STATE OF NEW HAMPSHIRE
BEFORE THE
PUBLIC UTILITIES COMMISSION

EnergyNorth Natural Gas, Inc. d/b/a National Grid NH
Docket No. DG 10-017

Rebuttal Testimony

of

Susan F. Tierney, Ph.D.

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I. Introduction

Q. What is your name?

A. My name is Susan Tierney.

Q. Are you the same Susan Tierney who previously filed direct testimony on behalf of EnergyNorth Natural Gas, Inc. d/b/a National Grid NH ("EnergyNorth" or the "Company") in this proceeding?

A. Yes.

Q. What is the purpose of this rebuttal testimony?

A. I am responding to issues raised by various witnesses with regard to the Company's proposed revenue decoupling mechanism ("RDM"): specifically, I respond to Mr. Mark Naylor and Mr. Thomas Frantz, who filed testimony on behalf of the Staff ("Staff") of the New Hampshire Public Utilities Commission ("Commission" or "NH PUC"); Dr. George Briden, who testified on behalf of the Office of Consumer Advocate ("OCA"); and Mr. Roger Colton, who testified on behalf of Patricia Locke.

II. Summary

Q. Please summarize your rebuttal testimony.

A. Counter to the suggestion of Mr. Frantz and Mr. Naylor that the Company included an RDM in this year's rate case filing primarily for revenue stabilization reasons, the Company has proposed to decouple its revenues from sales in this case first and foremost

as a ratemaking policy designed to better align EnergyNorth's financial interests in support of energy efficiency strategies. The Commission has made clear that energy efficiency is a policy priority for customers of electric and natural gas utilities in the state. The Company has committed to a significant increase in energy efficiency spending in New Hampshire. In the service territories where it has operating companies in the U.S., National Grid USA has not only supported the relevant state's goals to deploy cost-effective energy efficiency, but also proposed revenue decoupling as a key complementary ratemaking element to accompany those efforts. Revenue decoupling is well-understood to be an important companion tool to energy efficiency so as to remove some of the financial disincentives that separate a company's financial interests from those of its customers. Many of these reasons are described in the testimony of Ms. Shanna Cleveland filed on behalf of Conservation Law Foundation in this proceeding.

The Commission invited and encouraged utilities to propose mechanisms that would better align their motivations with the goals of the state's energy efficiency policy, and the Company's proposal has been offered in that spirit. The Company's revenue decoupling proposal is a sound ratemaking response to the Commission's guidance.

Revenue decoupling is a sensible means of supporting the financial integrity of companies that operate in an environment of flat or declining use per customer, such as is the case in New Hampshire. It does not shift risk to customers, as asserted by Dr. Briden, Mr. Frantz and Mr. Naylor. Contrary to what they assert, there is no basis to conclude that revenue decoupling will introduce significant or adverse impacts on customers. Nor will revenue decoupling lead to rate adjustments that will undermine customers'

incentives to reduce their energy bills through adoption of energy efficiency measures. Revenue decoupling is a fair and cost-based ratemaking approach that assures that the Company collects no more and no less than its allowed revenues on a per-customer basis. In fact, it doesn't even guarantee that the Company would earn the overall allowed revenue requirement, since under the Company's proposal it would bear the risk of existing customers leaving the system. And since revenue decoupling focuses solely on the revenue side of the Company's activities, it neither guarantees the Company's rate of return nor removes the Company's incentive to reduce its costs. It performs a different function than the shareholder incentive under the Commission's approved energy efficiency programs; it removes the current disincentive in ratemaking that pits the Company's financial interests against the adoption of energy efficiency by customers.

I encourage the Commission to focus on the core issue in considering revenue decoupling within the traditional cost-of-service framework: the importance of aligning a company's financial interest in recovering its allowed revenues with its customers' interests in adopting cost-effective energy efficiency measures. The testimony of Dr. Briden, Mr. Frantz and Mr. Naylor, and Mr. Colton serve to divert the Commission's attention from that core point. I encourage the Commission to focus on it as it considers the Company's proposal to introduce an RDM in this rate case.

III. Issues Relating to Revenue Decoupling in General

Q. What is your response to Mr. Frantz's and Mr. Naylor's view that the underlying reason for the Company's proposal to implement revenue decoupling is to address

"the failure of the existing regulatory structure in New Hampshire, and the regulatory lag inherent therein, to address the challenges facing utilities today…."?

A. While I agree that the Company's overall ratemaking proposal included elements to address those issues,[1] I would not agree that that is the purpose of the proposed revenue decoupling mechanism. Above all, the RDM proposal is tied to energy efficiency issues.

In prior orders and statements of the Commission,[2] it has made clear that energy efficiency is a policy priority for energy consumers in the state.[3] The Company has committed to a significant increase in energy efficiency spending in New Hampshire[4] and

[1] In our prefiled direct testimony, the Company's witness, Mr. Nicholas Stavropoulus (Executive Vice President of Gas Distribution-US for National Grid USA, and President and Chief Operating Officer of EnergyNorth) and I both addressed a number of conditions in the environment in which gas utilities now operate that fundamentally change the character of their costs, revenues, and operations. We testified that together these changes warrant reexamination of long-established regulatory approaches, including those used for traditional ratemaking in New Hampshire for natural gas distribution companies. The combination of conditions introduce fundamental challenges for ratemaking, as a result of such things as: the fact that the gas distribution system is relatively mature with slow growth in customer additions; the fact that the infrastructure is aging, with most of the capital spending being unrelated to growth; and the fact that usage levels per customer are declining, in part due to fundamental economics of gas markets, the efficiency of gas-using appliances being introduced into the market, and the state's policy to reduce energy use through energy efficiency programs.

