

# PROFILES ON ELECTRICITY ISSUES

NUMBER 22

AUGUST 2000

## PERFORMANCE-BASED REGULATION

**Overview.** This Profile addresses the concerns of industrial consumers regarding the application and effectiveness of performance-based regulation (PBR) to properly motivate transmission and distribution utilities to behave as ordinary businesses. The underlying theory of incentive regulation is intuitively appealing and this accounts for the growing popularity of PBR. However, the adjudicatory process used to design the actual mechanisms necessary to implement any system of incentives is not conducive to the rigorous requirements of the theory. In the end, PBR suffers from all the same pitfalls and inefficiencies as traditional cost-of-service regulation, but at a potentially higher cost to consumers.

ELCON recommends that the most appropriate reforms for the continued regulation of transmission and distribution services are, first, the return to the unembellished first principles of traditional cost-of-service regulation, *i.e.*, allow the recovery of all prudently incurred costs plus a reasonable opportunity to earn a fair rate of return on all prudently incurred investments that remain used and useful. Second, utilities should be subject to real market risks that hold them accountable for their behavior. This must be a pre-condition to the elimination of an earnings cap for any utility. ELCON believes that a monopoly will be induced to behave like a truly competitive business only if it must confront credible threats of entry into its market. In the long run, technological changes may eliminate many residual natural monopoly functions and the need for regulation altogether.

Since 1976, ELCON has published PROFILES ON ELECTRICITY ISSUES to promote a better understanding of the potential economic and social impacts of regulatory policy proposals relating to electricity. Past issues have addressed construction work in progress (CWIP), demand-side management (DSM), the fuel adjustment clause (FAC), and regional transmission organizations (RTOs). ELCON members seek an adequate and reliable supply of electricity at competitive prices, not only for the benefit of industrial consumers and their labor force, but also for all consumers of industrial products.

# Profiles on Electricity Issues

## PERFORMANCE-BASED REGULATION

### CONTENTS

Summary Of ELCON's Recommendations.....	2
Introduction.....	4
The Rationale For New Incentives.....	4
The Mechanics Of PBR.....	5
Problems With The Adjudication Of PBR Mechanisms.....	7
Other Concerns With PBR And Incentive Regulation.....	9
Recommendations.....	11
• Cost-Of-Service Regulation Provides Economic Rewards That Are Equal To Or Greater Than Market Rewards . .....	11
• The Rate-Setting Process Should Be Transparent .....	12
• Regulation Must Acknowledge Its Limitations .....	12
• Traditional Cost-Of-Service Regulation Is Not Lacking In Workable Incentive Mechanisms .....	12
• Maximize The Use Of Real Competitive Market Forces .....	12
• Remove Existing Disincentives To New Investments.....	14
• The Opportunity To Serve A Larger, Growing Market .....	14
Conclusion.....	15
Recommended Resources.....	17



## SUMMARY OF ELCON'S RECOMMENDATIONS ON PERFORMANCE-BASED REGULATION

The on-going deregulation of generation and other potentially competitive services has increased interest in the application of performance-based regulation (PBR) to transmission and distribution services that remain regulated. The intent of this change is to create a “market-like” regulatory structure that might promote more efficient utility operation and planning. ELCON believes that any such effort is structurally flawed. PBR cannot simulate “market-like” incentives in an industry that remains dominated by monopoly suppliers and the existing regulatory mindset. Monopolies cannot be induced to respond to economic incentives in the same manner that business firms respond to market forces in real competitive markets. In part, that is why natural monopolies are regulated in the first place.

Proponents of PBR fail to acknowledge that no system of rewards and penalties can ever be applied on a symmetrical basis in the traditional regulatory environment. In this environment, there is a floor below which regulators will not allow monopolists to fall. This asymmetry means that under any attempt to establish a system of performance-based rewards and penalties, the penalties will never be applied with the same force as they would in a real competitive marketplace. From the perspective of the regulated utility, there is ultimately little downside risk under PBR. PBR is just another venue for improper strategic gaming.

ELCON recommends that the most appropriate reform for the continued regulation of transmission and distribution services is, first, a return to the unembellished first principle of traditional cost-of-service regulation, *i.e.*, allow the recovery of all prudently incurred costs plus a reasonable opportunity to earn a fair rate of return on all prudently incurred investments that remain used and useful. Second, utilities should be subject to real market risks that hold them accountable for their behavior. This must be a precondition to the elimination of the earnings cap for any utility. Specifically, ELCON recommends the following:

- **Cost-Of-Service Regulation Provides Economic Rewards That Are Equal To Or Greater Than Market Rewards Because, Even For Mediocre Business Performance, Utilities Are Allowed To Earn A Virtually Guaranteed Rate Of Return With Almost No Downside Risk. There Is No Need To Embellish Any Utility's Earnings As Long As This Guarantee Applies.**
- **The Rate-Setting Process Should Be Transparent To The Public And To Policy Makers.**

Regulation is subject to the public trust and should be fully accountable to public needs. It should never be a black box that inhibits public scrutiny and oversight. The complex statistical methodologies that underpin many PBR proposals clearly limit full accountability and enable regulation to degenerate into a process of accommodation between the regulators and regulated. The best regulatory paradigm is a process that is always transparent to the public and policy makers.

