers
 15 to nearly 2.5% of their total bill, while the portion of a UES customer's energy efficiency costs
 16 are only 0.9%.

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TABLE 4

	Usage		Annual		Annual	EE as
	Units	Rate	Cost	EE	EE	Percent
				Charge	Cost	of
						Bill
UES Average Customer	6,589	\$0.1680	\$1,107	\$0.0015	\$9.88	0.902%
NU Average Customer	745	\$1.4870	\$1,108	\$0.0386	\$28.79	2.598%
Delta					\$18.91	
Gas Percent Higher than Electric						191%

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3 **Q. What is your recommendation regarding the Energy Star Homes program?**

4 A. The Company recommends that it be permitted not to offer an Energy Star Homes
 5 program. Entities within its service territory will be eligible for Energy Star Homes via their
 6 electric provider.

7 **IX. National Grid NH's Residential Energy Efficiency Reporting (National Grid NH)**

8 **Q. Reference OCA page 27. Can you explain National Grid NH's Residential**
 9 **Energy Efficiency Reporting?**

10
 11 A. National Grid NH's Energy Efficiency Program actual collections and expenses,
 12 as well as forecasted expenditures, are presented monthly to the Commission for the Residential
 13 Heating and Non-Heating classes, Commercial and Industrial classes, and combined residential
 14 and commercial and industrial classes. The September 2010 National Grid NH Monthly Energy
 15 Efficiency Report is presented in Schedule 1. In this report, the Company is projecting to be
 16 overspent at the end of 2010. As described in the response to Staff 1-12 (attached as Exhibit
 17 SRE-7 page 49), any under or overspending from one year will be resolved in the energy
 18 efficiency factor. OCA refers to the bottom up approach for gas energy efficiency collections on

1 page 25 of its testimony. OCA pages 50-53, SRE-7 and SRE-8 present National Grid's electric
2 energy efficiency fund balance which is calculated independently of the gas reporting.

3 **Q. Do you agree with the OCA's concern about the reporting structure?**

4 A. No. National Grid NH's reporting provides monthly information to the Commission
5 about over and under spending. Any variation from the forecast is made in collections the
6 following year.

7

8 **VI. CONCLUSION**

9 **Q. Does that complete your testimony?**

10 A. Yes.