Public Service of New Hampshire
Docket No. DE 07-064
Energy Efficiency Mechanisms
Comments on Decoupling Ratemaking Treatment

I. Introduction

On March 13, 2008, the Commission issued a secretarial letter seeking comments on several issues in this generic proceeding on decoupling. The Commission sought comments on the following:

- whether utilities have experienced, or expect to experience, declining sales attributable to energy conservation, energy efficiency or demand response programs;
- whether existing rate treatment poses an obstacle to investment in energy efficiency;
- whether different rate treatment would promote such investment;
- whether these issues should be pursued in this docket, through utility-specific rate cases, as part of a rulemaking, or through some other means; and
- whether decoupling would constitute an alternative form of regulation under RSA 374:3-a.

Public Service of New Hampshire (PSNH) is pleased to offer its comments on the above issues.

II. Impact of Energy Efficiency on Sales Growth

PSNH has been implementing the Core Programs approved by the Commission for the last six years. Under the Core Programs, utilities report the amount of kilowatt-hour savings attributable to the programs each year. Over the last six years, the amount of kilowatt-hour savings PSNH's customers have realized as a result of the Core Programs is 4.0 billion lifetime kilowatt-hours.[1]

Beyond the historical savings, PSNH anticipates that an increasing amount of kilowatt-hours will be saved in the coming years. There are two primary drivers for the anticipated increase in kilowatt-hour savings. First, in its Least Cost Integrated Resource Plan (LCIRP) filed with the Commission on September 30, 2007 in Docket No. DE 07-108, PSNH proposed to expand the Core Programs and fund such expansion through a 50% increase in the energy efficiency component of the System Benefits Charge. PSNH stated in the LCIRP that such expansion would decrease its

[1] Lifetime kilowatt-hours are total kilowatt-hours saved by an energy efficiency measure over its useful lifetime.

capacity requirements by 26 MW by 2012, and would decrease its energy requirements by 97,000 MWh over the next five years. Second, and perhaps more importantly, PSNH anticipates significant kilowatt-hour sales reductions as a result of aggressive energy efficiency and demand response programs that will be implemented once funds become available from the sale of allowances under the Regional Greenhouse Gas Initiative (RGGI). PSNH cannot predict the magnitude of dollars that might be available for energy efficiency and demand reduction measures as a result of RGGI and therefore cannot provide an estimate of the amount of energy sales reductions that may occur.

III. Existing Rate Treatment

Under existing ratemaking, the distribution revenue associated with any kilowatt-hour sales loss attributable to energy efficiency programs is not recovered until new rates take effect following a rate case. This phenomenon is commonly referred to as "regulatory lag" and is an inherent factor in many aspects of PSNH's business. Under current regulatory policy, the rate case process is extensive and lengthy. The existence of regulatory lag creates a theoretical disincentive for a significant increase in investment in energy efficiency, because the shortfall in revenue attributable to energy efficiency measures cannot be recovered unless and until a rate case is filed and new rates are implemented.

Notwithstanding the theoretical disincentive, PSNH has been implementing and will continue to implement energy efficiency programs. Moreover, as discussed above, PSNH is recommending a significant increase in energy efficiency measures in its most recent LCIRP. PSNH's actions demonstrate its commitment to increased energy efficiency despite the negative financial consequences that will result.

Elimination of the theoretical disincentive would remove the financial obstacle faced by PSNH and other utilities with respect to increased energy efficiency investment, would be viewed favorably by the investment community, and is sound regulatory policy, especially in view of the significant increase in energy efficiency that is likely to occur in the near future. Utilities should not be faced with making decisions between increasing energy efficiency and maintaining profitability.

IV. Potential Ratemaking Approaches to Encourage Energy Efficiency

There are a variety of approaches that could be used to eliminate the disincentive for energy efficiency investment. There is no one approach that suits the needs of all stakeholders, since each approach has both limitations and consequences. The objective in selecting an approach should be to provide the greatest incentive to engage in energy efficiency while minimizing potential negative consequences. In this section, PSNH will describe some of the approaches that should be considered by the Commission, and will discuss the ramifications and shortfalls of each approach.

A. Modified Rate Design

An electric utility's distribution rates typically consist of a customer charge, a demand charge (kW or kVa, for non-residential customers), and a usage (kilowatt-hour) charge. Energy efficiency programs affect primarily the amount of kilowatt-hours consumed by a customer (and to a lesser extent the amount of kilowatt demand). Therefore, by increasing customer and demand charges and decreasing usage charges, the impact of energy efficiency programs on a utility's profitability is moderated. Ideally, if usage and demand charges could be priced at the marginal cost of distribution, there would be no effect on a utility's profitability associated with changes in energy consumption. This approach, however, has some serious drawbacks.

