Acting on Performance-Based Regulation

Although its merits have been widely debated for years, performance-based regulation (PBR) has remained at the cusp of widespread acceptance in the United States. But with regulators' growing interest in reliability and quality customer service, the time is nearing when PBR will become the norm for ratemaking and for assessing still-regulated utility functions.

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Political, competitive, and financial market forces have had a chilling effect on regulated rates for electricity services. Pressures to keep rates down have proved to be so powerful that the general rate case is no longer the cornerstone of corporate sustainability for electric utilities. In truth, increases in retail electricity prices are rare these days,[1] and the regulatory decisions on the few rate cases of late have fallen well short of utility management expectations.

When rate increases are not an option, keeping regulated electric services profitable is a daunting challenge. But performance-based regulation (PBR) is one solution that investor-owned utilities (IOUs) and regulatory commissions should be pursuing. Broadly speaking, PBR describes a ratemaking system—absent a cost-of-service review by regulators—in which a utility is rewarded in its bottom line for lowering costs through efficiency. Although any regulated company can achieve a lower cost structure by applying new technologies, implementing more effective work processes, and procuring better-value supplies (see **inset**, next page), PBR provides a systematic incentive to do so. In some cases, PBR further rewards a

PII S1040-6190(00)00109-3

Sources of Cost Savings and Efficiency Improvements

Strategies for Reducing Operating Costs

- Centralize functions
- Move from geographic to functional structures
- Reduce the number of depots, control centers, and offices
- Redesign business processes to focus on delivering outputs at minimum costs
- Develop multiskilled staff to improve productivity
- Offer flexible work time and annualized work hours
- Control sickness and overtime levels
- Reduce staff numbers
- De-layer management structures
- Adopt condition-based maintenance procedures
- Develop non-invasive maintenance techniques
- Restructure field operations teams for increased efficiency

Strategies for Lower Capital Costs

- Lower procurement costs by opening the supplier base
- Introduce less restrictive specifications for fixed plant investment
- Engage in partnership contracts
- Design efficiencies, including integrated planning, into infrastructure projects
- Innovate specifications for plant replacements, upgrades, and extensions
- Improve information technology systems
- Increase knowledge of asset condition and loading levels

company for demonstrated improvements in its distribution network performance and in the quality of its customer services.

Despite the considerable attention that PBR has received over the past several years, including an entire issue of *The Electricity Journal* devoted to the subject in 1996,[2] surprisingly few U.S. electric utilities have established formal PBR price control mechanisms for distribution services. However, less formulated price controls have emerged for many other distribution companies as the practical result of infrequent rate cases. Industry restructuring legislation, a trend in regulatory decisions favoring minuscule growth in revenue requirements and lower allowed rates of return, as well as overall increased regulatory risk that rates would be cut instead of raised, have together forced many companies to freeze their distribution rates voluntarily. Moreover, regulatory orders often condition utility company mergers on a rate freeze or sometimes even a rate discount.

Performance-based regulation for electric utilities also coincides with retail open access and nascent competition, requiring companies to satisfy energy users like never before. Competition in energy commodity is, to some extent, transforming captive "ratepayers" into "customers." And in response to this change, regulators are carving a new role for themselves on the monopoly side of the business as the consumer's watchdog for reliability and utility performance. Indeed, after so much of their attention has focused on power market restructuring, high-profile lapses in reliability and the consequent floods of consumer complaints about poor service have caught many regulators by surprise. With power outages revealing too late what may be symptoms of cost cutting left unchecked by pre-established performance standards, commissions are playing catch-up.

I. Prevailing PBR Mechanisms

Performance-based regulation has four main objectives: (1) to establish a less burdensome regulatory process, (2) to improve utility service to customers, (3) to lower regulated rates, and (4) to allow electric distribution companies to earn potentially higher profits in exchange for meeting goals (2) and (3).

The key feature of a PBR plan that meets its objectives is its multi-year scope. Over the 4, 5, or even 10 years during which a PBR mechanism controls prices, an electric utility can lower operating costs and capital spending while rates are held constant or adjusted only slightly according to predetermined formulas. Because companies keep the lion's share of any resulting margins, PBR requires management to adopt different ways of making business decisions relative to the traditional system of general rate proceedings.

