

**STATE OF NEW HAMPSHIRE**  
**PUBLIC SERVICE COMMISSION**

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**INVESTIGATION INTO ENERGY  
EFFICIENCY RATE MECHANISMS**

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**DE 07-064**

**COMMENTS OF NORTHERN UTILITIES, INC.**

On May 14, 2007, the New Hampshire Public Utilities Commission (the “Commission”), opened an investigation into electric utility rate structures that promote the efficient deployment of demand-side resources including energy efficiency and conservation measures. Subsequently, the Commission expanded its investigation to address natural gas services provided by local distribution companies (“LDCs”) as well. The primary issues relate to whether the existing rate structures create financial disincentives for utilities to promote demand-side (“DSM”) efficiency resources, and to what extent changes to existing practices would better align the interests of customers and utilities and thereby promote greater investments in DSM resources.

The Commission’s investigation is an important one. Concerns are growing over rising commodity energy prices and the environmental impact of energy consumption. Changes to basic ratemaking approaches are one tool to advance necessary energy policy. In writing and then orally on July 20, 2007, Northern presented specific information on its existing energy efficiency programs and a brief overview of recommendations for rate mechanisms the Commission might consider.

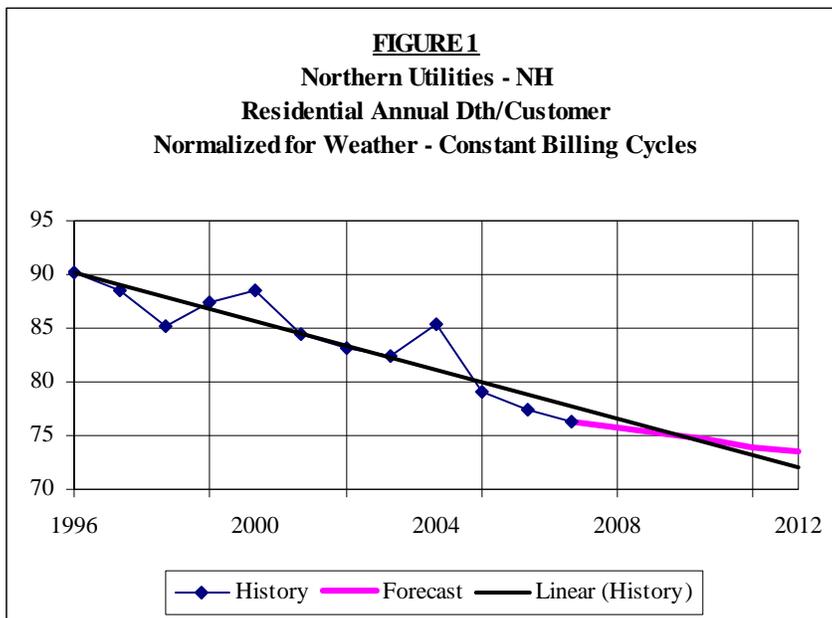
Northern’s comments today respond to the Commission’s March 13, 2008 request seeking information on the degree to which Northern has experienced declining sales and factors

that are likely to influence future sales levels; the relationship between ratemaking approaches and investments in energy efficiency; and, the implementation of new rate approaches.

### **I. NORTHERN’S DECLINING USE EXPERIENCE**

Historical and anticipated future consumption trends are established by examining use per customer (“UPC”) for groups of similarly-situated groups of customers. Market and regulatory factors affect these consumption trends and can provide further context for the Commission.

Northern’s experience mirrors that of other utilities: it has experienced a persistent and declining trend in residential UPC. Figure 1 provides the weather-normalized UPC for Northern’s New Hampshire Division residential customers over the period 1996 through 2007. The average rate of decline over this period has been approximately 1.5% per year, from 90.1 MMBtu per customer in 1996 to 76.3 MMBtu per customer in 2007.



