THE RESURGENCE OF PERFORMANCE-BASED RATEMAKING

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Those of us in the energy and utilities (E&U) sector witness it every day: investments in grid modernization technologies are forcing the electric utility industry to transform at a pace unseen in history. It's arguably not a controversial statement to say that many utilities truly want to innovate and embrace change.

They have this interest either based upon a realization that innovation and change are necessary to support business operations going forward, or from a more aggressive entrepreneurial interest in developing new services and offerings that will require advanced technologies to be successful. However, whether a utility is a municipal, cooperative, or investor-owned, the "smart" technologies that make these benefits possible require some significant risk taking on the part of the utility (and thus its shareholders and customers).

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The consequences of technology transformation are spreading beyond the engineering department and the IT arena and only show signs of increasing. As utilities seek to manage the risk of these new investments, this pressure is perhaps most apparent within regulatory proceedings. Regulators are putting increased emphasis on smart grid, energy efficiency, clean energy standards, and transmission system upgrades. They also prefer proactive steps taken by utilities to improve reliability, responsiveness, and choice while also demanding that the benefits of these investments are maximized and costs are controlled. For many utilities, these regulatory pressures are in direct conflict with concerns about the size and duration of multi-year capital expenses, uncertainty around cost recovery, and long delays between rate cases.

These concerns make even the most progressive utility hesitant to invest the huge amounts of money associated with advanced technologies. Without the matching ARRA funds received by 99 utilities in the first round of smart meter, distribution automation, and intelligent grid investments, it is likely that the pace and status of these technologies would be lagging behind current results. In fact, many experts project a reduction in the pace of deployment for the next generation precisely due to the constraints and issues of capital availability and regulatory cost recovery. The potential for disallowance of cost recovery for a large-scale investment places most utilities into a state of inaction, at least in the absence of a regulatory mandate. Collectively, this state of inaction precludes or at least delays what can be hugely beneficial steps taken to modernize the grid. Put another way, the benefits of grid modernization may be desired, but the associated risks restrict action.

In addition to the rate impacts and capital risk management issues noted above, state regulatory agencies are beset by a number of other constraints that contribute to a less-than-positive outlook on timely smart grid approvals. Cuts in state budgets have reduced staff and reduced knowledge transfer. Increasingly, state legislatures are establishing smart grid, energy efficiency, renewable portfolio mandates and laws that complicate regulatory oversight, judgment, and autonomy, and can even result in regulatory pushback and defensive reactions. Finally, the ever-present tension between federal policies and state authority is increasing in this arena as current and past U.S. administrations push for energy independence and a more secure, responsive, and reliable national grid.

It is against this regulatory landscape that we are witnessing what appears to be a resurgence of performance-based regulation (PBR). The interest in incentivizing utilities to make long-term investments is hardly new; different forms of incentive regulation have been proposed for decades. What is new, and comprises the macroscopic focus of this white paper, are: 1) the specific applications of PBR to investments in smart grid technologies and energy efficiency (EE) programs that appear to be gaining momentum in state regulatory jurisdictions across the U.S; and 2) the heightened awareness that if the benefits of grid modernization are to be achieved any time soon, they need to be enabled through a decidedly different regulatory construct than the one that presently exists within in the majority of state public utility commission (PUC) proceedings.

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The scope and objectives of this white paper are as follows:

- Explain what is currently driving the reconsideration of PBR within the parameters of state electric utility regulatory proceedings;
- Assess how the modern permutation of PBR is being applied to smart grid technologies and EE programs;
- Summarize the dominant PBR statutory and regulatory policymaking that best represent the "PBR resurgence";
- Postulate that the success of PBR is directly tied to how PBR programs are defined at the state level, particularly the creation of metrics used for regulatory evaluation; and
- Introduce a discussion of the strategic steps that both utilities and regulators can take to create a PBR regime in their service territories or jurisdictions, respectively.

WHAT IS PBR?

This white paper will summarize current PBR programs in a number of U.S. states, which will provide the best explanation of how the modern application of PBR is developing. However, in order to proceed with our discussion, it is necessary at this point to at least provide a high-level introduction into the concept of PBR, which will be followed by a more detailed examination of what is driving the current reconsideration of PBR in state regulatory proceedings.