- **Regulation Should Acknowledge Its Limitations For Simulating Real Competitive Market Outcomes.**

Regulation cannot make a monopolist behave as a real competitor. This is why any form of regulation is inherently imperfect and unsatisfying. Changing the regulatory paradigm does not change the underlying problem. The only way to minimize this problem is to structure the regulatory process in ways that minimize the potential for improper strategic behavior and gamesmanship that discredit the integrity of the process. This requires that utilities be held fully accountable for their actions.

- **Traditional Cost-of-Service Regulation Is Not Lacking In Workable Incentive Mechanisms. Those Mechanisms Should Be Used.**
- **Maximize The Use Of Real Competitive Market Forces Within The Regulatory Context.**

Utilities will price their services more efficiently if there is a credible risk of new entrants into their market. Real market forces can be interjected into the regulatory process by:

- Removing the utility’s protection from technological competition;
- Allowing third-party developers or other owners of transmission or distribution to build new or expanded capacity (*i.e.*, franchise competition) on a merchant basis, and
- Unbundling purely regulated services from any other service that can be offered on a competitive basis in the marketplace.

In the long run, technological changes may eliminate many residual natural monopoly functions and the need for regulation itself.

- **Remove Existing Disincentives To New Investments.**

A “bright line” should be established between all transmission assets, and assets used exclusively for local distribution, to eliminate the potential for a “regulatory gap” that prevents any owner of transmission or distribution assets from recovering all its prudently incurred costs. Generation, transmission, and distribution functions need to be “unbundled” *for accounting purposes* to eliminate the potential for cost shifting, the over-recovery of costs, and the gaming of the rate-setting process for multi-jurisdictional assets.

- **The Opportunity To Serve A Larger, Growing Market Should Be Ample Incentive To Encourage New Investment and To Innovate.**

Electric industry restructuring is not a zero-sum game as often portrayed by incumbent utilities whose traditional “markets” are limited to their old franchise territory. The formation of large, independent regional transmission organizations (RTOs) will create large, regional markets without the impossible requirement or risk of private ownership of a huge transmission network. The opportunity to serve a larger, more dynamic market should be adequate incentive for any rational business—perhaps even regulated transmission and distribution monopolies—to efficiently operate and invest in this market. ✎

## **Profiles on Electricity Issues**

# **PERFORMANCE-BASED REGULATION**

### **INTRODUCTION**

Federal and state electric industry restructuring efforts focus on two broad areas of change. The first is identifying those operating functions of the traditional vertically integrated utility that can be unbundled and deregulated. It is presumed that such functions (*e.g.*, generation) no longer exhibit the characteristics of a natural monopoly and that the public is better served by allowing such goods and services to be procured in competitive markets. The second area of change is the ratemaking treatment of residual monopoly functions such as transmission and distribution services. Rates for these services are being subjected to other reforms under the guise of “incentive regulation.” Performance-based regulation (or PBR) is the most widely proposed and perhaps quintessential method for implementing these so-called reforms.

This *Profile* addresses the concerns of industrial consumers regarding the application and effectiveness of PBR to properly motivate transmission and distribution utilities to behave as ordinary businesses in competitive markets. The underlying theory of incentive regulation is intuitively appealing, and this accounts for the growing popularity of PBR. However, the adjudicatory process used to design the actual mechanisms necessary to implement any system of incentives is not receptive to the rigorous requirements of the theory. In the end, PBR suffers from all the same pitfalls and inefficiencies as traditional cost-of-service regulation, but at a potentially higher cost to consumers.

### **THE RATIONALE FOR NEW INCENTIVES**

The stated needs for new regulatory incentives vary among the states and the Federal Energy Regulatory Commission (FERC). For example, at the state level, the California PUC’s stated objectives for PBR are typical of the policies of states that have embraced or are considering PBR in the context of industry restructuring. The PUC’s objectives are to: (1) provide greater incentive than exists under traditional regulation for the utility to reduce rates for services that are not subject to competition; (2) provide a more rational system of incentives for management to take reasonable risks and control costs in both the long and short run, including extending the relatively short rate case cycle and reducing a utility’s incentive to add to rate base to increase earnings; (3) prepare the utility to operate effectively in the increasingly competitive industry; and (4) reduce the administrative cost of regulation (Myers & Johnson, 1997).

At the federal level, FERC will consider under its Order 2000 the application of incentives that target more specific outcomes such as encouraging utilities to construct new transmission facilities, join an RTO, or divest transmission assets into new independent transmission companies. Box 1 reproduces the Commission’s rule on incentive rates for transmission services offered by RTOs. While acknowledging known “analytical challenges,” FERC has endorsed PBR because it “will allow the Commission to rely

on market-like forces, [to] the maximum extent possible, to create incentives for RTOs to efficiently operate and invest in the transmission system.”

While many incentive mechanisms are implemented by simply tweaking the traditional ratemaking process, PBR is offered as a more comprehensive alternative to traditional cost-of-service or rate-base regulation. In fact, other forms of incentive regulation may be considered subsets of the PBR framework. The first principle of cost-of-service regulation allows a utility to recover all prudently incurred costs plus a reasonable opportunity to earn a fair return on all prudently incurred investments that remain used and useful. Rates, under this paradigm, are based on accounting costs on a dollar-per-dollar basis. Critics of cost-of-service regulation argue that this cost-plus method distorts economic incentives and discourages utilities from making optimal investment and operating decisions in order to minimize costs. PBR, on the other hand, attempts to sever the direct link between rates and costs, purporting to create more market-like incentives to innovate and reduce costs. PBR mechanisms fix or cap rates, or fix the level of revenues, allowing utilities to earn higher or lower profits depending upon how efficiently they reduce costs.