Formalized PBR plans typically control an electric utility's prices through price caps or revenue caps. Regulators sometimes adopt earnings-sharing mechanisms in

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PBR plans as a consumer safeguard against utility profit windfalls under PBR. Many PBR mechanisms also include a set of targeted performance standards—often tied to financial incentives—in the areas of distribution reliability, customer service, consumer satisfaction, and employee safety.[3] The newest twist in PBR involves the application of benchmarks for utility costs and performance measures that compel higher-cost utilities to adopt best practices in distribution planning and operations in order to reach maximum efficiencies and ultimately the lowest possible consumer prices.

A. Revenue Caps

A PBR revenue cap systematically adjusts revenues to a specified level according to a predetermined formula, and then rates recalibrate automatically. That is, every year during the price control period, actual sales revenues for each major customer class are compared to the allowed revenue cap derived from the PBR formula. A balancing account collects any differences between the actual revenue cap for disbursement or collection through rate adjustments that apply during the following year of the PBR plan.

Promoters of energy efficiency and distributed resources advocate revenue caps for PBR because they sever the link between profits and sales: If efficiency improvements fall from a decrease in sales due to the efficiency improvements or distributed energy, the utility is "held harmless," since rates are adjusted accordingly. Therefore, unlike traditional cost-of-service regulation or price cap mechanisms (described below), revenue caps neither encourage companies to increase retail sales nor do they discourage energy efficiency and distributed resources. Proponents of revenue caps also argue that they can allow for greater utility cost savings from the strategic application of distributed resources that substitute for more expensive distribution investment. In addition, these distributed resources can improve reliability, reduce pollution, and give customers greater choice.[4]

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B. Price Caps

Under a price cap PBR, a predetermined formula automatically adjusts rates each year during the price control period, taking into account inflation (which generally increases charges paid by customers) and changes in productivity (which generally decrease charges paid by customers). Sometimes a PBR rate cap further adjusts rates downward as an extra dividend to customers.[5] Just as with a revenue cap PBR, the starting or "cast-off" rates derive from a traditional cost-of-service review.

One common criticism of the price cap approach is that, during a period when inflation exceeds productivity gains, consumer rates go up automatically. Such systematic price hikes would not normally be allowed during the time between a company's general rate cases, leading some consumer advocates to view price caps as "annual rate increases."

C. Profit Controls

Some PBR plans apply an earnings-sharing mechanism to prevent profit windfalls from going exclusively to electric company shareholders. Earnings sharing entails putting a dead band around an electric company's approved rate of return (ROR) above which it is required to return some percentage of profits to customers through bill credits or rate reductions. Without much experience in subjecting electric companies to new forms of price controls, regulators often add earnings-sharing mechanisms to PBR plans as a safeguard against potential flaws in the design of the price or revenue cap equation that systematically adjusts rates.

Needless to say, earnings sharing is highly controversial. Advocates argue that the utility costs savings that drive higher profits should be returned to consumers as soon as possible, while opponents contend that margin sharing dilutes the incentives that make the cost savings possible in

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the first place. Also, strong earnings performance under an initial PBR plan can lead to a weakening of such financial incentives in a following plan. Take, for instance, the earnings-sharing mechanism applied under San Diego Gas & Electric's PBR plans, as shown in **Table 1**. The earnings-sharing provisions in the company's initial plan were deemed too generous to the company's shareholders at the expense of its ratepayers. Now, under its second PBR plan, the pendulum has swung toward the customer, where significantly more earnings are returned to ratepayers in the form of lower prices.

D. Performance Standards and Targeted Incentives

Whether or not earnings sharing is an integral component of a formal PBR mechanism, regulators will require that the price or revenue cap is combined with various performance standards to protect consumers from hidden cost increases that come in the form of degraded service quality.