For those who may be unfamiliar with the term, PBR is a fairly generic term that becomes more defined when it is applied in a specific regulatory proceeding. We are not referring to a beer, a Brazilian oil firm, or a western athletic association. Performance Based Ratemaking (PBR) can take many different forms and the application of it will be unique in each state jurisdiction and possibly for each utility. Essentially, PBR refers to a process by which utilities' revenues are adjusted based on a formula tied directly to their measurable performance. Historically, there have been a number of common variations of PBR, including:

- Price caps: Under price caps, prices for utility services are set for long periods of time without regard to the utility's costs. This traditional form of PBR is intended to provide utilities with a direct incentive to lower cost during the term of the price cap.

- Revenue caps: Mechanisms that set a ceiling or cap in a utility's rates or revenue requirement. The caps typically are put into place for several years, but theoretically allow a utility to maximize its profit margin by reducing its costs under the revenue cap.

- Decoupling: Historically, decoupling has been the most common form of PBR. Decoupling essentially refers to those regulatory mechanisms that seek to severe the link between a utility's revenue and its sales volumes. Decoupling does not change the traditional rate case procedure but, in its simplest form, adds an automatic "true-up" mechanism that adjusts rates between rate cases based upon the over- or under-recovery of target revenues.

- Sliding scale ratemaking: Under sliding scale regulation, prices are adjusted to keep a utility's rate of return (ROR) within or close to an identified band. If earnings become too large, rates are cut, and, if earnings become too small, rates are increased.

- Quality of service targets: Used in combination with price/revenue caps in early telecom deregulation and ongoing in certain Canadian jurisdictions and some utility price and revenue cap jurisdictions, utilities are granted automatic increases in prices or rates if quality of service targets are achieved or exceeded.

- Fuel adjustment clauses: While traditionally considered a pass-through for "uncontrollable" commodity changes, some jurisdictions have structured incentive and sharing mechanisms to reduce the potential rate of increase.

- Energy efficiency program trackers: In addition to decoupling techniques to minimize the loss of energy revenues and stranded plant investments, some utilities are also eligible for recovery of EE program investments and costs if they achieve a targeted level of energy reduction. These costs are then tracked and passed on to customers in a bill rider or separate recovery process.

While the techniques mentioned above are historical forms of PBR, what is emerging today (and what represents the suggested "resurgence" of PBR) is a targeted application that is focused on correlating a utility's rates and/or cost recovery to its performance on various measures, such as reliability and customer service as well as costs. Regardless of the unique program elements that might be found in specific applications, there are three key functions that can typically be found in a PBR methodology: 1) setting a baseline revenue requirement for the regulated utility, which creates some variation of a threshold performance level; 2) specifying a "sharing mechanism" to distribute cost savings among ratepayers and shareholders, and 3) designing metrics to measure performance. Some utility policy experts view PBR as "carrot regulation," others view it as "stick regulation," and still others think of it as a "stick painted orange" as the performance thresholds are continuously adjusted in favor of the customer. Obviously, PBR is going to mean different things to different audiences, and depend heavily on the specific application that it takes for utilities in specific states. PBR has some fundamental objectives as well: lower costs for the utility; improved service to customers; and more rational allocation of risks and rewards between the utility, its ratepayers, and its shareholders.

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There appears to be a growing trend in the Utilities industry where PBR has become more prevalent and performance results are contested more frequently as utilities continue to deploy advanced technologies. Regulators will continue to ensure that rates and rate increases are directly tied to measurable performance metrics, (such as a business case) with increased emphasis placed on how those metrics are defined and evaluated. This white paper will discuss the performance metrics that have become most commonly associated with PBR proceedings.

WHAT IS DRIVING THE RECONSIDERATION OF PBR?

There are a number of factors that are contributing to a reconsideration of PBR, leading to a belief that PBR is right for the current E&U environment. Most state jurisdictions, heavily focused on the pursuit of advanced technologies that support grid modernization, are grappling with appropriate and timely approval and risk management processes. As PBR is essentially an alternative form of regulation, our discussion needs to start with the concerns around what are arguably the inadequacies of more traditional forms of utility regulation. PBR can potentially address these inadequacies with its alternative approach. Thus, we would offer that the reconsideration of PBR is being driven by the following four factors:

- Traditional form of cost recovery, built upon a cost of service (COS) / rate of return (ROR) methodology, will not be an effective means to address investments in smart grid technologies and EE programs due to the back-end loaded benefits of most smart grid deployments.
- The regulatory lag historically associated with the COS/ROR methodology inhibits utility investments in advanced technologies;
- Investments associated with smart grid technologies and EE programs are inherently different, require more integration, and result in more downstream transformational impacts than traditional investments utilities have made and, therefore, a new approach toward cost recovery is necessary;
- The increase of data-measuring techniques, and the amount of data being compiled, has heightened the regulatory scrutiny faced by utilities; in other words, regulators are demanding to see measurable results from utility investments, based on a knowledge that such measurement, previously difficult if not impossible, can now be achieved.

