Performance-Based Regulation: Can “The Other PBR” Make Sense for Wisconsin?

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Introduction

Wisconsin is considering alternative regulatory & business models for electric utilities

Performance-based regulation ("PBR") has been touted as appropriate for the "utility of the future"

My presentation provides an introduction to PBR, focusing on two popular approaches:

- Revenue decoupling
- Multiyear rate plans

Melissa will then take an in depth look at a third approach: targeted performance incentive mechanisms
Traditional Rate Regulation
Traditional Cost of Service Regulation (COSR)

COSR Basics

- Base rates adjusted in rate cases
- Rate cases occur *as needed*
- Trackers for fuel, purchased power, & demand side management expenses
- Usage (volumetric and demand) charges collect many “fixed” costs

General COSR Problems

- Performance incentives vary with rate case frequency, scope of cost trackers
- Incentive to increase rate base (“Averch Johnson effect”)
- Incentive to increase sales (“throughput incentive”)
- >> Utilities have incentive to resist DERs even when they are low cost option
- Frequent rate cases raise regulatory cost & limit marketing flexibility
COSR performance incentives worsen in periods of financial stress

Risk of “mini death spiral”

Productivity Trend of Electric, Gas, and Sanitary Utilities

Performance-Based Regulation
This initiative proceeds from the assumption that rate-base rate of return regulation offers few incentives to improve efficiency, and produces incentives for regulated companies to maximize costs and inefficiently allocate resources... Regulators ... must critically analyze in detail management judgments and decisions that, in competitive markets and under other forms of regulation, are made in response to market signals and economic incentives. The role of the regulator in this environment is limited to second guessing. Traditional ... regulation provides few opportunities to create meaningful positive economic incentives which would benefit both the companies and the customers. The Commission is seeking a better way to carry out its mandate so that the legitimate expectations of the regulated utilities and of customers are respected.

COSR in Today’s Business Environment

Salient Features of Today’s Business Environment

• High level of demand-side management
• Rising penetration of distributed generation & storage
• >>> Flat to declining average use increases rate case frequency
• Slow input price inflation
• Less need for major generating plant additions
• Growing need for marketing flexibility (e.g., green pricing, EVs, TOU pricing, new value-added services that utilize smart grid technologies)

COSR Problems

• Utilities resist distributed energy resources ("DERs")
• Frequent rate cases raise regulatory cost, weaken performance incentives
• Limited marketing flexibility

Performance-Based Regulation
Performance-Based Regulation
Performance-Based Regulation

PBR: Regulation designed to improve utility performance with stronger incentives

4 well-established PBR approaches

- Targeted Performance Incentive Mechanisms ("PIMs")
- Multiyear Rate Plans ("MRPs")
- Revenue Decoupling
- Incentivized Cost Trackers & Formula Rates
Revenue Decoupling

Objectives
- Eliminate “throughput incentive” by decoupling base rate revenue from system use

Key Components
- **Revenue decoupling mechanism** helps actual revenue track allowed revenue
- **Revenue Adjustment Mechanism** adjusts allowed revenue automatically for growing cost pressures

Advantages
- Removes throughput incentive for wide range of DSM initiatives
- No need for complicated load savings estimates
- *Full* decoupling is achievable *immediately*
- No restrictions on rate designs
- Side Benefits... Automatic rate relief for declining average use
  - Reduced controversy over billing determinants in rate cases
- >>> Decoupling popular even where utilities lack large DSM programs

Performance-Based Regulation
Revenue Decoupling Precedents: Gas

Expired Plan

Current Plan

Performance-Based Regulation
Revenue Decoupling Precedents: Electric

Performance-Based Regulation
Multiyear Rate Plans

Objectives

• Balanced, strong incentives to improve *general* cost performance
• Streamlined regulation

Key Components

• Rate case moratorium
• Attrition relief mechanism (ARM) provides automatic relief for rising cost pressures *but is not linked to utility’s actual costs*
• Targeted performance incentive mechanisms for reliability & customer service