For the electric utility, to establish with regulators the service quality metrics and standards that mesh with the company's business model is the critical first step to bolstering the bottom line under PBR. Applying these metrics and living up to them is then key to continued success. **Table 2** categorizes the broad range of possible performance measures into five areas: reliability, call center performance, safety, field service performance, and billing and complaints. In most cases, PBR-style performance measures establish a network standard, below which the electric company may be financially penalized and customers may be compensated in aggregate. Alternatively, the performance standard may be tied to goodwill payments or bill credits specifically for customers affected by substandard service.

- **Reliability.** For electric distribution companies, reliability measures define service quality in the area that customers care about most. Common reliability metrics gauge outage duration and outage frequency at the network level. The most common measures include: SAIDI, the System Average Interruption Duration Index, or the customer minutes of interruption for sustained outages; CAIDI, the Customer Average Interruption Duration Index, or the average length of each interruption of the customer's power; SAIFI, the System Average Interruption Frequency Index, or the average number of sustained interruptions for all customers; and MAIFI, the Momentary Average Interruption Frequency Index, or the average frequency among all customers of transient power failures normally less than five minutes.

Note that these network reliability measures only go so far in measuring performance from the customer's perspective. They can mask poor service for customers who are frequently inconvenienced by power outages or who are always the last to have their power restored. To address reliability from a more customer-focused point of view, regulators hold some companies to minimum service restoration guarantees, where direct payments are made to customers when power is not restored within, say, 24 hours.

Table 1: San Diego Gas & Electric's Performance-Based Regulation (PBR) Earnings-Sharing Mechanisms

1994 PBR Plan (Decision 94-08-23)[a]		1999 PBR Plan (Decision 98-01-014)[b]	
Basis Points Above Approved Rate of Return	Company/ Customer Split	Basis Points Above Approved Rate of Return	Company/ Customer Split
0–100	100%/0%	0–25	100%/0%
100–150	75%/25%	25–75	25%/75%
150–300	50%/50%	75–100	35%/65%
		100–125	45%/55%
		125–150	55%/45%
		150–175	65%/35%
		175–200	75%/25%
		200–250	85%/15%
		250–300	95%/5%

[a] California Department of Public Utilities Decision 94-08-023, San Diego Gas & Electric, Aug. 3, 1994.
[b] California Department of Public Utilities Decision 98-01-014, San Diego Gas & Electric, May 13, 1999.

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Table 2: Service Quality and Performance Measures

Service Category	Performance Measure or Customer Guarantee
Reliability	Customer Average Interruption Duration Index (CAIDI)
	Distribution line tree trimming
	Frequency of planned outages
	Momentary Average Interruption Frequency Index (MAIFI)
	No outage greater than 12 consecutive hours
	No outage greater than 24 consecutive hours
	Outages per mile of line
	Planned interruption notification time
	System Average Interruption Duration Index (SAIDI)
	System Average Interruption Frequency Index (SAIFI)
	Service restoration time
	Storm restoration maximum time
	Tree-trimming budget
	Worst-performing circuits
Call center	Abandoned call incidence rate
	All calls answered rate
	Average speed to answer phone
	Billing call answer rate
	Busy signal incidence rate
	Emergency call answer rate
	Percent first-contact problem resolution
	Unanswered call rate
Safety	Employee injuries and illness rates
	Incidence rate for lost-time accidents
	OSHA statistics
Field service	Appointments kept on same day scheduled
	Average response time to emergency calls
	Connect by date promised
	Customer satisfaction with field services
	Meter test times
	On-time in-service
	On-time service call
	Percent of first-visit problem resolution
	Service appointment scheduled in window
	Street light installation time
	Street light replacement time
Billing and complaints	Accurate meter readings
	Actual meter reads
	Bill accuracy
	Bills not rendered monthly
	Bill question response time
	Budget billing accuracy
	Complaint resolution times
	Complaint response times
	Consecutive estimated bills
	Meter complaints
	Number of complaints to regulator
	Overall customer satisfaction
	Pay by phone/direct payment billing accuracy
	Power quality complaints
	Tenant change meter reading

Other customer-oriented metrics are based upon tracking the worst-performing circuits or the worst-served customers.