First, increasing customer charges to recover non-energy costs and lowering usage charges correspondingly could result in significant bill impacts (in percentage) for lower use customers, particularly low use residential customers. Increasing customer and demand charges and lowering usage charges could also significantly impact bills for low load factor general service customers.

Beyond this, measuring the marginal cost of distribution for a kilowatt-hour saved is an academic exercise and is subject to significant disagreement. Investment by utilities in distribution tends to be "lumpy" making it difficult to accurately determine the cost of serving an additional kilowatt or kilowatt-hour or the savings associated with serving one less kilowatt or kilowatt-hour.

For these reasons, it would be difficult to achieve the objective of improving rate design to be more compatible with reduced energy use while minimizing the bill impact such change could have on certain customer segments.

B. Incentives for Engaging in Energy Efficiency

The current practice in New Hampshire is to reward utilities for superior performance by providing them with a shareholder incentive if energy efficiency programs meet certain pre-established targets. This mechanism works reasonably well in that it provides some compensation to the utility to offset the revenue loss associated with energy efficiency investments. Results under the Core Programs reported to the Commission demonstrate that PSNH is aggressively pursuing and implementing energy efficiency at customers' premises under this incentive approach.

There are two shortfalls to the existing shareholder incentive approach. First, the amount of the incentive is less than the revenue loss attributable to energy efficiency programs, so there is still a negative impact on earnings. Second, the amount of the incentive is a function of kilowatt-hours saved in the year in which the energy efficiency measure is installed. Since energy efficiency measures are long-lived, the impact on earnings continues for the life of the measures.

C. Placing Energy Efficiency Spending on Equal Footing with Other Investments

When a utility makes a capital investment, it is allowed to recover the revenue requirements associated with that investment. Revenue requirements include a return on the amount invested, thus providing earnings to shareholders for the use of their capital. Energy efficiency spending, on the other hand, does not earn any return. If a utility has a profit maximization incentive, there is a conflict between investment in the utility's system and energy efficiency spending because investment in the system produces earnings while energy efficiency expenditures do not.

One method for eliminating this conflict would be to place energy efficiency spending on an equal footing with other investments. If a utility were allowed to recover the revenue requirements associated with energy efficiency spending, including a return on energy efficiency measures installed at customers' premises, it would eliminate the natural bias toward investment in the system.[2] It would also spread out energy efficiency cost recovery and could reduce rates in the near term since the revenue requirements of energy efficiency spending is less than the up-front cost.

Finally, this approach could be used to further encourage investment in energy efficiency and demand response by increasing the allowed rate of return for demand side investments.

D. Lost Fixed Cost Recovery

Lost Fixed Cost Recovery (LFCR) is a ratemaking methodology once utilized by the Commission that allows utilities to recover the revenue margin above incremental cost that is lost as a result of energy efficiency programs. LFCR was popular prior to restructuring and the corresponding unbundling of prices when a utility's energy price included a significant amount of variable cost associated with fuel and purchased power expense.

Under LFCR, a utility recovers from customers the amount of revenue loss (from energy efficiency) in excess of its avoided cost. With unbundling of prices, a utility loses essentially all of the distribution revenue received through the application of kilowatt-hour prices when a customer reduces kilowatt-hour usage. LFCR therefore protects the utility from earnings impact resulting from energy efficiency programs that the utility implements, thus making the utility financially whole for its energy efficiency efforts. LFCR does not, however, protect a utility from revenue loss resulting from energy efficiency implemented unilaterally by customers or by third party energy efficiency programs.

Implementation of LFCR for known energy efficiency measures would obviate the need for a shareholder incentive, since all of the revenue lost by the utility would be recovered.

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[2] Eliminating the bias toward investing in the distribution system is premised on the assumption that the utility is earning a reasonable return. If, due to regulatory lag, a low return is being earned, there is a disincentive to make any type of investment.

E. Revenue Decoupling

Revenue decoupling is a ratemaking tool that removes or "decouples" the link between a utility's revenue and the volume of kilowatt-hour sales. The theory behind revenue decoupling is that it removes the disincentive to invest in large scale energy efficiency because revenues are no longer fully-linked to sales volume. Decoupling can be implemented in varying degrees.

a. Full Decoupling

Under full decoupling, a utility recovers its allowed revenue requirement, regardless of sales level. A ratemaking mechanism is established to credit or charge customers for any difference between the allowed revenue requirement and actual revenue. Full decoupling eliminates all of the variability in a utility's earnings resulting from sales differences. If sales decrease, rates are increased to recover the shortfall. If sales increase, rates are decreased to refund the excess revenue.

Under full decoupling, there is no disincentive to engage in energy efficiency. Moreover, the utility is also made whole to the extent that customers engage in non-utility sponsored energy efficiency, since actual revenue is reconciled to the allowed revenue requirement.