The decline reflected in Figure 1 is dramatic and has material consequences. Although some years show increases,<sup>1</sup> the longer-term downward trend is clear. More energy-efficient appliances and construction codes and practices have contributed to less gas consumed per customer. Downward trends in UPC are attributable to a number of other factors, including the introduction of and penetration of the Company's energy efficiency programs and expected behavioral responses to rising and more volatile energy prices.

Nationally, increased penetration of natural gas in residential and C&I markets was offset by declining average use because of improved energy efficiency in natural gas appliances and boilers. More electricity is generated using natural gas, thereby increasing demand on natural gas markets, particularly with regard to pipeline capacity to move gas to Northeast markets, where supplies are constrained because of limited capacity.<sup>2</sup>

Tight natural gas supplies create volatility and higher market prices. Small movements in demand or available capacity lead to significant movements in price. Historically, natural gas prices were characterized by low and stable prices but more recently, natural gas consumers and gas distribution utilities are exposed to increasing price risk due to fundamental changes in market dynamics.

Wholesale natural gas commodity prices rose in excess of 300 percent between 2000 and 2005. Price volatility of this magnitude has substantially increased the economic burden on Northern's customers. As the Commission knows, natural gas commodity costs are recovered at the level incurred through Northern's Cost of Gas ("COG") clause. Over the past eight (8) years, Northern's cost of gas rose over 100 percent from approximately \$5.60 per MMBtu on average (2000) to \$11.70 per MMBtu on average (2007). Northern agrees that the current environment

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<sup>1</sup> These increases are likely due to random events or measurement changes, such as Northern's transition to a new billing system in 1999 and 2000.

demands greater emphasis on energy efficiency and other means of reducing the energy costs that burden its customers. Natural gas commodity prices are forecast to remain at elevated levels; use of natural gas to meet electricity demands is expected to continue. Declining use per customer, therefore, can be faithfully predicted based on the historical consumption trends of Northern's New Hampshire Division customers.

Moreover, there is empirical evidence of the trend. The American Gas Association ("AGA") studies historical patterns of residential customer use on both a regional and national basis. The trends are real and documented. There are substantial revenue risks associated with declining UPC levels because existing rate design does not address the impact on revenues of declining trends in customer usage. Earnings erosion attributable to customer response to and impacts of changing markets harms regulated companies irreparably: embedded costs to serve customers do not decline when customers consume less natural gas.

Utilities with substantial fixed costs to serve customers are harmed dramatically as UPC declines. Utility rate design directly affects utility energy efficiency planning: however, existing regulatory policy does not align the interests of utilities and their customers. The Commission is joining numerous jurisdictions that have implemented or are considering the implementation of innovative means of aligning utility regulatory and rate policies with energy and environmental policies, of synergizing customer, utility and environmental interests. Industry stakeholders and market participants should be flexible in the evaluation of all regulatory alternatives to advance the most efficient use of energy resources.

## **II. RATE STRUCTURE IMPACT ON ENERGY EFFICIENCY INVESTMENT**

There exists today a stronger imperative to develop energy efficiency and renewable resources than at any other time in history. Efficiency and renewable energy resources are key to

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<sup>2</sup> More than 95% of the generating capacity built from 2000-2005 was gas-fired.

stabilizing and reducing energy costs for consumers in an environment where overall demand growth is outpacing supply deliverability leading to higher and more volatile prices. These resources will play an increasingly important role in achieving environmental policy goals of lowering the carbon emissions that pose substantial environmental risks, and relieve some of the upward pressure on natural gas commodity prices.

Rate design and associated revenue recovery mechanisms are important tools relied upon by regulators and interested stakeholders to achieve policy objectives over time. The energy industry continues to undergo rapid evolution in material respects, and regulated distribution utilities are certainly no exception. Recent industry changes contribute to heightened challenges for utilities and their customers and necessitate a reordering of public policy objectives and the specific role that utility rate design plays in meeting those objectives.