- **Customer call center.** Call center statistics are widely used to monitor customer service quality under utility PBR plans. Phone calls to call centers represent the most common contacts between customers and the regulated distribution companies behind the monthly bills, and technologies are widely available for tracking call response times, call duration, abandoned calls, and so on. Many companies have already collected such data for the internal management of call centers or for monitoring the performance of an outsourced customer care provider.
- **Safety.** Although employee safety measures are not directly related to customer service, regulators have included such metrics in several PBR mechanisms as an extra assurance that cost-cutting and profit incentives do not increase the danger to utility workers. In most cases, PBR plans with safety measures rely on statistics already calculated by utilities in accordance with Occupational Safety and Health Administration (OSHA) rules. Companies demonstrating a decline in safety are penalized under PBR plans.
- **Field service quality.** Field service staff come into immediate contact with customers, particularly those seeking new service or those having problems with their

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service. A wide range of performance measures involving field staff have been implemented in formal PBR plans, for merger approvals, or as a condition of some regulatory settlements between utilities and other stakeholders. The most common field service quality measures involve service appointments being kept (on time, on the same day as scheduled) as well as the time required to complete new service installations. Outside of formal PBR mechanisms, many utilities have voluntarily initiated service guarantees in which they extend a goodwill payment to customers when they miss or are late for appointments.

• **Billing and customer complaints.** The service quality measure addressing customer bills and complaints is usually combined, because the two are strongly correlated: Inaccurate bills leading to service disconnection account for the greatest number of customer complaints—excluding the tidal wave of complaints following an outage. Billing-related performance measures include the frequency of actual meter reads used for billing, the number of consecutive estimated reads, and general bill accuracy. Nonbilling-complaint metrics involve the frequency of power quality complaints and overall customer satisfaction.

E. Benchmarked Regulation

Regulators hope that PBR will ultimately achieve a better balance between the utility's profit incentives to lower costs and the customer's desire to pay lower prices. Therefore, a well-designed PBR mechanism succeeds when it weakens the link between the utility's costs and the regulated rates its customers pay.[6] To disconnect costs from rates in the short run, PBR price caps or revenue caps must decrease the frequency of the utility's price-setting cost reviews. In the long run, however, PBR must place additional cost discipline on the electric utilities. To ensure that consumers are paying the lowest possible price for regulated electric services, commissions will begin to apply external measures to a utility's cost structure instead of resetting rates on a company-specific basis using traditional cost-of-service reviews.

In the long run, PBR must place additional cost discipline on the electric utilities.

Benchmarking electric distribution company costs and performance measures will likely become the centerpiece of "re-regulation" after power market restructuring. In the United Kingdom, for instance, regulators have already incorporated benchmarked cost comparisons within the price control process for British electric companies. Price controls have been in place in Britain for over nine years, during which time consumers have witnessed lowered prices and somewhat improved reliability.[7] For the new five-year price control period that began April 1, 2000, yardstick regulation is going further in reducing electric distribution prices, because new utility rates have been set by reference to the cost performance of peer companies, as shown in **Figure 1**.[8] And the U.K. regulators are looking for quick results—the highest-cost companies are expected to bring their costs down in line with the benchmark by three-fourths within two years and by the full amount within five years.

British regulators are also seeking to apply benchmarking principles when setting reliability standards. By indexing performance measures, the standard will remain outside the direct control of any individual company. In theory, then, the application of the benchmark would replicate the phenomenon in contested markets where competition requires companies to match the strongest performance of others and not just to improve their own standards. So far, U.K. regulators have yet to discover a rigorous method for setting reliability standards that takes into account the performance of companies relative to each other while also addressing the extent to which each company has improved its own position over time. In the future, statistical benchmarks for reliability may be applied to handle this "apples to oranges" problem inherent in comparing performance data across different utilities.