First, we must look at the gap that PBR can potentially fill, namely the inadequacies afforded by traditional cost-of-service regulation as applied to the modern environment that is so heavily focused on the advanced technologies that will support modernization of the grid. As PBR is essentially an alternative form of regulation, it is important to establish the regulatory norm. We will define what comprises the modern definition of PBR in the electric utility industry, but first it is important to be clear on what PBR is not.

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For decades, particularly in the pre-1990s era before deregulation and competition began to dismantle what was the monopolistic structure of the electric utility industry, the traditional form of utility regulation was based on a COS/ROR ratemaking paradigm, in which the regulator is primarily—and sometimes—solely—concerned with a utility's operating costs, capital spending, and determining a fair and allowable ROR. This paradigm still represents the standard in the majority of U.S. states, as state PUCs have regulatory authority to determine the revenue requirement of utilities within their jurisdiction; allocate costs (revenue burdens) among customer classes of the regulated utilities; design price structures and price levels that will collect the allowed revenues; and review and approve utility capital investments and long-term planning.

Under COS/ROR regulation, a utility is allowed to charge rates that just cover its costs, including its costs of capital for its infrastructure investments. A key component of the COS/ROR approach to ratemaking process is to determine a utility's return on equity (ROE). Typically, state regulators will establish rates after a review and approval of a utility's total revenue requirements, normally based on a historical test year with some allowance for forward-looking cost changes. Under this traditional approach, utilities typically recover their costs via a combination of base rates updated through general rate cases and separate cost trackers or other adjustment mechanisms. In other words, the traditional form of utility regulation has set prices to assure a specific return on investment after the regulated utility has recouped all of its incurred operating costs, and this return typically has only been equivalent to the amount of money charged per unit of electricity multiplied by the amount of electricity consumed.

This approach has had the undesirable effect of giving utilities very little incentive to minimize their costs, since any cost reduction would cause a reduction in prices and, therefore, a utility's ultimate profits. COS/ROR regulation has been criticized for its primary focus on ROR which can cause a distortion in a utility's use of capital and also can cause inefficient behavior. In other words, COS/ROR regulation does not reward utilities for exemplary performance and therefore a utility has little quantitative incentive to achieve operational or customer service excellence.

The other key aspect, and arguable inadequacy, of traditional ratemaking is what is referred to as the "regulatory lag." First and foremost, many utilities wait several years to seek rate increases and recoup investments, unless they opt to submit cases every year in a "pancake" sort of process. The lag time creates a situation in which rate amounts end up being higher (which obviously is not appreciated by customers) and can be increased even further by riders that are necessary to recoup previous capital investments. Further, rate cases can be laborious proceedings with intensive examinations of the "reasonableness of costs" and prudency of investments. Once an agreement is reached between the utility and the regulatory commission, prices set at the end of a one traditional rate case are fixed until the end of the next rate case. Since there is always an inherent risk associated with utility rates cases (e.g., the possibility of unexpected outcomes, requests being denied or new requirements being imposed) many utilities are quite averse to rate cases and intentionally avoid initiating them. While this approach may keep a utility temporarily

protected from the aforementioned risks, it also precludes opportunities for cost recovery of interim investments in new technologies.

The other "inadequacy" of traditional ratemaking that sets the stage for a reconsideration of PBR is that investments in smart grid technologies are inherently different from the investments that utilities have historically made and thus a new ratemaking design needs to be created. In other words, the COS/ROR structure was built upon a paradigm that is increasingly crumbling—namely, investments made in largely stable and well-known commodities such as poles and wire that carried minimal risk. However, a regulated rate of return is not going to be adequate for new technologies with relatively limited field experience and even less feel for actual operational performance, benefits levels, and risks. In addition, the unknown combination of new technologies, new system operational interactions, and customer choices would indicate a stronger risk management approach that adjusts utility returns based on utility performance.

Let's decompose this important point a bit further. Until the last decade or so, a utility's infrastructure investment, which represented its cost of capital, were related to the construction of new power plants, generating facilities or distribution wires, or the replacement of similar aging assets. Such assets were built or replaced with an intention of providing an immediate benefit to customers, a reaction to customer growth and energy demand, or in response to legislative or regulatory mandates. Thus cost recovery for those assets was typically achieved through increases in the rate base based on the utility's return on investment calculation (ROI). The ROI on such traditional assets was comparatively easy to calculate based on the drivers, costs, and benefits achieved.

