

PERFORMANCE BASED RATEMAKING WHY, HOW, AND THE HARD QUESTIONS

ENERGY INNOVATI

Sonia Aggarwal October 10, 2017



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1.<u>WHY</u>

2.HOW

3.HARD QUESTIONS



PERFORMANCE-BASED RATEMAKING changes the central question...

From: "Did we pay the right amount for what we got?"

To: "Are we paying the right amount for what we want?"

Utility and Regulatory Models for the Modern Era

by Ron Lehr

PERFORMANCE-BASED RATEMAKING CAN ALIGN FINANCIAL INCENTIVES

ALIGN FINANCIAL INCENTIVES OF:WITH THESE GOALS:UtilitiesAffordableIndependent Power ProducersResilient3rd party service providersCleanCustomersSafe

PERFORMANCE-BASED RATEMAKING CAN DRIVE INNOVATION

123RF

TESLA

PERFORMANCE-BASED RATEMAKING CAN ADDRESS INFORMATION ASYMMETRY

AFP/GETTY IMAGES

1.WHY 2.<u>HOW</u>

3.HARD QUESTIONS

FROM PINK FLOYD ALBUM, "ANIMALS"

CONSIDER THE WHOLE ENCHILADA

- What types of utility activities or investments does the current financial structure incent?
- How do build or buy decisions affect utility profits? What about capital vs. operational fixes?
- Are there outcomes that customers or policymakers want that don't fit the current profit incentives?
- What is the appropriate way to share risk of overall system costs between customers and utility shareholders?

www.energyinnovation.org 98 Battery St. #202, San Francisco, CA 94111 power@energyinnovation.org

UTILITY MODELS:

QUESTIONS FOR REGULATORS AND STAKEHOLDERS TO ASK AND ANSWER AS UTILITIES EVOLVE

BY RON LEHR & SONIA AGGARWAL
FEBRUARY 2017

Every utility regulatory model has embedded incentives. This list is intended to help state policymakers and other stakeholders pinpoint questions they can ask and answer to explore how incentives from cost of service regulation and performance regulation relate to today's power system goals.*

QUESTIONS FOR STATES WITH COST OF SERVICE REGULATION

- What types of utility activities or investments does the current financial structure incent? Is it equipped to provide comprehensive and coordinated solutions across issues facing utilities today and in the future?
- What do customers want? What role does customer satisfaction play in utility profitability?
- What policy, financial, market, and operational considerations, constraints, and
 opportunities should be analyzed to determine an appropriate role for utilities going
 forward? Should hey be the sole providers of electricity services or should they enable a
 role for customers and third-party providers?
- Are current financial incentives for utilities aligned with efficient utility operations, adequate and reliable service for consumers, and just and reasonable rates? Are they aligned with goals for environmental performance?
- In addition to well-known monopoly incentives, have utility monopsony incentives been analyzed? Are there ways to regulate monopsony incentives in the public interest?

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^{*} For more information, see:

http://nerszvinnovation.org/resources/our-publications/zeins-deep-performance-based-regulation/ http://westermenergyboard.org/wp-content/uploads/2015/03/03-09-15-Synapse-WIEB-Utility-Performanceincentives

PRIORITIZE GOALS, ESTABLISH METRICS Some examples...

Affordable → bills (\$/mo); peak reduction (MW)

Resilient → SAIDI/SAIFI for critical feeders

Clean \rightarrow Ibs CO₂/MWh; kWh/customer

Safe \rightarrow number of emergencies; minutes to respond

EXAMPLE: UNITED KINGDOM

- 6 outputs tied to revenue
 - customer satisfaction, reliability and availability, safe network services, connection terms, environmental impact, social obligations
- 200-250 basis points upside and downside based on performance
- 8 years to adapt and perform, opp to review at year 4
- Incentive delivery: overall revenue cap + ROE adjustments applied to *all capital and operational* expenditures

"Utility investors agree RIIO is a paradigm of success."

Julien Dumoulin-Smith, UBS

1.WHY 2.HOW

3.<u>HARD QUESTIONS</u>

SOME HARD QUESTIONS TO CONSIDER FOR PERFORMANCE INCENTIVES

- How many outcomes and metrics should a program track and compensate?
- How closely tied to outcomes should performance metrics be?
- How do you set appropriately aggressive targets?
- What is the relationship between the strength of the target and the size of the financial incentive/penalty?
- In aggregate, how large should financial incentives/penalties be?