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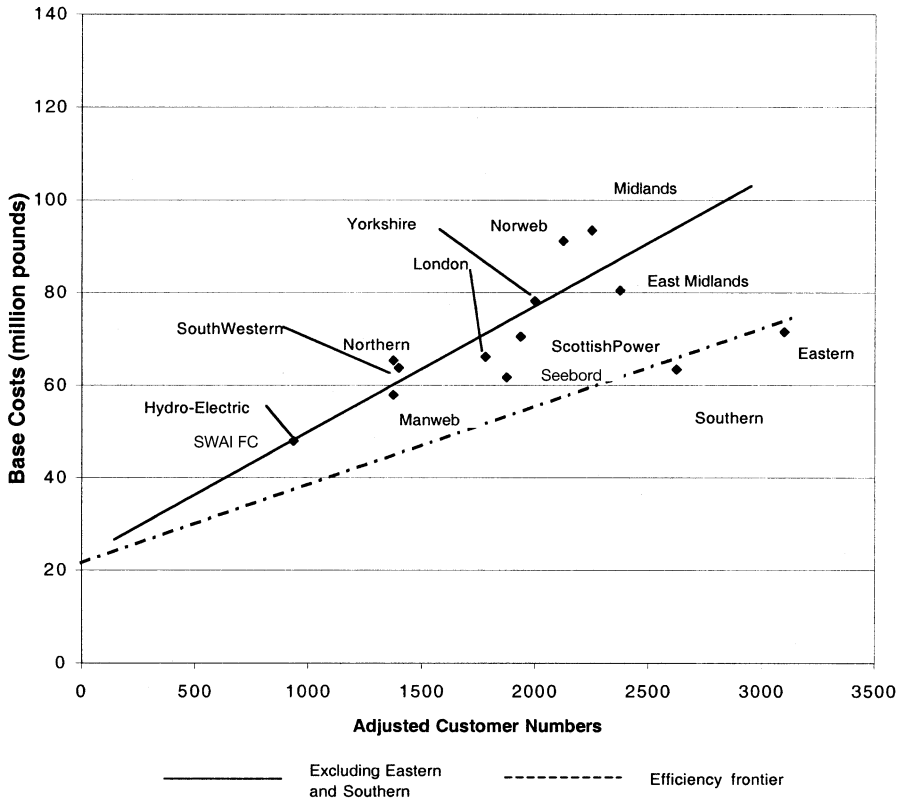

Source: Office of Gas and Electricity Markets (OFGEM), *Consultation Letter to the Chief Executives of Public Electricity Suppliers' Distribution Businesses*, Oct. 8, 1999.

Figure 1: United Kingdom Electric Utility Base Operating Costs

II. Taking Action Now

Across the board, regulators are realizing it is time to implement mandatory performance standards to prevent any further deterioration in service quality as the result of aggressive cost cutting. Because commissions are now regaining some lost time, utilities have been granted a unique window of opportunity to take the first steps, on their own accord, in addressing distribution network performance, customer satisfaction, and quality customer care.

To date, baseline data on utility service quality have been scant. Most regulatory commissions lack detailed knowledge about a company's historical performance, its current data collection capabilities, and its potential to improve service over time. They are also unaware of what metrics have been previously used by the company for internal operational improvement programs. Moreover, the few published statistics that are available to regulators are generally noncomparable across companies even in the same jurisdiction. For example, Pacific Gas & Electric might be held to a measure for average system outage duration of 145 minutes under its proposed PBR plan, whereas San Diego Gas & Electric must meet a standard of 52 minutes for the same metric. In a nearby state, Public Service Company of Colorado must meet a standard for the same measure of 79 minutes.

The substantial differences in these reliability benchmarks suggest that regulators are willing to accept performance standards that are specific to a utility's particular circumstances. And because standards are evolving in the absence of industrywide benchmarks, as seen in **Table 3**, individual utilities have a great deal of control over the specific metrics and standards to which they are held accountable.

The wide array of metrics adopted for PBR to date (Table 2) also reveals that regulators are open to adopting all sorts of performance measures as long as the metric can objectively quantify service improvements in areas that matter to customers. So far, regulators have tended to favor the adoption of measures proposed by utilities themselves or those that have been negotiated by the utility in regulatory settlements with interested stakeholders. Although there is always risk when entering a new regulatory pact, companies can usually arrive at the best possible set of performance metrics, at least from management and shareholder perspectives, by taking the lead in defining what gets measured and how.