[2] As I described in my prefiled direct testimony, examples include: Commission orders in various energy efficiency cases of New Hampshire gas and electric utilities (e.g., NH PUC, EnergyNorth Natural Gas, d/b/a National Grid NH, Order No. 24,995, Order Approving Energy Efficiency Plan: Proposed Energy Efficiency Plan, July 31,2009; NH PUC, Electric Utility Restructuring: Energy Efficiency Programs, Order No. 23,574, Order Establishing Guidelines for Post-Competition Energy Efficiency Programs, DR 96-150, November 1, 2000; NH PUC, Concord Electric Company et. al., Order No. 23,850, Order Approving Settlement Agreement and Joint Request for Modification of Previous Commission Determination: Joint Petition for Approval of Core Energy Efficiency Programs, DE 01-057, November 29, 2001; NH PUC, Concord Electric Company et. al., Order No. 23,982, Order Approving Settlement Agreement and Authorizing Implementation of Programs: Joint Petition for Approval of Core Energy Efficiency Programs, DE 01-057, May 31, 2002); and New Hampshire Office of Energy and Planning – links to programs offered by electric and gas utilities, http://www.nh.gov/oep/programs/energy/resources.htm.

[3] I note the statement in the 2009 report of New Hampshire's Energy Efficiency and Sustainable Energy Board ("EESE Board"), which was established by the legislature in 2008: "Another purpose for establishing the EESE Board was the increasing awareness that energy efficiency is the cleanest and least expensive energy resource, and that New Hampshire must do much more to take advantage of it." Second Annual Report of the EESE Board, December 2009.

[4] The Company's energy efficiency programs have grown substantially in recent years, as shown in the table below, which shows actual historical expenditures on energy efficiency programs from May 2004 through December 2009, compared with projected levels from January 2010 through December 2012. The amount in calendar year 2010 is more than double the amount spent in the one-year period from May 2008 through April 2009, and the amounts in calendar years 2011 and 2012 are projected to be more than three times the amount spent in that historical year.

elsewhere.[5] In the service territories where it has operating companies in the U.S., National Grid has supported the relevant state's goals to deploy cost effective energy efficiency for the benefit of its energy customers, as well as revenue decoupling as a key complementary ratemaking element to accompany those efforts.[6] The Company's proposed RDM for its natural gas service in New Hampshire is based on the Company's firm belief that revenue decoupling is the appropriate ratemaking policy to go along with energy efficiency program implementation.[7]

Q. Do you agree with the suggestion of Mr. Frantz and Mr. Naylor that "a rational customer is going to do what is best for him or her," presumably without the need

Table SFT-R-1
EnergyNorth Energy Efficiency Program Funding:
Actual (May 2004-December 2009) and Budgeted (January 2010-December 2012)
(millions)

	May 2004-Apr 2005	May 2005-Apr 2006	May 2006-Apr 2007	May 2007-Apr 2008	May 2008-Apr 2009	May 2009-Dec 2009*	Jan 2010-Dec 2010	Jan 2011-Dec 2011	Jan 2012-Dec 2012
Actual	$1.5	$1.5	$1.3	$1.3	$2.1	$2.5			
Budget							$5.0	$6.3	$6.9

* 8 months (all other time periods are 12 months)
Source: EnergyNorth

[5] National Grid has made a commitment to reducing its own energy use and the corporation's greenhouse gas emissions, and similarly has a "3% Initiative," in which National Grid is asking all of its customers "to join us in reducing their energy consumption 3% a year for the next 10 years." https://www.powerofaction.com/about/; https://www.powerofaction.com/whatnationalgriddoing/climatechnage/.

[6] National Grid USA has filed a revenue decoupling plan for each of its electric and natural gas distribution companies in New York, Massachusetts, Rhode Island, and New Hampshire where it has had the opportunity to do so. There is now revenue decoupling in place: in New York, for natural gas service and is pending for electric service (National Grid has proposed RDM and the recent Administrative Law Judge's recommended decision in the open rate case has endorsed its adoption); and in Massachusetts, for both electric and natural gas service. In Rhode Island, the legislature has required revenue decoupling, and the company submitted a separate RDM proposal for electric and gas service in October 2010. The filing in New Hampshire comes as part of this rate case; National Grid has not submitted an RDM proposal for Granite State Electric Company since it is currently operating under a rate plan adopted as part of the merger between National Grid and KeySpan.

[7] Mr. Naylor's and Mr. Frantz's questioning of the Company's motivations with regard to its RDM proposal seems a red herring and irrelevant, since the main point of revenue decoupling is to address the inherent financial incentive that exists under traditional ratemaking to increase sales. I discuss this point later in my testimony.

for regulators to adopt revenue decoupling to realize rational levels of energy efficiency and without the complication of having revenue decoupling, in their view, limit "the consumer's ability to manage his or her finances"?