Investments in smart grid technologies are different. Full benefits are not immediately achieved and the risks associated with the investment in ever-changing technologies with evolving interoperability standards are far greater. A utility may incur a smart grid expense today (for instance, upgrades to its transmission or distribution system) in exchange for some form of operational efficiency that may not be achieved for some time. When a utility forecasts benefits for an investment involving new technologies, new processes, new workforce skills, and new customer reactions over a future period of time, it is much more difficult to calculate an exact ROR, and therefore more difficult to determine the amount of the investment that should be recovered through the rate base. There can be little doubt that the future of the energy industry is going to be built on smarter technologies that are simply not comparable to large scale assets for which the traditional ratemaking structure was created.

Another factor driving the resurgence of PBR is the correlation between advanced technologies, enhanced measurement standards, and a resulting increase in the knowledge around electric distribution performance. In other words, the use of advanced technologies has provided the E&U industry with a tremendous amount of data intelligence that was previously unavailable; that data has translated into potential performance measurement opportunities that were simply not achievable in past decades. Regulators are now more aware of the benefits that can be achieved through smart grid technologies and

are seeking to create metrics against which to evaluate and, if you will, "grade" the utilities under their jurisdiction.

Moreover, the argument is being made that the traditional ratemaking scheme is proving to be inadequate as it is being applied to smart grid and EE programs because it provides utilities with minimal risk sharing mechanism or incentives to pursue high-risk investments in new technologies. If all utilities wait until more government funding is available (a form of risk sharing), this could stifle innovation. The balance between regulatory conditions, capital risk management, and customer interests is complicated enough without the advent of new technologies and organizational transformation. Consumption and capital expansion are the standards of yesterday's electric industry. Technology-enhanced delivery, smart consumption, increased conservation, and EE programs are likely to be the standards for the future.

WHAT DOES PBR LOOK LIKE TODAY & WHY IS IT IMPORTANT?

Looking at state regulatory jurisdictions across the United States, PBR is still far from commonplace. That is unfortunate but arguably likely to change in coming decades, based on our supposition that the current regime is not sustainable if we are to presume an ever-increasing growth of what we would include under the umbrella of "smart grid" investments. Recent PBR applications vary tremendously as a result of negotiations between specific utilities and their PUCs. However, in order to be considered as part of the "resurgence of PBR" there are three common denominators that would typically be involved: 1) setting a baseline revenue requirement for the regulated utility, which creates some variation of a threshold performance level; 2) specifying a "sharing mechanism" to distribute cost savings among ratepayers and shareholders, and 3) designing metrics to measure performance. The U.S. states we will use as illustrative case studies are creating "best practices" for these three components.

Secondly, there appears to be a trend of creating a PBR plan for a specific period of time, and current data would suggest that it is becoming common to enact a PBR plan for three, five, or possibly 10 years. A minimum of three years for the PBR plan is required to ensure that metrics are properly collected and integrated and that benefits projected by utility business cases can be fully achieved.

So how does PBR generally work in practice? The first step is that a regulator sets an initial price based on a utility's observed and projected costs. This price, often called a target baseline, is based on a test year, either a historic 12-month cycle or projections for a future 12-month cycle. Whether historic or future, the test year is a fixed period of time used to determine revenue requirements. This is essentially the same approach that has been used for decades in COS/ROR ratemaking, as discussed previously in this white paper.

COS/ROR regulation begins to transform into PBR at the time the regulator provides the utility with

incentives to reduce costs or increase benefits and develops a sharing mechanism to pass some of the resulting savings on to the utility's customers. In fact, sharing mechanisms are the most important component of a PBR plan, and represent a new form of risk management for all stakeholders.

The other defining aspects of current PBR methodologies are the performance metrics used to evaluate a utility and calculate any earnings sharing. Performance metrics are also created to ensure that the utility does not achieve cost savings by cutting safety, reliability, or quality. Metrics can also establish an incentive/penalty system to earn increased revenue (or reduced revenue). We are seeing emergent trends in the development of performance metrics. Again, it is difficult to generalize about PBR programs across the United States as unique features are what make the individual programs so relevant. In general PBR metrics are established based upon objectives agreed to by a regulated utility and its PUC. The range of metrics can include superior customer service, reliability, or some other measurable outcome of the utility's operations. There are three types of benefits, as measured by performance metrics, which appear to be most common in PBR structures:

- Economic benefits, which are typically generated from meter reading and management savings, time of use or other dynamic pricing structures; and improved distribution system efficiency.

