Measuring Success: Performance Mechanisms and Frameworks for Co-ops

NRECA

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Overview

• Why of so much interest now?

• What is PBR exactly?
  • Added on top of traditional cost of service model
  • Set the goal and the performance criteria (expectation) >>> from those:
    • Metrics then follow to measure progress to goal(s)
    • Performance incentives come later

• Performance-based regulation fundamental:
  • Need to define what the goal is, only then to performance criteria, and then how to measure in metrics
1 Why is performance-based regulation of so much interest now?
PBR enables reform of 100-year old regulatory paradigm

PBR and smart transformation of power sector

Old system = barrier to new technologies, policies
PBR can identify and target positive incentives and outcomes

- Higher levels of efficiency
- Solar distributed generation
- Higher ramping rate for integration of renewables
- Peak load reduction via demand response
- Increase customers enrolled in time-varying rates
- EV rate education and charging station deployment
States’ progress in grappling with PBR is uneven

Various combinations of drivers are advancing PBR in 19 states and D.C.

- **Early Exploration:** Initial inquiries often marked by a report examining PBR options

- **Initial Stakeholder Engagement:** Soliciting comments and/or conducting workshops assessing PBR options

- **Advanced Stakeholder Engagement:** Soliciting comments and/or conducting workshops in discussing specifics of PBR options

- **Implementation:** Decisions have been made or are close to being made to deploy PBR options

- **Conclusion of Inquiry:** Decisions have been made not to consider the PBR framework

Source: EnerKnol and Wood Mackenzie Power & Renewables; Tracking of the proceedings available on the EnerKnol Platform
What is “PBR”? 

Co-ops cannot set performance expectations, and metrics if goals sought are only vaguely laid out.
Performance-based regulation (PBR) is…

- A regulatory framework to connect achievement of specified objectives to utility financial performance and executive compensation
- A PBR plan includes a well-thought-out collection of performance criteria/targets and then metrics to determine progress toward achievement of the specified objectives
Expressing targets with measurable performance criteria, expressed in standard metrics is a best practice.
Metrics

• Quantifiable measure of a specified performance
• Typically expressed as standard power system measures or consumer impact measures
Performance criteria to metrics

• Quantifiable measure of a specified performance
• Typically expressed as standard power system measures or consumer impact measures
• Examples:
  • Customer minutes without electricity during outage
  • Time to restore x% of customers following outage
  • SAIDI / CAIDI / during outages
  • Critical services without power
What form of performance-based regulation is right for your situation? Where to start?

- **Public Metrics Only**
  - Metrics are publicized on a publically available "dashboard."

- **Public Metrics with Ranking**
  - Metrics are publicized and ranked
  - Examples: Denmark DSO efficiency ranking, RIIO

- **Public Metrics with Financial Incentives**
  - Metrics are publically available, and utilities receive financial awards or penalties depending on achievement of the metrics.
  - Examples: NY REV
3 Performance-Based Regulation
For . . .
From the goals consider performance criteria (directional targets)

Guiding goal: improve distribution system reliability

Directional target: 5% improvement in SAIFI from baseline value
Minnesota reliability and resilience metrics

- System Average Interruption Duration Index (SAIDI)
- System Average Interruption Frequency Index (SAIFI)
- Customer Average Interruption Duration Index (CAIDI)
- Customers Experiencing Long Interruption Duration (CELID)
- Customers Experiencing Multiple Interruptions (CEMI)
- Average Service Availability Index (ASAI)
- Equity – Reliability by geography, income, or other relevant benchmarks
- Momentary Average Interruption Frequency Index (MAIFI)
- Power Quality

Performance-based regulation (PBR) for IT/IS systems

• IT/IS systems tend to be challenging for any business
• Utilities are generally behind the rest of the economy
• These new systems will not be siloed and will be interoperable
  • SCADA systems increasingly deployed
  • AMI and related data management systems
  • Customer information and billing systems
  • Customer and third-party portals are replacing/supplementing EDIs
  • Distributed resource management systems (DMS or ADMS)
  • GIS
  • Data Lakes
About RAP

The Regulatory Assistance Project (RAP)® is an independent, non-partisan, non-governmental organization dedicated to accelerating the transition to a clean, reliable, and efficient energy future.

Learn more about our work at raponline.org
Resources

- Next-Generation Performance-Based Regulation: Volume 1 (Introduction—Global Lessons for Success)
- Next-Generation Performance-Based Regulation: Volume 2 (Primer—Essential Elements of Design and Implementation)
- Next-Generation Performance-Based Regulation: Volume 3 (Innovative Examples from Around the World)
- Performance Incentives for Cost-Effective Distribution System Investments
- Protecting Customers from Utility Information System and Technology Failures
- Metrics to Measure the Effectiveness of Electric Vehicle Grid Integration
- Sharing the Good Stuff: Best Practices From Three Minnesota Initiatives
- raponline.org