A. While their statement appears appealing on its face, it confounds two different issues—customers' decisions to adopt energy efficiency measures and utilities' incentives to increase sales even as they fulfill their regulatory obligation to implement energy efficiency programs. In focusing on whether revenue decoupling does anything to change the customer's incentive to implement energy efficiency, Mr. Naylor and Mr. Frantz miss the point about the purpose of an RDM. Revenue decoupling is about the incentives of *utilities* that are faced with responsibility to implement programs and otherwise support customers' adoption of energy efficiency. Mr. Naylor and Mr. Frantz lose sight of that purpose, and as such their reference to what a rational customer will do is misplaced.

Additionally, their position fails to pay attention to the serious market imperfections that impede customers' actions to adopt energy efficiency. Countless utility regulators and other observers have chronicled the many persistent barriers that continue to exist in many markets and impede the implementation of what could otherwise be viewed as economically rational energy efficiency strategies and measures by customers.[8]

[8] The National Energy Efficiency Action Plan (supported by the U.S. Department of Energy ("DOE") and the U.S. Environmental Protection Agency ("EPA"), and signed by public and private sector leaders representing more than 50 organizations in July 2006) mentions several tenacious barriers to the adoption of energy efficiency by customers, including: "market barriers" (e.g., where landlords and/or home builders and commercial developers have little incentive to invest in energy efficiency when they are not responsible for paying energy bills); "customer barriers" (other market barriers such as lack of access to relevant information about potential energy savings and the

States like New Hampshire have adopted policies to support energy efficiency measures in large part because of the existence of such barriers and market flaws.[9] Thus, regulation has stepped in because the markets for adoption of energy efficiency are imperfect, and has introduced mechanisms designed to address barriers on the customer side (e.g., design/deployment of efficiency programs) as well as on the utility side (e.g., program cost recovery, shareholder incentives – each of which serves a different function).

Mr. Frantz and Mr. Naylor overlook the importance of the suite of regulatory mechanisms *on the utility side*. Those mechanism do not all serve the same purpose. As I discussed in my prefiled direct testimony, one of the more important and well-recognized ratemaking tools is revenue decoupling. Unlike mechanisms such as shareholder incentives aimed at encouraging utilities to promote specific energy efficiency programs, revenue decoupling is intended to remove the incentive that utilities have under traditional ratemaking[10] to increase sales to existing customers. Under traditional ratemaking, once rates are set, the utility's revenues are adversely impacted when customers adopt even cost-effective energy efficiency measures (i.e., those that Mr.

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true cost of delivered energy at different times of day and different seasons of the year); and utility and regulatory policies, practices and attitudes that do not allow energy efficiency to compete with supply-side investments. National Energy Efficiency Action Plan, July 2006, page 5. A 2007 study by the U.S. DOE presents a similar list, and adds: high initial investment costs but low multi-year costs; challenges for evaluating investment performance; challenges in gaining access to financing; product availability and delivery systems; existence of multiple externalities; and high information and transaction costs combined with inertia. U.S. DOE, "State and Regional Policies That Promote Energy Efficiency Programs Carried Out by Electric and Gas Utilities –A Report to the U.S. Congress Pursuant to Section 139 of the Energy Policy Act of 2005," Appendix A – A Study of State and Regional Policies That Promote Electric & Gas Utility Programs to Reduce Energy Consumption, March 2007, page E-1.

[9] New Hampshire allows both recovery of program implementation costs as well as a shareholder incentive. These are only part of the full array of regulatory tools that can be used to align ratemaking policy with the adoption of cost-effective energy efficiency measures. Revenue decoupling is one other important part of the toolkit.

[10] I define "traditional ratemaking" in this context to mean a regulatory practice under which rates are set based on a test-year cost of service and in which some portion of fixed costs is recovered through variable charges.

Naylor and Mr. Frantz say a rational customer will adopt), since every lost sale also results in lost revenues and lost recovery of fixed costs for the utility. And conversely, every increase in sales produces increased revenues for the utility. In other words, the utility's aggressive pursuit of energy efficiency outcomes is adverse to its own financial interests under traditional ratemaking; and in fact from a strictly financial point of view, the utility would benefit from ruthlessly seeking to sell more of its service once rates are set.[11] Revenue decoupling mitigates this tension between the utility's financial interests and consumers' interests in energy efficiency by assuring that the utility receives no less revenues when customers adopt energy efficiency (and conversely, no more revenues when customers use more energy, whether because they have added another energy-using device on their premises or otherwise). Thus, the adoption of revenue decoupling aligns the utility's financial interests with customers'. It is this outcome, rather than the goal of revenue stabilization, that the Company has sought to accomplish through revenue decoupling. And contrary to what Mr. Frantz and Mr. Naylor imply, it is this outcome, rather than overcoming customer disincentives or impediments, that is the goal of revenue decoupling. Furthermore, contrary to what Mr. Frantz and Mr. Naylor say, the Company's proposal in no way limits "the consumer's ability to manage his or her finances."

[11] By saying this, I am not suggesting that this is what the Company would do, since such "ruthless" pursuit of additional sales would run counter to Commission policy and would be short-sighted. But what I am saying is that this aspect of traditional ratemaking would fundamentally pit the Commission's policy goals in support of energy efficiency against the Company's financial interests and therefore creates powerful inherent tensions that could be eliminated through revenue decoupling.