- Reliability benefits, as obtained through the use of distribution automation or other status-monitoring technologies and as measured by SAIDI, SAIFI, and CAIDI percentages.

- Customer service benefits, which may include innovative products and services or demand response programs.

Trends that have emerged for PBR metric creation and evaluation include a focus on the following objectives:

- Reduced operational costs
- Reduction in the frequency and/or duration of outages
- Reduction in the number of estimated billing statements
- Reduced energy usage from inactive meters
- Reduced theft and meter tampering
- Increased distribution service reliability
- Improved customer satisfaction scores
- Reduced customers' electric bills
- Improvement in the total number of customers who exceed service reliability targets
- Reduced megawatts required in future generating capacity
- Achieved environmental targets (e.g., greenhouse gas reductions, increase in renewables)
- Job creation

Each performance metric should be correlated with agreed-upon objectives by the regulated utility and its PUC. The best metrics are those that can be quantitatively measured. While there is tremendous flexibility in terms of how to develop performance measurements, they do need to be measureable so regulators can apply a system of rewards or penalties based on a utility's success (or failure) in meeting the established metrics. Finally, the threshold or target for each metric should be set in advance, rather than adjusted after the fact or subject to third-party decisions.

It is also important to emphasize how the current resurgence of PBR is being applied to both smart grid technologies and EE programs. We have already established how smart grid technologies are inherently different from utility investments in more traditional power generation, transmission and distribution assets. A well-known obstacle for utilities and regulators interested in promoting EE services is the disincentive created by the net lost revenues from reduced sales that result from EE programs. As a utility's revenues typically have been tied to its sales, there is very little incentive for a utility to pursue an EE program without a cost-recovery policy that addresses this disincentive. PBR is one alternative to traditional ratemaking that can potentially be used to encourage investment in EE programs. Legislation in the state of Missouri—summarized in this white paper—provides a useful template for how PBR can be applied to EE programs and how proper incentives can produce measurable results. Similarly, legislation in Illinois demonstrates how PBR is being used for smart grid investments.

We do not believe that PBR methods will replace COS/ROR for the majority of monopoly decisions, largely due to the fact that the latter is quite useful and appropriate for many utility cost recovery proceedings. We do postulate that PBR is an alternative that should be considered, particularly for the cost recovery of investments in advanced technologies and EE programs that have been referenced herein.

CURRENT PBR APPLICATIONS—STATES THAT ARE DEFINING THE NEW STANDARDS

The success of PBR relies heavily on its design, application, and implementation, which again will vary greatly on a state-by- state basis. Thus, it is worth looking at the programs that have emerged in a handful of states, which collectively can provide some "best practices" on PBR as it is being applied to smart grid and EE programs.

California:

Although forms of PBR have been in existence in California for a number of years, a new initiative by the California Public Utility Commission (CPUC) is exploring how to elevate the importance of safety in gas and electric utility rate cases, which would be supported through a PBR platform. Following the deadly 2010 explosion of a Pacific Gas and Electric (PG&E) pipeline in San Bruno, California, a state review panel found that CPUC staff was not keeping adequate track of how PG&E was prioritizing and spending money allocated

to safety improvements. The panel has suggested that the CPUC move to a PBR scheme, in which the state's utilities would adopt a system of safety standards, with rate incentives and penalties enforced by state regulators.

PBR has found a new role within California's aggressive environmental policy, which includes mandated reductions in GHG emissions and a goal to achieve 33 percent of the state's power from renewables. Smart grid deployments support these objectives, but PBR comes into play as California regulators seeks to quantify the correlation between smart grid technologies and the state's environmental objectives. In other words, PBR is providing the evaluation framework for the CPUC to use to assess the success of smart grid deployment plans of the state's three IOUs.

Illinois:

The state of Illinois offers a very interesting landscape for review of PBR application. One pending case (that of regulatory filings by utilities Commonwealth Edison and Ameren Illinois in response to the 2011 legislation entitled the Energy Infrastructure Modernization Act, EIMA) is being closely watched as a test case for how PBR can successfully work when applied to smart grid technologies. In contrast, another case (that of Nicor Gas) shows the pitfalls that can occur with PBR.