PBR-style service quality standards may appear to undermine the utility's profit potential. But in practice, the performance measures that underlie a PBR mechanism can serve the utility in ways that benefit both customers and shareholders. Cost cutting is optimally balanced against improvements in reliability and customer care when companies

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Table 3: Sample Standards for Common Performance Metrics in Performance-based Regulation (PBR) Plans

Performance Measure/Utility	Standard	Type of PBR
SAIDI[a]	Minutes	
Boston Edison	108.8	Merger
Commonwealth Electric	115.0	Merger
Entergy Gulf States	158.0	Targeted reliability incentives
Pacific Gas & Electric	145.0	PBR (pending as of 11/00)
Public Service Company of Colorado	79.0	PBR/merger
San Diego Gas & Electric	52.0	PBR
Southern California Edison	55.0	PBR
SAIFI[b]	No. of Interruptions	
Boston Edison	1.040	Merger
Central Maine Power	2.000	PBR
Commonwealth Electric	1.484	Merger
Entergy Gulf States	2.600	Targeted reliability incentive
Maine Public Service Company	3.100	PBR
Pacific Gas & Electric	1.480	PBR (pending as of 1/00)
San Diego Gas & Electric	0.900	PBR
Call center response times	Percentage of Calls Answered	
Bay State Gas Company	95% within 30 seconds emergency/ 80% within 30 seconds billing[c]	Rate plan/merger
Boston Edison	70% within 30 seconds	Merger
Boston Gas Company	95% within 30 seconds emergency/ 80% within 30 seconds billing	PBR
Commonwealth Electric	67% within 30 seconds	Merger
Commonwealth Gas	35% within 30 seconds[d]	Merger
Public Service Company of Colorado	70% within 45 seconds	PBR/merger
San Diego Gas & Electric	80% within 60 seconds	PBR
ScottishPower/PacifiCorp	80% within 20 seconds	Merger
Southern California Edison	75% within 50 seconds[e]	PBR

[a] System Average Interruption Duration Index.
[b] System Average Interruption Frequency Index.
[c] Bay State is seeking to reduce the standard to 75 percent within 40 seconds for billing calls.
[d] Subject to revision upon further data tracking.
[e] For 90 percent of all weeks.

collect and strategically apply accurate and detailed information for organizing work processes, prioritizing maintenance and plant upgrades, and selecting the best means for correcting service quality problems. When companies exceed performance standards at a lower overall cost, customers are better served, which creates a more favorable image of the company; and profits are enhanced, which keeps shareholders happy.

ScottishPower presents a compelling case for this strategy. In seeking regulatory approval of its merger with PacifiCorp, the British utility assembled the most comprehensive set of performance measures and customer guarantees ever proposed for a distribution company in the United States[9] (see **inset**, next page). By offering the same package of performance measures to utility regulators in five states, ScottishPower was able to frame the merger approval pro-

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Sources of Cost Savings and Efficiency Improvements

Network Standards

- System Average Interruption Duration Index (SAIDI) reduced by 10 by 2005
- System Average Interruption Frequency Index (SAIFI) reduced by 10 by 2005
- Momentary Average Interruption Frequency Index (MAIFI) reduced by 5 by 2005
- Measures taken to improve performance of five worst-performing circuits in each state
- Outages restored on average to 80 percent of customers within three hours
- Answering 80 percent of all calls in ten seconds by Jan. 1, 2002
- Various standards for resolving commission complaints

Customer Guarantees

- Supply shall be restored within 24 hours
- Appointments shall be kept
- Power shall be activated for a new customer within 24 hours
- PacifiCorp will call customers back within two business days to schedule an appointment with an estimator for new supply
- Questions on bills will be investigated and the customer will receive a response within 15 business days
- Investigations and reports on faulty meters will be completed within 15 business days
- Customers shall receive at least two days' notice for planned interruptions
- Customer complaints on power quality will be investigated within seven days

cess in essentially the same manner for each jurisdiction. More important, however, was that by putting such an offer on the table, consumers and regulators had something to lose if the merger were not approved. It could also be argued that the proposed measures took pressure off the entire regulatory process to quantify precisely the cost savings expected from the merger and the impact that these savings would have on customer rates.