Q. Mr. Frantz and Naylor view the Company's proposal as being flawed because, in their view, it would shield the Company "from the vagaries of changes in sales volumes by implementing decoupling." Do you agree that this would be an inappropriate outcome?

A. There is no dispute that many significant policy and economic forces are at work that are driving customers to use less energy. The fact that the Company's energy efficiency programs are only one part of that mix misses the larger ratemaking-policy point that, without some form of revenue decoupling, strictly speaking a utility company has the financial incentive to drive up sales (or to reduce the potential for lower sales) in order to increase its revenues.

Q. But aren't you concerned that, as claimed by Mr. Frantz and Mr. Naylor, revenue decoupling would reduce the Company's risk and shift it to ratepayers?

A. No, for several reasons. While, under the Company's full RDM proposal, the Company would be assured of receiving its authorized per-customer revenue requirement, it still faces operating risk as well as some revenue risk associated with loss of existing customers (e.g. due to changing economic conditions or competitive pressures). The Company faces greater load-side uncertainty and therefore greater risk as a result of the introduction of significant energy efficiency measures. Moreover, revenue decoupling simply assures that the Company is allowed to recover no more and no less than its allowed revenues per customer.[12] The Company has no assurance that it will earn its

[12] Also, under the Company's RDM proposal, the Company would keep revenues from sales growth associated with

allowed return because it must still manage its costs, and it gives up the possibility of receiving more than its authorized revenue requirement in exchange for knowing that it will not receive less than that amount. This does not shift risk in one direction or another.

Under today's rates, the Company bears the risk of insufficient revenue as a result of various conditions (e.g., warmer than normal weather, weaker than expected economic conditions or higher than expected natural gas commodity prices), but customers bear the converse risk of providing higher than required revenues (e.g., as a result of higher than warmer weather, strengthening economic conditions, lower than expected natural gas commodity prices). Revenue decoupling removes revenue risk from both customers and the Company once rates are established in a symmetrical way, but it does nothing (contrary to the suggestion by Mr. Frantz and Mr. Naylor) to shift risk.

Q. Mr. Frantz and Mr. Naylor suggest that the Company's proposal renders the Company "more assured of realizing its authorized rate of return" and that revenue decoupling "removes a portion of the important incentive of utility management to make intelligent decisions in areas such as capital spending and cost containment". Do you agree?

A. No. I fundamentally disagree with them. Mr. Frantz and Mr. Naylor overlook an important part of a utility's ability to achieve its return on equity – namely, its management and control of costs. While revenue decoupling would better assure that the

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new customers; although these revenues serve to offset capital investment associated with such customer additions, the Company would still remain at risk for losses when/if any existing customers leave the system. Thus, the Company is at risk for customer counts, which can be affected by economic conditions and competitive pressures generally.

utility achieves its allowed *revenue requirement*, it does nothing to address issues on the cost side. With *revenue* decoupling (which makes revenues more insensitive to sales), the cost side of the equation is still an essential element of the utility's ability to earn its allowed return. Since a company's costs are not fixed, its earnings would not be guaranteed, even where revenue decoupling is in place. Revenue decoupling does not guarantee a company's ability to earn its allowed return on equity.

Also under revenue decoupling, the Company still has every regulatory incentive and an obligation to its shareholders to manage its costs efficiently in order to maintain and improve its return. By giving up the potential for increased revenues from increased sales, the Company will need to put more emphasis on cost control as a means of earning its allowed return or otherwise improving its overall financial performance, since it cannot "make it up in sales." If it fails to do so, it will fail to get even close to earning its allowed return.

Q. Mr. Colton suggests that if the reason to adopt revenue decoupling is to compensate the utility for lost revenues from declining consumption that would otherwise have allowed the Company to recover its fixed costs, then the way to address this problem is for the utility to become more efficient and reduce expenses associated with utility operations. What is your reaction?

A. If the Commission is serious about its hoped-for energy efficiency outcomes and the resulting lower energy use, and if such a result will of necessity lead to lower revenues in

the future than in the test year, it is virtually impossible[13] for the Company to make up for lost revenues associated with lower sales due to energy efficiency measures adopted by existing customers.

For example, the Company has estimated that, compared to prior years, energy efficiency programs in upcoming years (when new rates go into effect) will produce significant incremental reductions in weather-normalized natural gas sales. The following table shows these actual and forecasted energy efficiency savings for EnergyNorth customers, including actual savings in the test year:

[13] I say "virtually impossible" because it would be possible to make up for lost sales (and revenues) due to energy efficiency in a year where extreme weather conditions led to higher-than-normal sales of natural gas, with the possibility that such weather-related sales could offset lower sales due to energy efficiency. But presuming that Mr. Colton were discussing weather-normalized revenues and sales (since that is the basis on which rates are set in New Hampshire), then I can say that it would be virtually impossible to make up the revenues lost from energy efficiency.

Table SFT-R-2
EnergyNorth's Energy Efficiency Program Savings
(Therms)

Actual Annual Energy Efficiency Savings			Actual Savings in the Test Year	Projected Annual Energy Efficiency Savings	
2007	2008	2009	July 2008 – June 2009	2010	2011
547,256	975,305	881,130	880,367	1,243,180	1,243,190

Note:
The annual savings information provided above does not reflect cumulative savings (i.e., therms saved in prior years that will continue to be saved each year).
The Company does not specifically calculate lost revenues from energy efficiency programs; rather, the Company estimates annualized reduction in sales volumes resulting from the programs, based on multiplying the number of actual energy efficiency measures installed by an estimated savings per measure.