## THE MECHANICS OF PBR

A regulatory body generally takes the following three basic steps to implement PBR: (1) sets initial rates based on a baseline revenue requirement plus or minus certain adjustments; (2) it establishes a sharing mechanism to allocate any cost savings between ratepayers and utility shareholders; and (3) it establishes some form of quality control mechanism to ensure that the utility does not pursue cost savings at the expense of service quality. Some applications of PBR skip the third step.

**Step One: The Baseline Revenue Requirement.** The baseline revenue requirement, as under cost-of-service regulation, is based on estimates of the utility’s current and projected costs. The baseline is typically adjusted upwards to track a cost inflation index and may be adjusted downwards to capture projected increases in productivity (also called a productivity offset, “stretch” factor, or “X” factor). Most PBRs also allow cost passthroughs (or “Z” factors) that capture costs allegedly beyond the control of utility management (Kahn, 1998).

Generally, PBR is put into effect over some fixed time period subject to future adjustment (*e.g.*, after five years). Any cost savings achieved by the utility during this time period are allocated between ratepayers and shareholders. At the end of the time period, a new set of rates is established based on a new baseline revenue requirement and updated adjustments for expected inflation and any X or Z factors.

**Step Two: The “Sharing” Mechanism.** The second step is to provide utility management with incentives to operate the utility at a cost below this baseline. This involves designing a sharing mechanism to allocate any such cost savings between ratepayers and utility shareholders

The sharing mechanism typically specifies an allowed rate of return (ROR), a “deadband” around that return, and a sharing formula which is triggered anytime earnings fall outside the deadband range. Two types of sharing formulas are available: regressive and progressive. In a regressive sharing formula, the customers’ share of the savings increases with the amount of cost savings achieved. Thus, utilities are allowed to keep all or most of the easy savings or “low hanging fruit.” Under a progressive sharing

## Box 1

### Federal Energy Regulatory Commission 18 CFR Part 25 Order No. 2000

## INNOVATIVE TRANSMISSION RATE TREATMENTS FOR RTOS

### Section 35.34(e) – Innovative Transmission Rate Treatments for Regional Transmission Organizations

- (1) The Commission will consider authorizing any innovative transmission rate treatment, as discussed in this paragraph (e), for an approved Regional Transmission Organization. An applicant's request must include:
  - (i) A detailed explanation of how any proposed rate treatment would help achieve the goals of Regional Transmission Organizations, including efficient use of and investment in the transmission system and reliability benefits to consumers;
  - (ii) A cost-benefit analysis, including rate impacts; and
  - (iii) A detailed explanation of why the proposed rate treatment is appropriate for Regional Transmission Organization.The applicant must support any rate proposal under this paragraph (e) as just, reasonable, and not unduly discriminatory or preferential.
- (2) For purposes of this paragraph (e), innovative transmission rate treatment means any of the following:
  - (i) A transmission rate moratorium, which may include proposals based on formerly bundled retail transmission rates;
  - (ii) Rates of return that (a) are formulaic; (b) consider risk premiums and account for demonstrated adjustments in risk; or (c) do not vary with capital structure;
  - (iii) Non-traditional depreciation schedules for new transmission investment;
  - (iv) Transmission rates based on levelized recovery of capital costs;
  - (v) Transmission rates that combine elements of incremental cost pricing for new transmission facilities with an embedded-cost access fee for existing transmission facilities; or
  - (vi) Performance-based transmission rates.
- (3) A request for performance-based transmission rates under this paragraph (e) may include factors such as:
  - (i) A method for calculating initial transmission rates (including price caps and any provisions for discounting);
  - (ii) A mechanism for adjusting initial rates, which may be derived from or based on external factors or indices or a specific performance measure;
  - (iii) Time periods for redetermining initial rates; and
  - (iv) Costs to be excluded from performance-based rates.
- (4) Any innovative rate treatment or any other rate proposal made for an approved Regional Transmission Organization may be requested as part of any filing that is made under paragraph (d) of this section or in any subsequent rate change proposal under section 205 of the Federal Power Act (16 U.S.C. 824d). Unless otherwise ordered by the Commission, an approved Regional Transmission Organization may not include in rates any innovative transmission rate treatment under paragraph (e)(2)(i) and (e)(2)(ii) of this section after January 1, 2005.

formula, the utility's share of the savings increases with the amount of cost savings, and customers get a greater claim to the early, easy savings.

### THE THREE STEPS OF PBR

<b>Step 1</b>	<b>SET INITIAL RATES BASED ON AN ADJUSTED BASELINE REVENUE REQUIREMENT</b>
<b>Step 2</b>	<b>ESTABLISH "SHARING" MECHANISM TO ALLOCATE COST SAVINGS</b>
<b>Step 3</b>	<b>ESTABLISH QUALITY CONTROL MECHANISM TO PRESERVE SERVICE QUALITY</b>

**Step Three: Quality Control.** The final step involves establishing a quality control mechanism to ensure that the utility does not pursue cost savings at the expense of service quality, system reliability, or safety. This mechanism is intended to prevent "false cost savings" that result from deferred maintenance, excessive workforce reductions, or other cost-cutting activities that reduce quality performance. This step includes: (1) determining which measures of quality to monitor; (2) setting thresholds or floors for each of the quality parameters; and (3) establishing penalties for violations of the quality constraints.