Existing rate structures promoted important policy objectives that were designed to expand natural gas service to more customers. Nearly all of the costs of providing distribution service are fixed and will not vary based upon the level of individual customer consumption. Utility rates recover the embedded or fixed cost to serve customers (the revenue requirement) almost solely through variable charges. The utility is dependent upon consumption by its customers to have the opportunity to earn sufficient revenues to both cover its costs and permit a return. Nearly three-quarters of Northern's distribution service revenue requirement is recovered through the variable rate components of its rate design.

Rate design is instrumental in creating specific operating incentives for a regulated company and in encouraging the utility to advance the Commission's public policy objectives. Traditional rate design approaches create an inconsistency between a utility's cost structure and its revenue structure that is inconsistent with energy conservation. A rate structure that recovers

fixed costs primarily through variable charges are appropriate only for the gas utility to grow loads for existing and new customers and customer use is stable. Declining use by existing customers reduces distribution revenues, but does not lead to any reduction in associated distribution service costs<sup>3</sup>. While growing load through the addition of new customers is consistent with public policy favoring clean-burning natural gas, incentives to grow load by current customers is at odds with other public policy goals that favor reduced energy use.

The core objective of a decoupling mechanism is to break the link between energy throughput or sales volumes on the one hand and utility revenues or earnings on the other. This can be accomplished in many different ways, including the implementation of cost-based fixed distribution rates or through an annual revenue adjustment mechanism. Aligning the utility's interests with increased energy efficiency through a decoupling ratemaking mechanism sets the stage for important changes in the manner in which it delivers conservation and energy efficiency opportunities to customers.

Northern recommends that the Commission recognize that there is considerable flexibility in the manner it may achieve the primary objective of engaging utilities to promote aggressively energy efficiency and conservation measures. Among these are the implementation of fully cost-based rates for the distribution component of customer bills and the implementation of a UPC revenue true-up mechanism.

Under fully cost-based rates, all of an LDC's fixed costs are recovered through fixed base rate charges. This can be accomplished through a fixed monthly charge similar to that employed in the cable industry or through a combination of fixed monthly and fixed demand charges. As a

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<sup>3</sup> Incremental revenues associated with adding new customers to the distribution system are needed to cover the costs of the added customers and do not mitigate the financial impact of revenue losses associated with existing customers. Essentially new customers added in accordance with Northern's tariff generally pay for themselves and do not help (nor hurt) the revenue impact associated with decline in UPC of existing customers.

result, variations in UPC do not result in changes in recovery of base revenues and therefore a decline in UPC is not detrimental to the LDC's financial stability.

There are many benefits to fixed cost recovery rate design in addition to aligning utility and customer interests. Currently approximately 70% of a typical Residential Heating customer's total bill consists of the volumetric gas commodity charge. Therefore, even with fixed base or delivery charges, customers would continue to have great economic incentive to lower gas consumption.

Decoupling and other similar innovative ratemaking mechanisms can transform an LDC into a strong and effective ally in the promotion of energy efficiency. Once the imprimatur of financial instability resulting from the promotion of energy efficiency is adequately removed, an LDC will advocate energy efficiency and conservation efforts and assist further in driving down customer use in order to increase customer awareness, retention and satisfaction. Northern has a strong financial interest in retaining customers for decades into the future; the capital revenue requirements continue for upwards of fifty (50) years under most depreciation rate schedules used for ratemaking purposes. Making energy consumption affordable for customers will enhance the opportunity for the Company to collect the costs associated with rendering service both today and tomorrow.

Modifications to rate design to provide for decoupling would preserve the financial stability of the utility during times of shifting customer demand. Decoupling is increasingly important for gas utilities in order to maintain the confidence of investors and to attract capital on reasonable terms in order to fund capital and infrastructure projects that ensure reliability and system integrity for the benefit of the communities that are served. Decoupling would afford the

utility a reasonable opportunity to recover the costs to serve customers while promoting important state energy policy goals.