The Company has estimated the size of the incremental revenues lost due to energy efficiency program savings in the past:[14] the estimated base rate savings (lost revenues) resulting from implementation of energy efficiency programs amounted to $109,000 from July 2007 to June 2008 and another $261,000 from June 2008 to July 2009, for a total of

[14] According to Ms. Ann Leary in her response to Data Request Staff 2-16 (included as Attachment SFT-R1) which asked for "any evidence supporting the belief that the Company's energy efficiency programs are leading to a decline in revenues," the Company states that in "order to determine the actual revenue reduction resulting from the Company's energy efficiency programs, the Company would have to prepare a lost margin calculation. In lieu of lost margins, the Company currently earns a performance incentive and therefore does not have such information readily available. However, in response to this question, the Company has prepared a ball park estimate of the decrease in delivery revenues in certain years that would have resulted from implementation of the Company's energy efficiency programs. This estimate is calculated by multiplying the average base distribution rate (average rate less customer charge) by the DSM [demand side management] savings identified in OCA 1-33 [above]…In this fashion, the Company roughly estimates that it experienced a decrease in distribution revenues of approximately $370,000 since June 2007 as a result of implementation of its DSM program and the associated reduction in gas usage attributed to the Company's energy efficiency programs. See Attachment Staff 2-16. As described in Dr. Tierney's testimony the Company has been experiencing a trend in declining use per customer between 2002 and 2008 for residential customers. In fact, the Company has experienced a 15% decline in residential heating use per customer from 2002. (See Direct Testimony of Susan F. Tierney page 10.) The Company's energy efficiency programs have contributed to this decline, as have other factors (including customers' adoption of efficiency measures or installation of more efficient energy-using equipment unrelated to the Company's programs, or other actions to conserve energy). The decline in throughput would directly result in a decline in revenues, since some portion of the Company's revenues are based on variable charges tied to customer usage levels."

$370,000 for the two-year period.[15] Assuming conservatively that that would be a low estimate of lost revenues from energy efficiency measures in 2011,[16] then the Company would already be behind in revenue collection relative to its expected allowed return on the day that new rates go in effect following this rate case. While the Company gets a "performance-based" shareholder incentive set at 8 percent of program budgets which is "intended to reward National Grid for creating and implementing successful energy efficiency programs that otherwise decrease the Company's volumetric sales and resulting profit margins,"[17] this payment would not provide sufficient support to cover both a shareholder incentive and recouping of lost revenues (which are larger than the lost profits that the performance-based incentive is designed to cover).

The Company is therefore not in a position to be able to reduce its costs in the rate period so as to offset the lost revenues from energy efficiency while still delivering an incentive to shareholders for strong performance in implementing energy efficiency. Thus, I fundamentally disagree with Mr. Colton's view that the Company can simply become more efficient and reduce its costs as the way to make up for lost revenues that result from successful energy efficiency measures.

Q. Why can't the Company manage its costs to make up for the impact of lost revenues

[15] See the Company's response to Data Request Staff 2-16 included as Attachment SFT-R1.

[16] This assumption is conservative because by the rate year, there would be several years of cumulative savings from energy efficiency programs adopted since the test year and because the amount of savings from increasing energy efficiency program expenditures is expected to grow.

[17] State of New Hampshire Public Utilities Commission, DG 09-049, EnergyNorth Natural Gas, Inc. d/b/a National Grid NH, Proposed Energy Efficiency Plan, Order Approving Energy Efficiency Plan, Order No. 24,995, July 31, 2009, page 5.

from energy efficiency, as Mr. Colton asserts it can?

A. The notion that continued cost-cutting could offset revenues lost from energy efficiency is unsustainable in the long run and fundamentally runs counter to the theory that underpins traditional ratemaking that a company is allowed revenues required to meet its cost of service. This point is in addition to the important point that, without revenue decoupling, there remains a misalignment between utility's financial interests and customers' interest in energy efficiency.

What Mr. Colton fails to recognize is that the Company cannot just keep becoming more efficient in order to meet its allowed return. With significant energy efficiency as a goal and with the existing ratemaking model in New Hampshire, the Company does not have a credible opportunity to earn its allowed return.

Given that the ratemaking model in New Hampshire relies on historic costs to determine the revenue requirement, it is highly unlikely that the Company will actually earn its allowed rate of return during even the first year when the rates go into effect unless sales are increasing taking new customers and departure of existing customers into account.[18] If the Company does not have a reasonable opportunity to earn its allowed return in the rate year, then by definition, it is not recovering its prudently incurred costs.

Once the rates are set based on historic costs, the only way that a company can earn its return is through increasing its revenues beyond the amount used to establish the company's rates, or cutting its costs, or both. The addition of energy efficiency creates

[18] As noted previously, the Company proposal anticipates that EnergyNorth would keep revenues from sales growth associated with new customers; although these revenues serve to offset capital investment associated with such customer additions, the Company would still remain at risk for losses when/if any existing customers leave the system. Thus, the Company is at risk for customer counts, which can be affected by economic conditions and competitive pressures generally.

tension with this circumstance because, by design, it leads to lower revenues. So, the Company must focus on cost reduction as the means to earn its allowed return.