### PROBLEMS WITH THE ADJUDICATION OF PBR MECHANISMS

Rates under PBR are usually adjudicated in the same manner as rates under cost-of-service regulation. But unlike cost-of-service regulation, which is based on accounting data, most PBR methods rely on the design and use of statistical models in the form of indices, benchmarks, and regression analysis. These methodologies add a new dimension of technical complexity and uncertainty to the adjudicatory process.

For example, econometric models are replete with subjective judgments regarding the functional form of the regression, the number and types of variables to include in the specification, the interpretation of various statistical tests (*e.g.*, t-statistics or F-tests), the data series to use in the regression, the application of dummy variables and "add factors," and countless other adjustments intended to add reality to the modeling exercise. Each of these assumptions is subject to second-guessing during the regulatory process. Political pressures on administrative law judges and commissions will often force a compromise on technical matters which, if correctly submitted in direct testimony by a party in the proceeding, should not be compromised. Thus, with different parties arguing that only their models are the theoretically correct application of PBR methodologies, the only thing that is certain at the end of a PBR rate case is that the correct model was not discovered, approved, or implemented.

## **ADJUDICATION OF THE BASELINE REVENUE REQUIREMENT**

The establishment of an accurate baseline revenue requirement is absolutely critical to the success of PBR. Unfortunately, the adjudicatory process under PBR may be no better than under cost-of-service regulation in that the “regulator faces the same problems of gamesmanship, incomplete information and cost revelation” (Navarro, 1996). This is one of several theoretical contradictions of incentive regulation because, if the regulatory process was capable of accurately determining a utility’s revenue requirement in the first place, there might be no perceived need for PBR. From a consumer (ratepayer) perspective, the problem with any baseline revenue requirement determination is the high probability that the baseline will be overestimated. This results from the fact that the process will almost always make a new baseline estimate reflect the utility’s inflated historical costs and not start with a “clean” set of books from which cross-class subsidies and other, often arbitrary, past accommodations and adjustments are removed. The subsequent application of sophisticated statistical methods will only memorialize this skewed outcome and defeat any attempt to sever the link between rates and costs.

Attempts to abandon reliance on historical costs, and adopt some form of “statistical benchmarking,” replace one set of problems with another. The statistical benchmarking approach evaluates a utility’s cost structure in the context of the costs of other utilities, normalized for obvious differences such as weather. The fallacy of this approach is that there is no assurance that this data are any good either, and by selectively withholding or choosing the dataset, any desired conclusion can be reached.

Other components of the baseline calculation, such as the choice of escalation factor(s), productivity offsets (or “X” factors), or cost passthroughs (“Z” factors), are equally problematic. There is no universal agreement on how any of these adjustments should be done, or even whether one or the other should be done in a PBR, and thus the potential for strategic gaming is ever present. These adjustments are, in reality, all subjective judgments under the guise of a more objective scientific rubric.

## **ADJUDICATION OF THE “SHARING” MECHANISM**

The “incentive” created by PBR is primarily implemented in the so-called sharing mechanism. The most powerful incentive is created with a sharing mechanism that lets the utility keep all the savings. This is another theoretical contradiction of incentive regulation. Yet, the adjudicatory process must reach a balance between creating the most potent incentive for cost savings and returning the maximum possible savings to customers—two mutually exclusive objectives. This assumes that the baseline revenue requirement is reasonably accurate.

Establishing the right balance depends on accurately knowing the extent to which the utility was or was efficient in the past and therefore a function of the baseline revenue requirement. If the existing utility cost structure is “bloated” and inefficient, a progressive sharing mechanism is the more appropriate choice. However, if all the “low hanging fruit” have been picked, a regressive mechanism may be more appropriate. Not knowing whether the expected savings are easy, the adjudicatory process cannot easily pick the sharing mechanism—progressive or regressive—that will most likely maximize savings. What is clear is that, given the choice, utilities will always opt for a regressive sharing mechanism. Regulators may also not readily confess that the utility attained a “bloated” cost structure on their watch and thus may have an equal incentive to prefer a regressive mechanism that favors the utility over its customers in the savings allocation process.

## **ADJUDICATION OF THE QUALITY CONTROL MECHANISM**

Cost savings under PBR are rewarded through the sharing mechanism while violations of quality of service are punished through one or more quality control mechanisms. Since quality of service is a normal responsibility of any business, utilities should not be rewarded for simply maintaining quality. The quality control mechanism in PBR should not be used to duplicate the benefits or rewards of the sharing mechanism.

The adjudication of the quality control mechanism requires a determination of what measures of quality to include in the PBR, setting the right threshold for each quality parameter, and assessing penalties for any breach of a standard. For example, a measure of system reliability may be “average number of customer interruption minutes,” a common industry standard. Customer service is often measured with periodic customer surveys (usually designed and conducted by the utility itself), and safety can be measured with different types of “accident rates.”

