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January 2010

Rate Design – What the Board Needs to Know, Part II

This series is a reprint of an article first published in the Spring 2005 Management Quarterly. Part I was printed in the September 2009 issue of the Energy FOCUS. As cooperatives face the increasingly challenging task of maintaining a meaningful rate policy, we thought it would be appropriate to revisit the basic knowledge required by boards to make good decisions.

No issue facing a cooperative board is more complex and yet more important than its oversight of the development of effective retail rate policies. While developing, evaluating and monitoring policy is the board's primary responsibility, it is also important that directors have a working knowledge of the rate change process. Developing the system revenue requirement is like taking a typical cooperative income statement and turning it upside down. Once the required level of margin is determined, the revenue requirement calculation proceeds from the bottom of the income statement to the top. Using a historical twelve-month test year, staff and management identify the known and measurable adjustments to operating expenses, interest expense and non-operating activities. These items are then added to the required margin to determine the overall system revenue requirement.

Determination of Class Revenue Requirements

The second step in the development of rates is the determination of class revenue requirements - determining if

each rate class is "pulling its own weight." This is accomplished through a cost of service study. While the cooperative's staff is typically involved in detailed development of the cost of service study, it is important for the board to have an understanding of the process.

The purpose of the cost of service study is to determine the level of margin produced by each rate class under existing rate schedules and to calculate the required change in revenue for each rate class based on the proposed overall system revenue requirement. This is accomplished by developing percentage allocations to spread the plant investment required to serve each class, along with associated expenses.

The board should look for consistency of approach in the development of the cost of service study. Generally accepted methodologies for developing cost allocations should be used rather

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Tough Issues in Wholesale Rate Design

Conservation and environmental issues require special consideration when developing wholesale rate structures.

G&T Credit Metrics Change

Distribution cooperatives may be interested in rating services methodology.

GUERNSEY Seminars

See inside for details of upcoming seminar dates.

than developing cost allocations based upon assumptions and methods intended to achieve a predetermined outcome. If the cooperative's rates are regulated by a state utility commission, the methodology is predetermined. If the cooperative is exempt from commission regulation, it should use the same basic methodology as if it were regulated. In either case,

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G&T Credit Metrics Change

Amid a sea of change in the utility industry, modifications to credit ratings methodologies may go largely unnoticed by many distribution managers.

However, it is worth a review as the impact on generation and transmission (G&T) cooperative ratings resulting from one agency's methodology may influence the way we think of the relationship between the distribution cooperative member's financial management and the assigned credit risk of its G&T.

In December 2009, Moody's Investors Service published updates to its methodology framework in assessing the credit risk of U.S. Electric G&T Cooperatives. Moody's credit rating analysis examines five rating factors when determining the creditworthiness of a G&T. The new framework includes modifications to each of the five key factors to "better reflect industry challenges" as well as "simplify the rating methodology." Moody's published its procedures of analyzing the credit risk of G&T cooperatives to "provide more transparency for issuers, investors and other interested parties to assess credit risk for the sector."

Metrics

Moody's five key factors utilized in examining the credit risk of a G&T are:

- Long-term wholesale power contracts and regulatory status
- Rate flexibility
- Member profile
- Financial metrics
- Size

Moody's weights factors based on an assumed relative importance of each measure in determining the utility's rating. One important factor in a G&T's rating is whether or not the G&T and/or its distribution members are jurisdictional to a regulatory service commission. If so, the cooperatives are considered to have less direct control on their ability to recover costs. Moreover, an "unsupportive regulatory jurisdiction" is considered a credit negative. The rating agency views favorably G&Ts whose board or trustees are "proactive in managing the cooperative's rates and cost recovery abilities" including those with long-term wholesale power contracts in place. Other factors contributing to a favorable rating are cooperatives with higher residential

sales as a percent of total sales; G&Ts owning larger pools of assets and those possessing economies of scale, i.e., higher megawatt hour sales. The rating agency continues to assign the highest weighting to the G&T's 3-year average financial metrics including TIER, DSC, funds from operations covering interest and debt, and equity as a percent of capitalization.