Assuming that the rates set by the regulator are a reasonable reflection of the historic costs, there is a limit to how much cost reduction can be achieved going forward. Any cost reductions must offset inflationary pressures on expenses and at the same time offset the revenues lost from energy efficiency as well as the impacts on the cost of service associated with increasing capital investment requirements. If the Company finds that it must file rate cases to adjust rates even as it reduces its costs, those cost reductions in the past lead to lower allowed expenses, and the Company is placed in a downward revenue spiral. When the Company files its next base rate case, the historic cost level is now lower, and the new rates would be set at this lower level, pushing the Company again to find other ways to further reduce its costs if it want to earn its allowed return.

This situation is fundamentally not sustainable, counter to Mr. Colton suggestions – especially in light of New Hampshire's strong energy efficiency goals which are designed inherently to lower sales and lower revenues from one year to the next. [19] Thus, the utility can operate under sound management, utilizing good utility practice as suggested by Mr. Frantz and Mr. Naylor, and still have no credible opportunity to earn its allowed return.

[19] This is particularly difficult, too, for some categories of cost (such as pension and OPEB costs) which are outside of the ability of management to control, as described in my prefiled direct testimony as well as that of Mr. Stavropoulos.

Q. Do you agree with Mr. Naylor and Mr. Frantz that the current system is not broken, that therefore revenue decoupling is not needed, and that "it is inappropriate and potentially harmful to customers to assure a utility of its revenue requirement"?

A. No, for several reasons. First, as I have discussed above and in my direct testimony, the current ratemaking mechanisms in New Hampshire do not reflect the realities of the forces that the Company is facing — forces such as the continued need to make significant non-revenue-producing capital investments, continued increases in operating expenses, flat or declining usage by customers, and important state and national policies promoting energy conservation. Second, as I noted earlier, assuring a utility of its revenue requirement is a very different thing from assuring it of its allowed return. Revenue decoupling may do the former, but it absolutely does not do the latter. Third, as I have also described above, revenue decoupling is needed to delink the utility's revenues from its sales, so as to align the financial incentives of the Company and its customers with regard to energy efficiency. There is nothing harmful about adoption of a ratemaking policy that ensures that the ratemaking process does not create financial incentives for the Company to act in a manner that is contrary to state policies. Finally, it appears that Mr. Frantz's and Mr. Naylor's position is that there is something wrong with allowing a company to collect from customers the amount of revenues that the Commission authorized it to collect. Such a position is illogical. Contrary to what Mr. Frantz and Mr. Naylor suggest, implementing revenue decoupling would be a step forward in rebalancing the equities in the ratemaking process.

Q. Dr. Briden also raises the concern that the Company's proposed revenue decoupling mechanism would shift risk to ratepayers. Are his arguments valid?

A. No. As I explained previously in response to Mr. Naylor's and Mr. Frantz's concerns about the same issue, I think that Dr. Briden errs in asserting that the RDM shifts risk to customers. His examples only point to certain risks that customers face, and he overlooks the fact that customers currently face the risk that the Company will collect more than the allowed revenue requirement during a year with colder-than-normal weather or increased sales because of increased economic activity or for any other reason. The RDM assures that the Company is allowed to recover no more and no less than its allowed revenues per customer. This does not shift risk in one direction or another; both the Company and its customers experience symmetrical changes in risk.

Q. Both Dr. Briden and Mr. Colton raise concerns about the overall rate impacts that could arise under the Company's proposed revenue decoupling mechanism. What is your reaction to this argument?

A. I think that it is not grounded in evidence. As I mentioned in my prefiled direct testimony, a recent study of impacts of RDMs as implemented by the full set of then-current "operative" instances of revenue decoupling by a total of 28 natural gas local distribution companies and 12 electric utilities across 17 states indicate that the "decoupling adjustments tend to be small, even miniscule. Compared to total residential retail rates, including gas commodity and variable electricity costs, decoupling adjustments have been most often under two percent, positive or negative, with the

majority under 1 percent…Decoupling adjustments go both ways, providing both refunds and surcharges to customers."[20]

Additionally, I have calculated an estimate of the potential size of revenue decoupling adjustments for residential heating customers under different weather assumptions, in order to provide some indication of the size of potential RDM adjustments that could arise due to such variation.[21] My analysis (whose results are shown below in Table SFT-R-3) confirms that the rate impacts of the RDM would be small and would be positive or negative.

As indicated in the table, I analyzed RDM adjustments under five scenarios: normal weather; weather that is 5 percent warmer than normal; weather that is 10 percent warmer than normal; weather that is 5 percent colder than normal; and weather that is 10 percent colder than normal. All of these scenarios assume: (a) the Company's proposed new rates (including proposed revenue requirement) and RDM are in place; (b) a number of residential non-heat customers (R-1) convert each year to heating services (R-3), based on recent historical trends in conversions; (c) the Company's forecasts of new (growth) residential heating customers; (d) the Company's proposal for including all existing customers in the RDM process (including customers that converted from non-heat to heating service); (e) the Company's proposal to retain revenues for new customers (e.g., new meters) between rate cases and apply the RDM revenue reconciliation adjustment factor to new customers; (f) billing determinants used to calculate the RDM

[20] Pamela G Lesh, "Rate Impacts and Key Design Elements of Gas and Electric Utility Decoupling: A Comprehensive Review," 6/30/2009, page 4.