While quality parameters are easy to design and measure, they are difficult if not impossible to value (in dollar terms), and therefore the process for setting thresholds and assessing penalties becomes wholly speculative or arbitrary. This valuation problem is one more theoretical contradiction of incentive regulation. For example, how do customers value a 5 percent versus 7 percent reduction in service reliability? And how is the right penalty imputed from this value if the measure increases from 5 to 7? While there is a substantial academic library on contingent valuation and hedonic pricing—theories of consumer behavior that attempt to indirectly solve this dilemma—in the regulatory hearing room these expensive-to-implement statistical methodologies can produce very unsatisfying results much as they do in the application of econometrics or statistical benchmarking in determining the baseline revenue requirement. The theory may be good, but the practice is not. If the marketplace is incapable of assigning explicit prices to these “public goods,” it should be self-evident that the regulatory environment is even less capable.

Setting quality thresholds is also a task that does not get fair resolution in a hearing room environment. The dilemma is the failure to honestly appraise whether existing quality of service is adequate or not. If a threshold is set to preserve the existing level of service, there is no guarantee that the threshold is optimal and that the incentives are therefore meaningful.

## **OTHER CONCERNS WITH PBR AND INCENTIVE REGULATION**

PBR and incentive regulation are not new. Forms of incentive regulations were introduced in the United States as early as 1906 when a “sliding scale” method, linking increases in the rate of return to decreases in rates, was imposed on the Boston Gas Company. That experiment lasted 10 years. In more recent times, interest in alternatives to cost-of-service regulation seems to have been sparked whenever the regulatory community was subject to an exogenous economic shock such as a recession, high inflation, or fuel price spikes, or because of major changes in regulatory policy which themselves may have been driven by exogenous economic forces. Efforts to deregulate parts of the electric industry, which began with the enactment of the PURPA in 1978, and more recently by the actions of more than half the states, have clearly “fanned the fire.”

- **PBR IS NOT A MORE EFFICIENT REGULATORY PARADIGM.**

PBR, as an alternative regulatory paradigm to traditional cost-of-service regulation, will not produce the intended benefits because it suffers from the same inherent flaws as cost-of-service regulation, namely, the strategic behavior of regulated utilities with an advantage in asymmetric information (Navarro, 1996). Under PBR, regulators face the same problems of gamesmanship, incomplete information, and cost revelation that they face under traditional cost-of-service regulation. In fact, PBR may encourage even greater inefficiencies because it imposes on the rate-setting process methodologies that are more complex and data intensive. Decades of experience by industrial intervenors in state and federal rate-setting proceedings has demonstrated that it is very difficult to prove that the failure to undertake a cost-saving action—such as a decision to make, or not to make, a new investment—is responsible for creating unreasonable costs.

As under traditional cost-of-service regulation, utilities will always strategically attempt to game the regulatory process to fulfill their innate nature to maximize revenues. The powerful economic incentives allowed under PBR will only further encourage attempts to inflate the baseline revenue requirement to reward mediocre performance inappropriately. The incentive to inflate costs is particularly strong just before rates are re-adjusted and a new PBR is established. Unlike traditional cost-of-service regulation with its dependence on accounting data, for PBR to work as intended a regulatory agency is required to act on behalf of consumers. There is no evidence—by tradition or law—that this will always happen. As supported by the economic literature on capture theory, regulatory agencies are often captive to the interests they are supposed to regulate.

Finally, under the best of circumstances, the regulatory process tends to be opaque to ratepayers and policy makers. PBR is even less transparent and tends to further obfuscate the adjudicatory process and remove it from public scrutiny and accountability. This eliminates an important check on the fairness of the regulatory process.

- **PBR IS NOT MORE “MARKET-LIKE” THAN COST-OF-SERVICE REGULATION.**

The economic incentives intended by PBR do not simulate market-like conditions, and therefore PBR is not a more market-like regulatory framework. All market forces induce some form of economic incentive, but not all economic incentives are desirable market forces. Ultimately, the economic incentives created by PBR relate to the generally longer period allowed between rate case reviews.<sup>1</sup> This incentive is no different from the windfall allowed under cost-of-service regulation when a utility’s rates have not been recently adjusted to reflect lower inflationary expectations or costs of capital, increased efficiency, or increased sales volumes. Using this incentive does not require a change in the rate-setting process.

The traditional regulatory environment is inherently incapable of assigning risk to utilities commensurate with the rewards sought by the utilities. While the intent of PBR to promote efficient business practices and performance is laudable, this intent is predicated on the assumption that PBR can replicate “market-like” conditions in an industry dominated by monopoly suppliers. This assumption mischaracterizes the nature of markets, the way risks and rewards are balanced under competition, and

---

<sup>1</sup> Utilities will generally seek a longer period when inflationary expectations are declining and a shorter period (to avoid “regulatory lag”) when inflationary expectations are increasing.

how real efficiencies are achieved.

Not all firms in competitive markets are efficient. Real competitive markets are not pretty because there are losers. As a result, it is common for some firms to go bankrupt. But in regulated industries, there is a floor below which regulators (and legislators) will not allow monopolists to fall, however inept they are. In fact, bad behavior or poor performance does not even subject a utility to the loss of its franchise.

Regulators want to simulate markets in which there are only winners. This asymmetry means that under any attempt to establish a system of performance-based rewards and penalties, the penalties will never be applied with the same force as they would in a real competitive marketplace. Thus, for the regulated utility under PBR (or any form of regulation lacking routine prudence reviews), there is ultimately little downside risk for utility shareholders. Ratepayers bear most or all of the downside risk.