With much of the focus on the power supplier, distribution cooperatives remain interested in the methodology contributing to their G&T's rating. According to Moody's, G&T plant and equipment are valued at \$12 billion dollars with expected additions over the next five years of approximately \$8 billion. As the industry faces enormous challenges in the near term, a G&T's ability to access capital will be integral to meeting those challenges. The financial health of the distribution member will be a central part of their G&T's credit rating and ability to access low-cost capital.

For information on Moody's rating methodology of U.S. Electric G&T Cooperatives, visit: chguernsey.com/news/energy.

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the cooperative has a result that is defensible in the event of questions or challenges from members or other power suppliers.

The board of directors should have a realistic assessment of the cost to serve each rate class and that should be presented in a well prepared analysis. A properly prepared cost of service study provides the information the

board needs to determine the appropriate course of action for changes in rates for individual rate classes. For example, the study might show that, while the cooperative as a whole requires a 3% rate increase, the residential rate class requires a 5% increase and the large power class requires a reduction to meet the system average rate of return. The board in this example must carefully weigh the disparity between the classes while balancing member and financial impact.

The summary of the cost of service study should clearly show the level of margins earned from each rate class. Some rate classes will provide higher rates of return than the system average while others will yield lower rates of return. Typically, for cooperatives, large commercial and industrial classes yield higher rates of return than residential or general service classes. This is not uncommon. It is typical for some degree of subsidy to exist among rate classes. This is one of the key issues the board must consider when setting individual class revenue requirements. The board should focus on the level of margin produced by each rate class and the resulting magnitude of subsidy that exists. The board's task is

"...directors should have a realistic assessment of the cost to serve each rate class..."


to determine the appropriate class revenue requirement and thus the level of interclass subsidy that will exist in the proposed rate design.

For rate regulated cooperatives, the standard approach used by state utility commissions in the development of the class revenue requirements is to move the rate of return for each class toward the system average. The goal is to eliminate subsidies by requiring that all classes have the same rate of return. Over time, the class rates

of return are equalized. Missing from this approach, however, is recognition of the different levels of risk assumed in serving

different classes of consumers. Board members should not ignore the concept of risk when determining the individual class revenue requirements as providing service to certain classes of consumers is inherently more risky than others. For example, certain commercial accounts are far more risky to serve than a residential load. Some cooperatives, for example, serve customers whose operations are dependent on government policy – such as ethanol facilities or coal-bed methane facilities that have a limited life. The high

levels of plant investment that are often required for such loads, coupled with the high levels of revenue from these commercial consumers, create a higher potential for loss should the consumer substantially reduce consumption or leave the system. As the risk of serving such consumers increases, the board should consider a higher rate of return for this rate class in order to protect other members.

Perhaps the most important single concept for the board to grasp is that any cost of service study should be viewed as a tool for use in determining rate levels for individual classes, not a roadmap to be followed blindly. The board should always consider the impact on consumers in deciding rate levels. The cost of service analysis will identify existing subsidies between rate classes that should be carefully scrutinized. Often, the justifiable correction of these subsidies is of such magnitude that a one-time rate change would be overly burdensome on the members in the affected rate classes. Board members are rightly sensitive to the possible impact on member's bills and must weigh the results of the cost of service study against the impact on consumers of possible rate changes when determining class revenue requirements. 

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GUERNSEY Seminars

Texas Electric Cooperatives is offering GUERNSEY's cost of service and rate design, financial forecasting and accounting seminars. The seminars are hosted by the statewide association and will be held at various locations throughout the state. Cooperatives from anywhere in the U.S. are invited to register. For dates and locations, contact Esther Dominguez at Texas Electric Cooperatives at (512) 486-6211 or visit www.chguernsey.com/seminar.

GUERNSEY is also offering its courses in Oklahoma City and Orlando.