One drawback to full decoupling is that in addition to eliminating the disincentive to engaging in energy efficiency, it also eliminates any incentive for a utility to undertake economic development efforts. Any sales increase as a result of business expansion or customer growth has no effect on the utility's earnings.[3] Therefore, the utility has little incentive to entice businesses to locate or expand in their service territory, which could be at odds with state policy, particularly during recessionary periods, or with economic efficiency principles.

Another drawback is that the utility is not protected against inflationary cost increases and growth in rate base. Under traditional ratemaking, normal load growth produces additional revenue as a hedge against inflation and to provide some compensation for increases in rate base. With full decoupling, there would be no additional revenue from load growth and thus the utility would be required to file more frequent rate cases to counteract the effects of earnings decline due to inflation and additional investment in rate base. Alternatively, multi-year revenue requirements would have to be determined to incorporate the effect of inflation and rate base investment. Determining multi-year revenue requirements would necessitate the use of future test years, a ratemaking practice which has traditionally not been used in New Hampshire.

[3] Increases in sales can, however, reduce customers' rates, since fixed costs can be spread over more kilowatt-hours of sales.

b. Partial Decoupling

Under partial decoupling, a utility recovers its allowed revenue per customer. A ratemaking mechanism is created to credit or charge customers for any revenue difference resulting from any increase or decrease in average revenue per customer. Average revenue per customer by rate class is determined for a base year. In a prospective year, a comparison is made between actual revenue per customer and base year revenue per customer. The difference is multiplied by the actual number of customers in the rate class and the resulting amount is refunded to or recovered from all customers. If average revenue per customer decreases as a result of energy efficiency, the utility recovers the revenue shortfall from all customers.

As in the case of full decoupling, partial decoupling eliminates the disincentive to engage in energy efficiency, and it also insulates the utility against revenue loss attributable to non-utility sponsored energy efficiency measures.

With partial decoupling, a utility would realize additional earnings if the number of customers increased (provided that those new customers had consumption levels at or below the average level for the class). Additionally, the utility would be insulated against changes in weather variables which impact consumption levels unless both base year and future year revenue levels were weather normalized.

As with full decoupling, partial decoupling also eliminates at least some of the incentive to engage in economic development. Moreover, there would be no incentive to encourage business expansion by existing customers because any revenue gained would be refunded through the decoupling mechanism, since increased consumption due to an expansion would increase the average revenue per customer.

F. Other Approaches

Under New Hampshire law, the Commission must render a decision on a rate case within twelve months of the proposed effective date of the new rates. The traditional practice has been to use all of that time to decide rate cases. Since revenue requirements are based on an historic test year, new rates are based on costs that were incurred eighteen to thirty months before the final rates go into effect, resulting in revenue erosion. Temporary rates approved in a general rate case can provide some level of protection to erosion of earnings; however, temporary rates are not automatically granted by the Commission in every rate case. Temporary rates can become effective no earlier than when the general rate case is filed,[4] based upon an historical test year. Once permanent rates become effective, during periods of inflation or significant capital investment, the new rate level could be insufficient to yield the allowed rate of return, resulting in the need to file more frequent rate cases. With respect to energy efficiency, if rate cases that met certain criteria were resolved within six months, for example, the regulatory lag would be cut in half and the adverse impact of increased energy efficiency investment would be substantially mitigated.

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[4] *Appeal of Pennichuck Water Works*, 120 NH 562, 567 (1980).

Another method to address this earnings erosion issue is the adoption of an ROE attrition allowance during a rate case to recognize the effects of non-utility sponsored energy efficiency and demand response programs. An attrition allowance would provide an additional level of protection and further increase the time between rate case filings.

V. Procedural Issues

PSNH suggests that the Commission adopt one or more of these methods to encourage increased energy efficiency investment based on the circumstances of each utility with respect to the size of the utility, the amount of energy efficiency and demand response efforts in each utility's service territory (both utility sponsored and non-utility sponsored), and the local economic climate in each utility's service territory.

The Commission should therefore evaluate each utility's circumstances individually and determine the approach to be used on a utility-by-utility basis, using common approaches where feasible and effective. Implementation of an approach could be done either following the conclusion of the docket, or when new distribution rates are implemented following the next rate case.

VI. Whether Decoupling is an Alternative Form of Regulation

Alternative Regulation as described in RSA 374:3-a necessitates a divergence from "the traditional methods which are based upon cost of service, rate base and rate of return". The decoupling alternatives explained in the above comments determine an allowed revenue level based upon the traditional methods of rate base and rate of return. Unless decoupling was combined with some sort of incentive mechanism such as performance based rates, decoupling does not appear to require alternative regulation under RSA 374:3-a.