Decoupling allows a utility to recover the base revenue impact of any decline in customer usage from customers; however commodity cost reductions represent dollar-for-dollar savings in the cost of natural gas service. Therefore, while decoupling preserves a utility's financial position, customers will remain, on average, substantially better off through increased conservation. As previously stated, this is because the gas cost component of total rates represents the largest share of costs incurred by customers.

Once the policy and regulatory goals are aligned with decoupling, new opportunities will develop to permit closer partnerships among utilities and their customers, environmental advocates and policy makers who will together seek the many benefits associated with reduced energy consumption.

A number of agencies, associations and ad hoc groups have issued position papers recommending innovative changes to gas utility rate structures, such as the 2004 Joint Statement of the AGA and the Natural Resources Defense Council on Energy Efficiency, the National Association of Regulatory Utility Commissioners ("NARUC") Resolutions in 2004, 2005 and 2006, and a National Action Plan for Energy Efficiency (the "National Action Plan"). The National Action Plan was endorsed by a broad array of industry participants including the New England Conference of Public Utilities Commissioners ("NECPUC"). In November 2007, a subsequent guide was released entitled "Aligning Utility Incentives with Energy Efficiency Investment." The National Action Plan and the November 2007 guide present a balanced perspective on the issues in this proceeding.

#### **IV. APPROACHES TO RATE DESIGN CHANGES**

The Commission should adopt an efficient regulatory process for considering changes such as decoupling because of broad policy and important utility-specific implications. It may be appropriate for the Commission to issue guidelines to start, outlining its view on how ratemaking practices can promote energy efficiency investment and coordination. The broad guidelines could include whether the Commission would prefer to mandate changes for all utilities and the associated timing. At the same time, the Commission should provide for flexibility to implement the associated changes for each utility independently.

Twelve jurisdictions have adopted decoupling for one or more utilities. In approximately half of the cases, decoupling was implemented independent of a base rate proceeding. Decoupling may initially take place outside of a base rate proceeding, particularly if a utility has had a relatively recent base rate review. No jurisdictions that have implemented decoupling have mandated rate case filings; however, the New York Public Service Commission initiated decoupling for all gas and electric utilities through ongoing or upcoming base rate cases, but has not mandated a rate case filing from each company.

Northern recommends that the Commission consider alternative means of initially establishing a decoupling mechanism for an individual utility. For instance, a utility may implement the new ratemaking framework by linking back to the UPC or base revenue per customer inherent in an appropriate level of billing determinants (perhaps from the test year in the prior rate case) to establish the baseline or by demonstrating that the change in rates and rate design is revenue-neutral. The Commission may wish to permit one or more utilities to conduct decoupling pilot programs for a specified duration. Typically, pilots can be implemented more rapidly and may provide the additional benefit of structured learning opportunities for policy makers, utilities and other interested stakeholders. There may be some instances where the

Commission may seek to require a utility to file a base rate case prior to implementing decoupling.<sup>4</sup>

Northern recommends that the Commission provide for design flexibility as there will be greater potential gains in efficiency and deployment of new technologies if the Commission allows specific tailoring of a basic approach to each utility. The Commission's primary focus, therefore, should be the establishment of ratemaking policy guidelines, approving different approaches for different utilities.<sup>5</sup> The Commission and other stakeholders should also anticipate that there will need to be adjustments to the new ratemaking mechanisms after implementation. Testing variations of innovative approaches over a range of market conditions will provide the greatest degree of understanding of the best approach and most likely results for the long-term.

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<sup>4</sup> An example could be if it has been five or more years since the utility has filed a base rate case.

<sup>5</sup> Even the California Public Utilities Commission ("CPUC"), with multiple years of decoupling experience, approves different approaches for different utilities. Moreover, the CPUC periodically approves changes to the plans of specific utilities.