First, let's look at EIMA, which is viewed by many as the first piece of comprehensive smart grid legislation that includes PBR as a fundamental component. What makes Illinois unique is EIMA's emphasis on providing ComEd and Ameren Illinois with assurances around cost recovery so that they can make the long-term investments needed to meet higher customer expectations and the demands that the digital age is placing on the grid. In return, the two utilities committed to deliver savings and meet new performance standards (or pay penalties if they don't). (Note: EIMA applies to both ComEd and Ameren Illinois, but for purposes of this discussion we will examine only ComEd's response to the legislation). The performance standards that apply to ComEd are the following:

- Reducing the frequency of outages by 20 percent over 10 years resulting in 700,000 few outages per year, which reportedly will save consumers a projected $100 million in outage-related costs.
- Reducing annual average outage duration by 15 percent over 10 years.
- Reducing the frequency of outages by 20 percent over 10 years.
- Reducing frequency of outages by 20 percent
- Improvement in the total number of customers who exceed the service reliability targets by 75 percent over a 10- year period.
- Reducing the number of annual estimated electric bills by 90 percent over 10 years.
- Reducing electricity theft by 50 percent, a cost borne by all customers, over 10 years.
- Reducing bad debt expenses, a cost borne by all customers, by $30 million over 10 years.

In return for having their performance evaluated against the metrics, rates for ComEd (and Ameren Illinois) will be set according to a new "formula rate" designed to allow them to recover their investments on a more timely and predictable basis, eliminating much of the uncertainty associated with the traditional regulatory lag. In ComEd's case, EIMA authorized a 10-year, $2.6 billion for various grid modernization efforts, including automated metering and automated grid platform improvements.

What began as a groundbreaking PBR statute has hit some regulatory snags as the details of compliance have been negotiated. Specifically, in May 2012, in its first EIMA rate case, the Illinois Commerce Commission's interpretation of the law reduced funding essential to completing the modernization program required by law. As a result, ComEd faces a reduction in funding of nearly $100 million per year in 2014 and beyond. In response, in December 2012 ComEd announced that, due to the reduction in funds that it was expecting to receive under the EIMA cost recovery program, it could no longer afford certain aspects of its grid modernization program and, as one example, would need to delay the installation of smart meters until 2015. ComEd and the ICC have continued to address this issue in court, with the challenged cost recovery being a key part of the proceedings.

As of this writing, the Illinois Senate Executive Committee passed Senate Bill 9 out of committee by a vote of 14 to 0. SB 9 clarifies existing language in the smart grid law enacted in 2011 to get ComEd's smart grid program "back on track." However, within the context of this discussion, perhaps the most important point is the PBR provisions contained in EIMA, which considered quite beneficial to ComEd as they were originally written, have proven to be more difficult to implement within the regulatory arena.

A discussion of PBR in Illinois cannot be had without making a reference to the Nicor Gas case, which perhaps the downside of a PBR regulatory structure. In February 2013, Nicor Gas, the largest gas utility in Illinois, announced that it has agreed to refund its ratepayers $64 million in a 10-year-old accounting scandal that has its origins in a PBR methodology. At issue is the company's now abandoned PBR program, begun around 2000, which set a gas-cost benchmark for Nicor and then allowed the utility to take half of any savings it achieved as profit. Under traditional regulation, the utility has to pass all savings from cheap gas onto its customers, but the PBR plan allowed Nicor to keep half the savings. Charges dating back to 2002 claimed that Nicor manipulated its gas-storage operations to release low-cost gas accumulated years before in order to artificially lower gas costs and profit.

The settlement with the staff of the ICC doesn't mean the end of the proceeding, however. Illinois Attorney General Lisa Madigan and the Citizens Utility Board haven't signed onto the deal and reportedly intend to continue litigating the issue before the ICC in hopes of obtaining a larger refund, which they claim should be in the range of $280 million.

Maryland:

In October 2012, Maryland Gov. Martin O'Malley unveiled a four-part plan designed to speed up investments that will strengthen the state's distribution grid. The plan, comprising four recommendations contained in a report that was filed with the Maryland PSC, includes accelerating reliability investments and letting the state's utilities recover, via a tracker-like mechanism, the costs for those investments. The keys to this program are that it will allow for more contemporaneous cost recovery for the expenses AND create a link between the utility's progress or failure to meet certain reliability metrics with its authorized ROR.

Part of that plan would set a ratemaking structure that aligns customer and utility incentives by rewarding reliability that exceeds established metrics and penalizing failure to reach those metrics. A task force appointed by the governor has encouraged the Maryland's state regulatory commission to implement a PBR process for IOUs in the state, linking a utility's progress or failure to meet certain reliability metrics with its authorized ROR.