Utilities, with the encouragement of PBR advocates, are seeking financial incentives as an inducement to do what almost any ordinary business would consider routine business practices. While some utilities give lip service to the need to balance their request with the risk of penalties for poor performance, regulation remains a politically motivated process. There is also no incentive for a utility to propose such a “balance.” The downside risk of any penalties is virtually impossible to apply because regulated monopolies provide essential services for, among other things, public welfare and safety. Any business—regulated or not—is free to make reasoned business decisions that may increase its opportunities in the markets it serves. That is its business. Yet, only a regulated monopoly would stake a claim for out-of-market incentives, ostensibly to induce the pursuit of higher risk investment and operating strategies, knowing that its regulators will, if necessary, bail them out if any strategy goes bust. Recent experience with “stranded cost recovery” is ample evidence of the skewed balance of priorities exhibited by regulators and policy makers. Thus, giving any monopolist an “incentive” to invest is playing the game by the monopolist’s rules.

- **PBR METHODOLOGIES ARE ILL-SUITED TO THE REGULATORY PROCESS.**

The regulatory process is not conducive to determining a utility’s actual market cost of capital or forecasts of other key economic variables. This accounts, in part, for dissatisfaction with traditional cost-of-service regulation. This does not explain why the same regulatory resources are better suited to estimating and projecting all the factors necessary to implement a more complex PBR methodology.

## **RECOMMENDATIONS**

The assessment of PBR and incentive regulation, as presented in this *Profile*, presents a rather bleak picture. The future need not be so bleak. ELCON recommends that a more appropriate reform for the rate setting of transmission and distribution services in a new competitive era is, first, a return to the unembellished first principle of traditional regulation (*i.e.*, allowing the recovery of all prudently incurred costs plus an opportunity to earn a fair return on all prudently incurred investments that remain used and useful), and, second, subjecting utilities to real market risk that holds them accountable for their behavior. This must be a pre-condition to the elimination of any earnings cap for any utility.

- **COST-OF-SERVICE REGULATION PROVIDES ECONOMIC REWARDS THAT ARE EQUAL TO OR GREATER THAN MARKET REWARDS, EVEN FOR MEDIOCRE BUSINESS PERFORMANCE, BECAUSE UTILITIES ARE ALLOWED TO EARN A VIRTUALLY GUARANTEED RATE OF RETURN WITH ALMOST**

**NO DOWNSIDE RISK. THERE IS NO NEED TO EMBELLISH ANY UTILITY'S EARNINGS AS LONG AS THIS GUARANTEE APPLIES.**

- **THE RATE-SETTING PROCESS SHOULD BE TRANSPARENT TO THE PUBLIC AND TO POLICY MAKERS.**

Regulation is subject to the public trust and should be fully accountable to public needs. PBR should never be a black box that inhibits public scrutiny and oversight. The complex statistical methodologies that underpin many PBR methodologies clearly limit full accountability and enable regulation to degenerate into a process of accommodation between the regulators and regulated. The best regulatory paradigm is always a process that is transparent to the public and policy makers.

- **REGULATION MUST ACKNOWLEDGE ITS LIMITATIONS FOR SIMULATING REAL, COMPETITIVE MARKET OUTCOMES.**

Regulation cannot make a monopolist behave as a real competitor unless the monopolist is allowed to fail. This is why regulation is inherently imperfect and unsatisfying. Changing the regulatory paradigm to PBR does not change the underlying problem. The only way to minimize this problem is to structure the regulatory process in ways that minimize the potential for improper strategic behavior and gamesmanship.

- **TRADITIONAL COST-OF-SERVICE REGULATION IS NOT LACKING IN WORKABLE INCENTIVE MECHANISMS. THOSE MECHANISMS SHOULD BE USED.**

Unlike PBR, cost-of-service regulation offers a more balanced system of rewards and penalties. For example, prudence reviews, the “just and reasonable” standard, and the “used-and-useful” test can and should be used to discourage and punish inefficient behavior. Unfortunately, any attempt to establish a symmetrical system of rewards and penalties is defeated by the tendency of regulators also to allow cost pass-throughs such as attrition allowances or fuel adjustment clauses.

Regulators are also free to establish bandwidths around allowed returns that reward exceptional behavior or punish unexceptional behavior. The selective use of rate moratoria is also an acceptable mechanism—on a one-time-only basis—to encourage the efficient transformation from vertically-integrated monopoly to more competition-oriented supplier of essential services. ELCON has supported such an incentive device and commits to considering other forms of “rewards” if the overall objectives of industry restructuring are advanced and consumers are otherwise held harmless. See Box 2 for an example of a transitional incentive device that ELCON proposed before the FERC.

Finally, some utilities should be allowed to fail in the ultimate sense of the word. In recent memory, two electric utilities have sought court protection under bankruptcy laws: the El Paso Electric Company and Public Service Company of New Hampshire. In both cases the lights stayed on, and arguably ratepayers were better off than had either company been “bailed out” on its own terms to avoid the need for reorganization.

- **MAXIMIZE THE USE OF REAL COMPETITIVE MARKET FORCES WITHIN THE REGULATORY CONTEXT.**

Regulation, under any paradigm, is not an effective substitute for market behavior unless real market risk is imposed. Utilities will tend to price their services more efficiently only if there is a credible risk of new entrants into their market by alternative suppliers of new technologies, and they are fully accountable for the consequences. This is a “market-like” incentive.