Electric distribution companies must not procrastinate on developing their PBR plans. Regulators will soon compel utilities to file much more detailed information than is now required on distribution networks, customer satisfaction, call center statistics, and field service appointments—mindful that improvements in monitoring and performance are integral to better management of overall performance.[10] More important, regulators realize that nothing will derail the movement to increased competition faster than a dramatic drop in service quality for residential and small commercial customers, which is why they are more deeply regulating those utility services still under their jurisdiction.[11]

III. Setting the Mark

It will not be enough for electric utilities to begin monitoring performance today just to meet minimal standards tomorrow. Success under PBR requires the alignment of corporate strategy with how the company measures performance and the means by which it exceeds standards. An electric utility that wants to build its business on a reputation for being the premium provider of reliable service or the best at delivering the highest quality of customer care can prove it deserves this position by performing above the standards in its PBR plan.

When crafting PBR performance standards that align with the company's strategic plans, electric distribution companies must make key tactical decisions involving the benchmarks adopted to assess service quality and overall performance. The utility's three-year rolling average for a metric may suffice, as long as the results are not perceived as being too low relative to the performance of neighboring utilities, or as being skewed downward by recent poor performance. And even a simple three-year average can be a problem if previous data collection was inadequate. Improved data collection can result in lower measured—but not actual—performance simply because more precise data are being collected.

These shortcomings can be avoided if electric utilities propose benchmarks that are reasonably aggressive and are achievable given the company's capabilities. Under formal PBR plans, and as a condition for the approval of mergers, year-to-year performance standards may rise to ensure that service steadily improves over the duration of the price control period. Targets expressed as percentages may also be appropriate if specific benchmarks cannot be determined until after the company implements

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new or improved data collection systems.

Nevertheless, it is critical for the utility to have control over the factors that would bring about improvements as measured by the adopted metric. This means that the selected metrics and established targets should be geared toward driving system improvements and management decisions that are in sync with the company's underlying business plan. Electric distribution companies must convince regulators that poorly designed PBR plans and service measures will engender few improvements in service or reliability, either because proper incentives to reach targets are lacking (for example, costs to achieve the standard exceed the cost of the penalty) or because benchmarks do not conform to the company's long-term interests.

Moreover, taking the initiative to introduce progressive service standards—and sticking with them—also helps prevent a mismatch between company objectives and regulatory requirements. Consider a recent Bay State Gas Company filing in which the Massachusetts gas company sought to realign the service standards imposed on it by regulators.[12] In 1998, when Bay State requested regulatory approval of its merger with NiSource, the company asked permission to delay the formal establishment of service standards until after the merger was consummated but before its then-current performance standards expired in October 1999. In response to the lack of specific performance standards for the future, Massachusetts regulators simply extended Bay State's existing service quality index (SQI) through 2004.

Now that the NiSource merger has ushered in new senior management with its own business strategies, and since subsequent mergers in Massachusetts have changed the regulatory environment, Bay State is petitioning regulators for changes to the SQI imposed on it by the commission. But some elements of Bay State's latest proposal indicate either that the company wants to be held to providing a lower level of service quality, or that it has no intention of reaching higher levels of service as a result of the merger. For example, Bay State no longer wants to meet a specified level of customer satisfaction as measured by market research surveys. It also wants to reduce the billing call response time from 80 percent within 30 seconds to 75 percent within 40 seconds. Furthermore, the company wants to eliminate any penalties for deteriorating service, arguing that a deterioration in service may result during periods when the company is taking steps to improve service quality and is transitioning to a new process or system.[13] Not surprisingly, Bay State's petition has prompted intervention by the state attorney general's office and the Massachusetts Division of Energy Resources.