Rulemaking 43 sets minimum reliability metrics for the state's utilities and, among other things, requires utilities to file a report within three weeks of a major outage. The state's utilities have been working with the PSC for more than a year in the development of these new regulations, which are intended to enhance electric reliability through a number of methods, including the increased management of trees and other vegetation near power lines.

The metrics are as follows:

- System-wide metrics
  - Establish reliability performance standards for SAIDI, SAIFI and CAIDI based on historical performance.
  - Calculate reliability using IEEE Standard 1366-2003.
  - Exclude "major event" days from the calculation of outages (i.e., excluding any day in which the daily system SAIDI exceeds a threshold value; an official state of emergency is declared affecting the utility, or Commission- approved exclusion due to unique situations beyond the control of the utility.
  - Report actual performance as compared to performance standards in annual reliability report.
- Customer-level metrics
  - Report "customer outages by cause" (examples: equipment failure, trees/non preventable, animal, vehicle, etc.).
  - Report "customer outages by type" (circuit breaker, reclosed, fuse, transformer).
  - Protective devices which exceed a threshold of repeat operations will be identified to improve customer reliability.

- Customer Restoration
  - Report CAIDI performance, which measures the amount of time it takes to restore customers, during major events.
- Wire Down Response
  - Report the utility's response to "wire down calls" (Example: Respond to xx% calls in xx hours during normal conditions.
  - Respond to xx% calls in xx hours during major events.

Maryland's IOUs are Exelon Corp, subsidiary Baltimore Gas & Electric; Pepco Holdings Inc. subsidiaries Delmarva Power & Light Co and Pepco; and FirstEnergy Corp. subsidiary Potomac Edison Co.

Missouri:

PBR is a key component of the 2009 legislation in Missouri known as the Missouri Energy Efficiency Investment Act (MEEIA), and accordingly is one of the best (if not only) examples of PBR being applied by statute specifically to EE programs. MEEIA authorized the Missouri Public Service Commission (PSC) to approve demand-side management programs (Demand Side Investment Mechanisms, DSIMs) for the state's utilities— Ameren Missouri, Kansas City Power & Light and Empire Electric— and to allow cost recovery, lost revenue recovery, and incentive mechanisms to make the utility whole for the operation of those programs. MEEIA does not set forth any targets for energy efficiency and program filings under MEEIA are entirely voluntary by the utility.

Ameren Missouri has been the first of the three utilities in the state to file a plan in accordance with MEEIA. Ameren Missouri, which has 1.2 million electric customers, 126,000 natural gas customers, 10,500 MW of generation and serves more than 63 counties and more than 500 communities, filed with the Missouri PSC a three-year plan (2013 – 2015) that includes an aggressive portfolio of energy efficiency (EE) programs. This EE plan is the largest such plan in the state of Missouri and significantly expands the commitment Ameren Missouri has made to EE programs since 2009.

In addition to program cost recovery, utilities in the state can benefit from a utility incentive revenue requirement intended to give the utility an opportunity to share in the annual net shared benefit from energy efficiency or demand-side programs. In addition, the incentive increases if the company achieves 130% of the targeted energy reduction.

The critical success factors (performance metrics) of the strategy that were developed for Ameren Missouri's program include:

- Higher market penetration (customer enrollment);
- Higher customer engagement (communication, response, satisfaction);

- Increased vendor/partner collaboration (strategic alignment, incentives/pay for performance, shared information/data); and
- Real-time reporting and verification of applicants and enrollments (customer relationship management)

The program is new this year and, accordingly, reporting against the metrics has not commenced. However, commissioners at the Missouri PSC have claimed that they will be quite focused on measuring the success of Ameren Missouri's EE program against the established metrics. The industry will likely be watching this important case as well because, as mentioned, it represents the first significant applications of PBR principles to a utility EE program.

ACTIONABLE STEPS FOR UTILITIES

The success of any regulatory mechanism is directly related to its synchronization with the long-term regulatory and business strategy of the firm. Today's complex utility environment includes evolving technology and interoperability standards, state- level deregulation, and emerging utility business models. These issues produce even more challenges in developing a workable and comprehensive long-term strategy while simultaneously responding to short-term market and regulatory shifts. Utilities that want to pursue a PBR regulatory policy in their state regulatory jurisdictions would be well advised to follow these strategic steps:

- Identify the goals that a PBR scheme would seek to address. While an emphasis on smart grid investments is becoming more common, there are other utility goals that might be supported by PBR, even if it's as simple as circumventing the inadequacies of traditional ratemaking that are mentioned above.

- Be able to articulate before the regulatory commission how the inadequacies and gaps of existing ratemaking policies and the administrative benefits of PBR programs.