Optional Components

• Cost trackers
• Revenue decoupling
• Earnings sharing
• Marketing flexibility
• Additional PIMs (eg for demand-side management)
Marketing Flexibility

MRPs can afford utilities more marketing flexibility

Infrequent rate cases…
- Reduce chore of cost allocation
- Lessen concerns about cross subsidization
- Can strengthen marketing incentives

Light-handed regulation of
- Special contracts
- Optional tariffs and services

Gradual evolution of standard rate designs
ARM Design

4 well-established approaches to ARM design

- Indexing (e.g., $\Delta$Revenue = Inflation – X + $\Delta$Capacity)

- Stairstep (e.g. 3% in 2017, 5% in 2018, 2% in 2019)

- Hybrid (e.g., Indexing for O&M revenue Stairsteps for capital revenue)

- Tracker/Freeze
Rate Escalation Requirements: VIEUs

Traditional

Contemporary

Performance-Based Regulation
Case Study: Pacific Gas & Electric

Application  Base revenue for generation and distribution

Revenue Decoupling

Stairstep Revenue Cap

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<thead>
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<th>2015</th>
<th>2016</th>
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<td>Generation:</td>
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<td>4.0%</td>
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<tr>
<td>Distribution:</td>
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Capex Tracker  Smart grid pilots

Plan term 3 years (2014-2016)

Reference: Decision 14-08-032, Application 12-11-009, August 2014

Performance-Based Regulation
Tracker/Freeze Case Study: Cleco Power

Base Rate Freeze

Capital Cost Tracker

 Covered costs of commission-approved new gen plant additions, environmental capex, and a big transmission project

Plan Term: 4 years (2010-2013)

Reference: LA PSC Order No. U-30689, October 2009
MRP Precedents

Used since 1980s in utility industries facing competition and complex, changing demand

- Railroads
- Telecommunications
- Oil Pipelines

Improved performance became important profit center

Used for U.S. electric utilities since 1990s

California, New York, New England were early adopters in US

Increased use by vertically integrated electric utilities

More common outside US (e.g., Australia, Britain, Canada, NZ)
Multiyear Rate Plan Precedents: US

Performance-Based Regulation
MRP Precedents: Canada

Performance-Based Regulation
“Mini MRPs”

Performance-Based Regulation
Distribution Productivity Trends of Central Maine Power and Two Northeast Regions

Performance-Based Regulation
Case Study: Britain’s RIIO Approach to PBR

Builds off of 20-year history of PBR in Britain

Multi-year rate plan features:

- 8-year plan term
- Revenue decoupling
- Attrition Relief Mechanism based on:
  - detailed cost forecasts
  - commission-sponsored benchmarking & engineering studies
- Elaborate performance metric system
  - Metrics in diverse areas, heavy financial weights caught the eye of Yanks
  - But PIMs with heavy financial weights pertain to MRP (e.g., Reliability)
MRPs Can Work in Wisconsin

Benefits
Frequent rate cases = high regulatory cost and weak cost containment incentives
Numerous utilities to regulate
Declining competitiveness of Wisconsin rates
Some utility resistance to DERs
MRPs can complement other means to encourage efficient DERs (e.g. decoupling and peak load management PIMs)
Need for marketing flexibility

Feasibility
Current business conditions ease MRP design
Wisconsin has experience with forward test years and “mini MRPs”
MRPs can be adopted in stages
Additional Slides

Performance-Based Regulation
Case Study: MidAmerican Energy (IA)

Attrition Relief Mechanism: Comprehensive rate freeze

Other Provisions: Guaranteed recovery of major plant additions

Marketing Flexibility: Yes (in early years)

ESM: Customer share payed down cost of capex

Off-Ramps: Yes

Plan Term: 1997 (with extensions) until 2012

Reference: Iowa Utilities Board Docket Nos. RPU-98-08, RPU-01-3, and RPU-03-1
Bibliography


Contact Information

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