Thus, real “market-like” incentives can be interjected into the regulatory process by: (1) removing the utility’s protection from technological competition; (2) allowing franchise competition; and (3) unbundling from purely regulated services any other service that can be offered on a competitive basis in the marketplace.

### **1. TECHNOLOGICAL COMPETITION**

Transmission and distribution services compete with generation resources and other technologies on the customer side of the meter. Traditional regulation has shielded utilities from the risk of this form of competition by allowing the fixed and other costs “stranded” by on-site technologies to be rolled into the rates charged to remaining customers of the services. This creates no incentive for the utility to meet the competition by reducing costs and adopting innovative technologies, independent of whatever return on T&D assets the utility was authorized to collect. If the objective of public policy is to encourage such cost reductions and innovations, transmission providers should be forced to compete with generation, and distribution providers should be forced to compete with distributed generation, and neither “wires” provider should be guaranteed the recovery of stranded costs if it is unable to meet the competition. Neither form of direct competition involves the duplication of the utility’s “essential” facilities. In the long run, technological changes may make many residual natural monopoly functions obsolete and eliminate the need for regulation altogether.

If the “wires” businesses compete with generation resources, it should be self-evident that utilities must not be allowed to impose restrictions on the interconnection of such resources to their T&D assets to stifle the competition. Principles of “open access” must be applicable to the act of physical inter-connection as well as access to the transfer capability of either or both transmission and distribution.

### **2. FRANCHISE COMPETITION**

Incumbent providers of transmission and distribution services should not be allowed to be the only supplier of such services in any geographical region or traditional franchise area. The right to finance or construct new or expanded facilities, including merchant facilities, should be subject to open competition. Even duplicate facilities should be allowed provided that only private capital is at risk, and not rate based. The incumbent utility should be allowed to submit a bid into this process which, if it does, waives its right to participate in the bid evaluation process.

### **3. UNBUNDLE ALL COMPETITIVE SERVICES FROM REGULATED SERVICES**

The pace of electric industry restructuring has stalled, in part, because many competitive services remain bundled with regulated services. This leverages the incumbent utility’s market power in the transition to competitive markets and gives the incumbent unearned competitive advantages. Such advantages are economically inefficient and result in higher costs and less innovation. Potentially competitive services such as billing, metering, default or “supplier of last resort” services, and losses

are examples of services that should be unbundled so that only the residual natural monopoly functions made subject to economic regulation.

- **REMOVE EXISTING DISINCENTIVES TO NEW INVESTMENTS.**

Some transmission and distribution owners claim that they are not always allowed to recover all the costs of owning and operating the assets associated with transmission and distribution services. In some instances, revenues from the “wires” services are used to subsidize generation or other services intended for residential customers. In other instances, the lack of a “bright line” between federal and state jurisdiction over transmission and distribution assets creates the potential for a regulatory gap in which costs associated with some assets are not recoverable in either forum. Both the over-recovery and under-recovery of costs creates a disincentive to new investments. Therefore:

- The FERC’s “Seven Factor Test” should be reformed and more efficiently applied to eliminate any risk of a “regulatory gap.” This would include the establishment of a new class of “sub-transmission” assets. The creation of this separate class of transmission assets, under exclusive FERC jurisdiction, would establish an unequivocal “bright-line” between transmission assets and assets used exclusively for local distribution.
- “Clean up the books.” At both the state and federal levels, generation, transmission, sub-transmission, distribution, and other functions need to be unbundled *for accounting purposes*. This eliminates cost shifting (cross-subsidization of one function’s costs by another function’s revenues), the over-recovery of costs, and gaming of the rate-setting process (by the utility or its regulators) when a transmission owner is subject to multiple state jurisdictions as well as the FERC.
- Modernize FERC’s *Uniform System of Accounts* to conform with the new industry structure. This should streamline the regulatory process and minimize uncertainty associated with revenue recovery.

- **THE OPPORTUNITY TO SERVE A LARGER, GROWING MARKET SHOULD BE AMPLE INCENTIVE TO ENCOURAGE NEW INVESTMENTS AND TO INNOVATE.**

Electric industry restructuring is not a zero-sum game as often portrayed by incumbent utilities. The formation of large, independent RTOs will create large, regional markets without the impossible requirement or risk to consumers of private ownership of a huge transmission network. The opportunity to serve a larger, more dynamic market should be adequate incentive for any normal business—perhaps even independent regulated transmission and distribution monopolies—to enter this market.

In theory, stand-alone wires businesses should operate under a different set of incentives than their vertically integrated forebears. As a stand-alone business, each can earn a profit and grow as a legitimate business by innovating, minimizing costs, and making prudent investment decisions. Or, they can continue to enjoy regulatory protections that shield them from technological competition and other competitive pressures and rely on their gaming skills in the hearing room to expand or preserve their businesses. However, the track record of stand-alone regulated monopolies in the telecommunications, water, and other industries suggests that any advantage of the “profit motive” is

secondary to the advantage of being a monopoly. Regulators of T&D services should be wary of claims that the profit motive alone eliminates market power.