Some elements of Bay State's proposal indicate it may have no intention of reaching higher levels of service

IV. Conclusion

It is time that electric distribution companies learn to love PBR. Because corporate business objectives must be aligned with performance measures and financial incentives that drive management decisions, a PBR plan that is for-

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mulated and proposed by the utility is more likely to lead to higher profits and improved customer service than an externally developed plan imposed on it by regulators. To forever stay away from commission rate proceedings is not a viable long-term strategy even for the most solvent of regulated business.

In crafting performance standards for a PBR plan that works, an electric utility must master three tiers of knowledge:

- It must understand its historical performance as measured by its existing performance metrics and learn what it takes financially and operationally to meet historic levels of service quality. The company must also determine whether historic levels would constitute a reasonable benchmark for ongoing performance, consistent with the company's business objectives.
- It must understand its potential for reducing costs and improving service in the areas that have been tracked historically. This information describes the company's capacity for lowering costs and meeting "stretch factor" standards. The company must also explore what cost savings opportunities remain untapped and discover what it takes to demonstrate improvements in service quality when capturing these savings.
- Finally, it must begin collecting information on other areas of service quality, including some of the performance metrics listed in Table 2. As data are collected, it must investigate where it stands vis-à-vis other electric companies and why.

Because PBR-style performance standards often emerge from cases outside of general rate proceedings, electric distribution companies should be prepared with as much information as possible on their historic performance and their current capabilities prior to going before their commissions for matters whose scope could be expanded to address service quality. The companies that press ahead with well-developed PBR strategies of their own design will probably be the most successful in implementing PBR and in profiting from cost savings and better service to customers. ■

Endnotes:

1. Michael J. B. Carter, *Retail Electricity Rates Showed Downward Trend in 1998*, from Energy Insight at www.potemkin.resdata.com/archive/1999/10/22/main.aep (Oct. 22, 1999).

2. *Taming the PBR Beast*, Elec. J., April 1996.

3. Ron Davis, *Performance-Based Regulation: Profiting from Service and Cost Savings*, E Source Report ER-00-3, Jan. 2000.

4. The Regulatory Assistance Project, *Profits and Progress through Distributed Resources*, draft report to National Association of Regulatory Utility Commissioners, July 15, 1999, http://www.rapmaine.org (Nov. 19, 1999).

5. Massachusetts Department of Telecommunications and Energy, order in Docket No. DPU 96-50, Boston Gas Company, May 16, 1997.

6. G. Allen Comnes, Steve Stoft, Nathaniel Greene, and Larry Hill, *Six Useful Observations for Designers of PBR Plans*, Elec. J., April 1996, at 17.

7. Office of Gas and Electricity Markets (OFGEM), *Review of Public Electricity Suppliers 1998–2000: Distribution Price Control Review Consultation Paper*, May 1999.

8. OFGEM, *Consultation Letter to the Chief Executives of Public Electricity Suppliers' Distribution Businesses*, Oct. 8, 1999.

9. Direct Testimony of Bob Moir, ScottishPower, *In the Matter of the Application of PacifiCorp and ScottishPower PLC for Authority to Reorganize PacifiCorp as a Wholly Owned Subsidiary of ScottishPower PLC*, Public Utilities Commission of Oregon, Docket UM 918.

10. See, for example, Wisconsin Public Service Commission, *In the Matter of Proposed Revision of Chapter PSC 113, Wis. Adm. Code—Service Rules for Electric Utilities*, Docket No. 1-Ac-164, Proposed Rules Sent to the Legislature for Approval, Dec. 1999.

11. Barbara Alexander, *How to Construct a Service Quality Index in Performance-Based Ratemaking*, Elec. J., April 1996, at 53.

12. Petition of Bay State Gas Company for Approval to Modify Its Service Quality Index (Aug. 6, 1999), Massachusetts Department of Telecommunications and Energy, Docket No. D.T.E. 99-72, http://www.magnet.state.ma.us/dpu/gas/99-72 (Oct. 6, 1999).

13. Testimony of David A. Deans, Manager of Revenue Requirements, Bay State Gas Company, Massachusetts Department of Telecommunications and Energy, Docket No. D.T.E. 99-72, http://www.magnet.state.ma.us/dpu/gas/99-72 (Oct. 6, 1999).

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