[21] I previously provided the results of this analysis to the parties in this case in the Company's response to Data Request OCA 3-3, included as Attachment SFT-R2.

reconciliation in any year are based on an assumption of normal weather in the following year, regardless of the weather experienced in the year in which reconciliation is occurring; and (g) year-to-year constant usage per customer within a scenario (although the amount of usage varies by scenario, given that scenario's assumption about weather).

Table SFT-R-3
R-3 Annual Customer Bill Impacts
(With the Bill Impacts in a Year based on the Effect of the Prior Year's Revenue Reconciliation)

	Rate Year 1	Rate Year 2	Rate Year 3
	(No Revenue Reconciliation in 1st Year)	(1st Year of Revenue Reconciliation)	(2nd Year of Revenue Reconciliation)
Scenario:	2011	2012 (relative to 2011)	2013 (relative to 2012)
10% warmer weather	-	+1.001 %	+0.984 %
5% warmer weather	-	+0.494 %	+0.484 %
Weather-normalized	-	0.000%	0.000%
5% colder weather	-	-0.496 %	-0.488 %
10% colder weather	-	-0.996 %	-0.979 %

Notes:
The calculation of bill impact in a year is based on the following calculation, using Year 2 as an example of the first year in which an RDM Adjustment would be included in rates:

Multiplying (a) the prior year's RDM Reconciliation Adjustment (if any) in dollars per therm (e.g., based on Year 1's RDM revenue imbalance (actual billed revenue per customer relative to target revenue per customer, divided by Year 2's billing determinants)), times (b) the upcoming year's expected average usage per customer (e.g., Year 2's weather-normalized average use), which would equal (c) the total RDM revenue adjustment (positive or negative) to be collected from each customer in the upcoming year (e.g., Year 2).

This amount (in $) divided by estimated total customer bill (in $ and including commodity and delivery charges) is the percentage bill impact (of the RDM Reconciliation Amount) in the upcoming year.

In order to calculate the per-customer therm usage for the scenarios, this analysis assumes that 73 percent of a residential heating customer's usage is weather-sensitive, and that a 1 percent change in degree days equals a change of 6 therms in a customer's usage for that weather sensitive portion of the customer's bill. These assumptions are based on the Company's experience.

This is a reasonable representation of potential impacts of the RDM in light of weather changes and in light of the Company's degree day data for the 40-year period from 1968/69 through 2007/2008, which indicate that over half (53 percent) of the years had degrees that were within +/- 5 percent of normal year degree days, and 90 percent of

the years had degree days within +/-10 percent of normal-year degree days. In light of this type of variation in weather conditions, weather variation in combination with trends in conversions of existing residential customers from non-heating to heating service is likely to keep bill impacts associated with RDM reconciliations small – that is, within +/- 0.5 percent for 5 out of 10 years and within +/- 1.0 percent for 9 out of 10 years – all else being equal.

These results confirm that weather variation already introduces deviations in the amount of revenue that customers pay to the Company, sometimes producing more revenue than the amount allowed by the Commission and other times producing less than the allowed amount of revenues. Revenue decoupling ensures that the amount authorized would be the amount collected, with relatively small impacts on customers' rates.

Q. But are you concerned, like Mr. Colton, that this proposal would adversely impact low-income customers?

A. I agree with Mr. Colton about the importance of assuring that low-income customers are not adversely and differentially harmed by the Company's proposal, but I do not think that the Company's revenue decoupling proposal would have that outcome. First, the impacts are small on all residential customers, as noted above. Second, the proposal is structured in exactly the same way that the current low-income discount is structured (as described in the rebuttal testimony of Ms. Ann Leary). And third, low-income customers would get the symmetry of having upside of positive revenue adjustments along with negative revenue adjustments – with either being small.

IV. Other Specific Criticisms Made by Intervenor Witnesses Regarding the Company's Revenue Decoupling Proposal

Q. Dr. Briden argues that revenue decoupling is insufficient to create appropriate incentives for the utility to promote energy efficiency, and that any support for revenue decoupling ought to be tied to incremental additions to energy efficiency programs. What is your response?

A. As I mentioned previously, this misses the point that the purpose of revenue decoupling is to remove the *disincentive* inherent in traditional rates. But I agree with him that shareholder incentives are important for producing the *incentive* for energy efficiency. New Hampshire has recognized this principle of ratemaking and has shareholder incentives in place.

This rate case is not the regulatory forum in which the Company's energy efficiency programs are reviewed by the Commission. Dr. Briden has ignored the information available in other proceedings and the energy efficiency programs supported in them. The Company has made aggressive energy efficiency proposals in the energy efficiency docket. The fact that the energy efficiency program budgets and targets are considered in a different proceeding is irrelevant to the point that ratemaking mechanisms need to be aligned with the Commission's goals for energy efficiency.

Q. What is your reaction to Dr. Briden's argument that full decoupling is a blunt instrument to deal with ratemaking issues relating to energy efficiency, and that if the Commission were to decide to adopt revenue decoupling, it should order "some

form of 'lost revenues' decoupling program"?