## CONCLUSION

The on going deregulation of generation and other potentially competitive services that were formerly unbundled products has increased interest in the application of PBR to the “wires” services that will remain regulated. The intent of such reforms is to create a more “market-like” regulatory structure that promotes more efficient utility operation and planning. ELCON believes that any such effort is structurally flawed. PBR cannot simulate “market-like” incentives in an industry dominated by monopoly suppliers. Absent the introduction of real business risk to a regulated industry, monopolies cannot be induced to respond to economic incentives in the same manner as businesses in real competitive markets. In part, that is why they were regulated in the first place.

Proponents of PBR fail to acknowledge that no system of rewards and penalties can ever be symmetrical in the traditional regulatory environment. In this environment, there is a *de facto* floor below which regulators will not allow monopolists to fall. This asymmetry means that under any attempt to establish a system of performance-based rewards and penalties, the penalties will never be applied with the same force as they would in a real competitive marketplace. From the perspective of the regulated utility, there is ultimately little downside risk under PBR. PBR is just another venue for improper strategic gaming. This structural imbalance of risks and rewards can only be eliminated when regulators hold utilities fully accountable for their business behavior, including the risk of bankruptcy.

ELCON recommends that the most appropriate reform for the continued regulation of transmission and distribution services is a return to the unembellished first principle of cost-of-service regulation: allow a utility to recover all prudently incurred costs plus a reasonable opportunity to earn a fair return on all prudently incurred investments that remain used and useful. One priority is to make the rate-setting process more transparent to the public and to policymakers. Greater economic efficiencies are also possible by maximizing the use of real competitive market forces within the regulatory context. Real market forces can be interjected into the regulatory process by: (1) removing the utility’s protection from technological competition; (2) allowing third-party developers and other owners of transmission or distribution to build or expand capacity, and permitting other forms of franchise competition; and (3) unbundling purely regulated services from any other service that can be offered on a competitive basis in the marketplace. ELCON believes that a monopoly will be induced to behave like a truly competitive business only if it confronts credible threats of entry into its market. This must be a pre-condition to the elimination of an earnings cap for any utility. In the long run, technological changes may eliminate many residual natural monopoly functions and the need for regulation altogether.



## Box 2

**FEDERAL ENERGY REGULATORY COMMISSION  
DOCKET NO. ER97-2355-000  
“SOUTHERN CALIFORNIA EDISON COMPANY”**

**COMMENTS OF THE ELECTRICITY CONSUMERS RESOURCE COUNCIL  
AND AMERICAN IRON AND STEEL INSTITUTE**

**INDUSTRIAL CONSUMERS PROPOSAL FOR A RATE MORATORIUM**

Industrial Consumers believe that competitive markets will not develop unless, and until, RTOs are formed that remove current barriers to non-discriminatory transmission access. The benefits of RTOs – in terms of improving economic efficiency, removing the reality or perception of discrimination, and increasing reliability – are well articulated in the RTO NOPR. Industrial Consumers’ members take seriously the potential risk that the FERC ALJ decision in this docket may disincite RTO participation by utilities that are not required to do so by state restructuring mandates. Departures from cost-of-service regulation can quickly become an imbroglio. For example, FERC must not weigh whether utilities which are required to join RTOs receive a different level of incentive.

Industrial Consumers’ members are therefore prepared to support – as a business decision -- a transitional ROE which will freeze the ROE in effect at the time the utility joined the RTO/ISO for FERC-jurisdictional assets for up to five years or until: (1) a new rate case has been opened at the State level involving non-FERC-jurisdictional assets, or (2) the utility seeks a new rate case before FERC for the recovery of new expenditures or investment.

This transitional ROE will likely allow a transmission owner to over-collect its basic revenue requirement and should be ample reward/incentive to join an RTO. To the extent the utility incurs new expenditures or investments, or takes other actions to maintain or increase the value of its assets, it retains the flexibility to live within the transitional ROE, or seek recovery of any such costs in a new rate case *which may include a determination of a lower ROE to reflect changes to the utility’s business risk profile resulting from industry restructuring.*

This proposal, and departure from cost-of-service principles, should suffice to promote RTO formation if in fact a cash reward is necessary as claimed. By capping existing transmission rates, end-use and other transmission customers are held harmless to the extent such customers might otherwise be asked to bear even higher transmission costs. The proposal also reflects the belief of Industrial Consumers’ members that the reward for incenting a utility to join an RTO/SO should be the equivalent of a lump-sum payment (on a discounted basis) and not a perpetual annuity.

## RECOMMENDED RESOURCES

Costello, Kenneth W. and Sung-Bong Cho, *A Review of FERC's Technical Reports on Incentive Regulation*, National Regulatory Research Institute, May 1991.

Kahn, Marvin H. *Direct Testimony of Marvin H. Kahn, On Policy Considerations for the SDG&E Distribution PBR on Behalf of Utility Consumers' Action Network (UCAN), Before the California Public Utilities Commission*, July 1998.

Myers, Richard and Alex Johnson, *Electric and Gas Utility Performance Based Ratemaking Mechanisms*, Energy Division, California Public Utilities Commission, December 1997.

National Association of Regulatory Utility Commissions, *Performance-based Regulation in a Restructured Electric Industry*, November 1997.

Navarro, Peter. "The Simple Analytics of Performance-Based Ratemaking: A Guide for the PBR Regulator," *The Yale Journal on Regulation*, Volume 13, 1996, pp. 104-161.