SOME HARD QUESTIONS TO CONSIDER FOR MULTIYEAR RATE PLANS AND REVENUE CAPS

- How long is long enough to give the utility runway to try new approaches?
- How can you minimize influence of exogenous factors when setting policy for the future?
- What revenue cap design features are important to allocate risk well between customers and utility shareholders?

Remember: other states and jurisdictions are asking the wrestling with these same questions.

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THANK YOU -

PRINCIPLES FOR DESIGNING PERFORMANCE-BASED REGULATION

1. Work with stakeholders to clearly define goals and outcomes in quantitative terms.

2. Include incentives for exceptional performance and penalties for missing the standard.

3. Use a transparent and consistent methodology for measuring performance. Define it clearly at the outset of the program.

4. Shift an appropriate amount of performance risk to the utility, in exchange for longer-term regulatory certainty and the opportunity to earn incentive compensation. Reward entrepreneurialism.

PRINCIPLES FOR DESIGNING PERFORMANCE-BASED REGULATION

5. Establish a long enough time horizon for the utility and third-parties to make investment decisions with certainty, and to innovate to meet performance targets.

6. Consider revenue sharing to align utility performance with customer benefits. Customer savings should be compatible with utility earnings.

7. Build on the existing framework, but look for holistic solutions that go far enough to truly align incentives and simplify the regulatory process.

8. Consider provisions for mid-course correction—any changes should be announced well in advance of implementation, to minimize uncertainty.

DELIVERING THE INCENTIVE

ROE adjustments:

- Basis point adjustments applying to the whole ratebase
 - e.g. IL, UK
- Incentive ROE for projects that meet performance criteria
 - e.g. CA: nuclear performance

"Direct incentives"

- Shared savings / shared profits*
 - e.g. CO: Xcel off-system sales
- Shareholder incentive mechanisms
 - e.g. CA: efficiency performance

* Shares may change over time

DELIVERING THE INCENTIVE

ROE adjustments:

- Basis point adjustments applying to the whole ratebase
 - e.g. IL, UK
- Incentive ROE for projects that meet performance criteria
 - e.g. NY Brooklyn Queens Demand Management Project

"Direct incentives"

- Shared savings / shared profits*
 - e.g. HI: shared fuel savings
- Shareholder incentive mechanisms
 - e.g. CA: efficiency performance

* Shares may change over time

HERE COMES SOME FINANCE....

Alfred Kahn

THE SHAREHOLDER VALUE ENGINE (1) $Stock \ Price = BV + \frac{(r-k)BV}{k-g}$

Neither the absolute level of a company's revenue, nor its rate of return, directly drive shareholder value.

It's all about the difference between the ROR and the underlying cost of capital.

This **difference** creates the value opportunity that drives stock price.

This is the residual income model, a form of the standard discounted cash-flow model. From Stephen Penman, *Accounting for Value*, Columbia Business School Press (2010).

THE SHAREHOLDER VALUE ENGINE (2)

Stock Price =
$$BV + \frac{(r-k)BV}{k-g}$$

Setting the ROR at the cost of capital would be a recipe for stagnation: If (r - k) = 0, there is no incentive to make any investments.

The provision of incentives and the wherewithal for dynamic improvement in efficiency and innovations in service may require allowing returns to exceed [the cost of equity]...The rate of return must fulfill an institutional function: it somehow must provide the incentives to private management that competition and profit-maximization are supposed to provide in the nonregulated private economy."

Alfred Kahn, 1970

SHAREHOLDER VALUE SHOULD BE TIED TO PERFORMANCE

Merely permitting all regulated companies as a matter of course to earn rates of return in excess of the cost of capital does not supply the answer;

There has to be some means of seeing to it that those supernormal returns are earned,

Some means, for example, of identifying the companies that have been unusually enterprising or efficient and offering higher profits to them while denying them to others.

Alfred Kahn, again!

MOVING FROM COST OF SERVICE TO PERFORMANCE-BASED REGULATION

Incentives or penalties for valuecreating activities*

> *Overall costs may actually decrease; but potential returns to shareholders may grow commensurate with the additional risk shifted to utilities

> > ILLUSTRATIVE