- Design a PBR quality metrics methodology, and ensure that the methodology results in metrics that are quantifiable; easy to understand both by regulators and the general public; and are correlated with goals and objectives that fit within the utility's broader strategic initiatives.

- Prepare for unintended consequences. As shown by the Nicor Gas example, former telecom PBR programs, and even gas and electric PBRs in the late 1990s, incentives work well and measured activities will achieve their targets. Therefore it is critical to design the best mix of performance targets to ensure balanced results. In this environment, if it is not measured, it will not matter.

THE RESURGENCE OF PERFORMANCE-BASED RATEMAKING

WEST MONROE VALUE PROPOSITION

We at West Monroe Partners, particularly within the Regulatory Support and Key Stakeholder Relations Practice Area, continue to track the impacts (and opportunities) that PBR will have on our utility clients. We have naturally developed a perspective on PBR program development, and we leverage this perspective through a unique understanding of the regulatory and competitive environment, along with hands-on experience in planning and managing utilities. When these attributes are combined with the scope and breadth of our energy industry knowledge, we believe we can provide timely and responsive advice on your overall regulatory strategy.

We are happy to share some of our PBR perspective that can be applied specifically to your organization here:

- We think it is critical that a utility's financial, operational, and regulatory plans and objectives support a viable PBR alternative that appropriately recognizes risk and performance. Precedents are certainly important, but we have also been successful in defending unique PBR elements and mechanisms that allow our clients to succeed in this environment. Quite often, we have also been able to assist management in educating customers, regulators, and employees, in order to maximize the benefits available to all stakeholders under a PBR regime. It is very important to identify and articulate that class of benefits that sets you apart from the others, and those conditions you wish to explicitly avoid. It is possible to trade-off risks and opportunities and leverage the strengths of the firm.

- We are also familiar with a wide range of utility operational and performance metrics, especially in the evolving energy efficiency and intelligent grid sectors. We can help define which metrics are appropriate; assess the risks and rewards associated with alternative standards, and the potential costs associated with achieving and reporting against various standards.

- Our experiences include analyzing and developing specific performance measures for critical utility services, through testifying and defending entire PBR strategies and programs. Most importantly, we have developed and implemented key reporting tools and data analytics methodologies that allow the utility to stay ahead and prepared for unintended consequences. Our integration and reporting activities and engagements in the smart grid environment have address customer care measures (e.g. billing, meter reading, and call center performance), safety, reliability and system integrity targets, emergency response processes and performance, formal equipment maintenance programs, and even new customer additions.

- Our experience in a wide range of other industries and key functions allows us to link and evaluate your unique strategy and business model with specific programs designed to maximize benefits for all stakeholders. This capability produces a robust and defensible model to compare and select

various programs and activities in the new PBR environment. We also bring a wealth of corporate and individual innovation and experience with other activities that support our ability to design, measure, and report successful PBR programs. For instance, we bring a multi-industry, multi-functional benchmarking capability than can be used to measure and propose class or industry-wide targets (i.e. multi-sponsored benchmark programs, and "operational excellence" programs); we lead and design workforce optimization engagements; and we are involved in a varied mix of asset management strategies including merger, acquisition, and divestiture programs that all contained elements of performance management.

CONCLUSION

In this white paper, we have offered our thesis that the E&U Industry is witnessing a resurgence of performance-based regulation, particularly in regulatory rate cases concerning cost recovery for advance technology investments and development of energy efficiency programs. Our thesis is based on an observation of PBR being used or considered more frequently in a handful of U.S. state jurisdictions and, based on a belief that there are inherent inadequacies in the predominant cost of service / rate of return standard cost recovery methodology to which PBR offers an alternative, that there is strong likelihood that PBR will continue to considered and adopted in additional state regulatory proceedings. As the E&U sector will become increasingly focused on the consideration of advanced technologies used to enable grid modernization, utilities will require more innovative and creative ratemaking schemes that address the risks associated with the investments in these new technologies. Coupled with its capability to increase a utility's opportunity for increased earnings due to the tailored incentives that are built into the unique structure, PBR may very well be the right regulatory regime for the modern trends shaping the E&U sector. What will be particularly important for any utility considering a PBR scenario will be the development of appropriate performance metrics on which the modern form of PBR is going to be based. Further, the outcomes of key states such as Illinois and Missouri, which are on the leading edge of PBR regulatory trends due to legislation that has allowed for PBR to be an integral part of the cost recovery plans for the utilities in those states, will be important test beds for PBR success.

Contact

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