Financial Forecasting April 21-22, 2010 - Oklahoma City

Rates & Cost of Service September 15-16, 2010 - Oklahoma City

Rates & Cost of Service October 26-27, 2010 - Orlando, Florida

Tough Issues in Wholesale Rate Design

In theory, wholesale rate design should be fairly straightforward and considerably less complex than designing retail rates. But is it?

After all, there are considerably fewer consumers and fewer rate classes. However, as is often the case, nothing is as simple as it might seem. Issues such as load management, pricing signals, and looming environmental concerns are only a few issues which make developing a single wholesale rate structure agreeable for all stakeholders a considerable challenge.

In designing wholesale rates, determining the revenue requirement is the first and generally easiest step. Some debate is common when determining the margin component of the revenue requirement. The margin is generally designed to ensure the G&T (or other wholesale supplier) meets its debt obligations, sustains sufficient cash reserves, and maintains or achieves an appropriate equity level. Once the revenue requirement is determined, the next step is to determine the rate design. Since the rate design for a wholesale rate is typically based on functional cost components, the cost allocation or cost of service study is essential. All rate designs are intended to recover the revenue requirement. However, rate designs may not impact all members the same.

Distinctions among wholesale rate designs often include factors such as high load factor versus low load factor systems high growth versus low growth systems and systems with and without industrial customers. More recent concerns have added to the complexity of wholesale rate design. Hot topics include the impact of load management and energy efficiency programs and greenhouse gas (GHG) emissions, namely carbon dioxide. Restructuring rates to reflect the appropriate pricing signal while addressing the aforementioned may require careful education and

consensus building to develop agreeable rates for all stakeholders.

Load management, or load control, is often encouraged through a demand rate pricing signal. The intent is not to reduce load, but shift it from one hour to another. The consumer instituting load control desires to minimize its bill. If a supplier has multiple demand charges with the same billing units (e.g., production demand and transmission), then a controlled load avoids all of those rates. The customer in this case has reduced its power cost

far more than the wholesale supplier has reduced its cost, resulting in reduced margins. The wholesale supplier may want to examine alternative cost recovery mechanisms to more closely match its revenue to how its costs are incurred. Demand rates should be reviewed to determine whether they are too high. Is the supplier sending an unintentionally strong signal to promote load control?

Energy efficiency programs reduce overall load, impacting both demand and energy rates. The wholesale supplier sees reduced costs; however, if administrative costs and margins have been included in these rates, then as usage is conserved, the wholesale supplier will not recover its intended revenue requirement. Most distribution cooperatives address this situation by adjusting customer charges. A wholesale power supplier may do the same by keeping fixed costs out of the energy component.

Some wholesale rates are "tilted." This means a portion of the demand


or capacity cost of generating and transmitting power is actually being recovered through wholesale energy charges as opposed to demand charges. For wholesale suppliers whose rates include tilt, it is important to consider how it will recover its demand costs as end-use customers conserve energy.

Although GHG legislation is currently being debated in the Senate, the cost impacts of the Waxman-Markey bill approved by the House are being evaluated nationwide. Under Waxman-Markey, utilities as a whole will not receive sufficient allowances to cover their GHG emissions penalties. With the expected increased costs due to GHG emissions penalties, the wholesale supplier must consider cost recovery in its rate design. The supplier is

"...it becomes more important to evaluate the pricing signal sent..."

likely to recover the cost (net of any revenues of GHG allowances sold) through either its base rates or its power cost adjustment (PCA). Most

PCAs are designed to recover changes in fuel and purchased power costs and would require modification to include GHG costs. From the supplier's standpoint, this is likely to be a more favorable alternative. If these costs are not recovered through the PCA, then it could lead to more frequent changes to the wholesale provider's base rates if the GHG costs vary significantly from year to year.

With the number of issues associated with wholesale rate design increasing, it becomes more important to evaluate the rate signal sent by the G&T to its distribution cooperative and member consumer. The challenge at the wholesale supplier level is to be mindful of these issues while maintaining a fair balance of cost recovery among its members. 

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