A. Given the value of delinking revenues from sales from the point of view of aligning the Company's and customers' interest in energy efficiency, the Company elected to propose full decoupling, in large part because it is a mechanism that is relatively easy and transparent to implement in practice. By contrast, partial decoupling (or a mechanism that distinguishes between revenues or profits specifically lost as a result of implemented energy efficiency as opposed to some other factors such as weather, economic conditions, or price-elasticity-of-demand effects) is much more difficult to administer and oversee. A full revenue decoupling approach is a relatively mechanical methodology to implement and can be verified by the Commission in a relatively transparent and straight-forward way. By contrast, partial decoupling tends to require much more detailed filings, with extensive documentary support for how the utility distinguished revenue impacts from energy efficiency programs actually supported by the company and actually implemented by customers in the relevant time period, from revenue impacts resulting from other forces. Such documentary support needs to be clear about the application of judgment and assumptions about the impacts of weather, economic conditions, changes in appliances and equipment on customer locations, and other factors that can affect changes in customer usage from test year levels. Of necessity, the Commission's review of such documents would be more time-consuming, with a likelihood of more complex and litigated records in formal administrative proceedings.

Although he states his preference for a "lost revenues decoupling program" over the type of full revenue decoupling proposed by the Company, Dr. Briden has not

indicated how he would design such a lost-revenues decoupling approach, much less in a way that would address these administrative problems.

Q. What is your view of Dr. Briden's other recommendations – that there be a cap imposed on the size of any RDM adjustment, a sunset provision, any RDM adjustments be implemented through the customer change, and consideration of the existence of the shareholder incentive – in the event that the Commission decided to authorize revenue decoupling in this case?

A. I agree with Dr. Briden that it may be reasonable to introduce a cap on the amount of RDM revenue adjustment in any reconciliation period, and elsewhere I have supported the introduction of caps on the adjustments that could occur in any single time period or triggers that initiate interim adjustments related to revenue decoupling.[22] A cap of +/- 3

[22] I note too that the National Grid USA's affiliates have RDMs with different caps in place in different jurisdictions, in part with testimonial support I provided.

- For the Company's Massachusetts natural gas affiliate, there was a cap of +/- 1 percent proposed (with a proposed 3 percent cap on certain incremental capital investments), and the Massachusetts Department of Public Utilities ("DPU") adopted a +/-3 percent cap on RDM, with a 1 percent cap on certain incremental capital investments). The cap applies on a RDM reconciliation group basis using total customer bill impacts (i.e., commodity and delivery charges), and any amounts above the cap are held with interest for reconciliation in a subsequent period.
- For the Company's Massachusetts electric utility affiliate, the proposal was to introduce a trigger of +/- 10 percent of delivery revenues as the point at which there would be an interim (mid-year) adjustment to smooth out any rate impacts, with the proposed target revenue including adjustments related to certain incremental capital additions and net inflation. The DPU adopted a 3 percent cap (with amounts above that subject to reconciliation at a later period, with interest). The DPU allowed certain CapEx adjustments to target revenues, but not the inflation adjustment.
- For the Company's New York electric affiliate, a stipulation agreed to by the Company holds that there is an interim surcharge/credit (rather than an annual) introduced any time that there is a 1.5 percent variance in target revenues relative to actual delivery revenues (on a monthly basis). Only one interim adjustment may be made per year per reconciliation group; any amounts above that cap are carried over with interest. The target revenue is based on a future test year, consistent with New York regulatory policy. The decision is pending in this rate case, although the recommended decision recently issued by the New York Public Service Commission's assigned Administrative Law Judges recommends acceptance of the stipulation.

percent of the total revenues for the RDM Reconciliation group during the same season in the previous year would seem reasonable and is not likely to be reached, in light of my prior analysis shown above.[23]

I do not agree with a sunset provision, since I think that this is not sound ratemaking policy for the reasons I describe at length above and in my prefiled direct testimony.

Regarding Dr. Briden's suggestion that any RDM reconciliation be implemented through an adjustment to the customer charge, I think it is more appropriate to introduce it through the variable charge that is used to reconcile various other costs. Additionally, the Local Distribution Adjustment Factor applies to all therms sold to a customer; if the customer saved energy as a result of energy efficiency, then it would experience the benefit of lower RDM reconciliation adjustment charges due to the lower amount of energy consumed.

Finally, with regard to Dr. Briden's recommendation that the Commission take into account the existence of the shareholder incentive tied to the Company's performance on energy efficiency issues, I assume that the Commission would take into account all aspects of ratemaking issues relating to energy efficiency programs and policies, including program cost recovery, revenue decoupling, rate design, and shareholder incentives in evaluating the proposed RDM. That said, for the reasons that I have stated above, I believe that even with the energy efficiency program cost recovery

[23] The amounts above the cap would be carried over for reconciliation in the subsequent RDM reconciliation period, with those amounts carried with interest. Presumably, the cap would be calculated and effectuated separately for each RDM reconciliation group. To reflect a limit of the bill impact to customers' total gas bill, for the purposes of the 3% cap calculation, total revenue would include an imputation of natural gas commodity costs for transportation customers.

and shareholder incentives, there are sound and compelling reasons to adopt revenue decoupling, to break the disincentive that exists under traditional rate design and rates in New Hampshire, such that the Company's financial interests are misaligned with its customers' interests in adopting aggressive cost-effective energy efficiency measures.

Q. Does this conclude your testimony?

A. Yes.