Revenue Regulation Options for New Mexico

New Mexico Public Regulation Commission
Open Meeting

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About RAP – US

• RAP provides technical and policy support at the federal, state and regional levels, advising utility and air regulators and their staffs, legislators, governors, other officials and national organizations.

• We help states achieve ambitious energy efficiency and renewable energy targets and we provide tailored analysis and recommendations on topics such as ratemaking, smart grid, decoupling and clean energy resources. RAP publishes papers on emerging regulatory issues and we conduct state-by-state research that tracks policy implementation.
Reconsidering Incentive Structures

RAP has written several studies and worked with many Public Utility Commissions on issues of revenue regulation, decoupling, performance-based regulation, and other tools to align incentives with public policy goals.
1 Efficient Use of Energy Act

Background and Amendments
Efficient Use of Energy Act (EUEA) Background

• Numerous revenue regulation mechanisms have been proposed in NM
• EUEA now requires the Commission, on its own motion or upon a petition, to “identify and remove regulatory disincentives or barriers for public utility expenditures on energy efficiency and load management measures.”
Efficient Use of Energy Act (EUEA) Goals

• The EUEA also sets new energy efficiency goals for the state

• Utilities shall acquire “cost-effective and achievable energy efficiency and load management resources”

• Not less than savings of 5 percent by 2025 of 2020 total retail kWh sales, with a rulemaking to be undertaken for future goals
2 Reforming Regulation

Aligning Incentives with Public Policy Goals
All regulation is incentive regulation

- The trick is to understand what the incentives are and how they affect behavior
How Do Utilities Make Money under Traditional (Price-Based) Regulation?

- Under traditional regulation*:
  
  \[
  \text{Price} = \frac{\text{Revenue Requirement}}{\text{Projected Sales}}
  \]

- But:

  \[
  \text{Actual Revenues} = \text{Price} \times \text{Quantity}
  \]
  
  Where: \( \text{Quantity} = \text{Actual Sales} \)

- Which means that:

  \[
  \text{Net Income} = \text{Actual Revenues} - \text{Actual Costs}
  \]

- The utility makes money by:
  
  - Reducing costs and
  - Increasing sales

\*\( \text{RR} = \text{Cost of Service} = \text{Test Year Expenses} + \text{Depreciation} + \text{Taxes} + (\text{Rate of Return} \times \text{Rate Base}) \)
Traditional Regulation: The Problem

• Traditional ROR regulation sets *prices*, not *revenues*
  - The revenue requirement is only an estimate of the total cost to provide service, used only as the basis for determining rates

• By themselves, consumption-based rates ($/kWh and $/kW) link revenues (and thus net income) to sales
  - The more kilowatt-hours a utility sells, the more money it makes
  - This is because, in most hours, the price of electricity is greater than the cost to produce it
    - Utility makes money even when the additional usage is wasteful, and loses it even when the reduced sales are efficient

• The incentive to increase sales is *extremely powerful*
  - This is the “throughput incentive”
## How Changes in Sales Affect Earnings

<table>
<thead>
<tr>
<th>% Change in Sales</th>
<th>Revenue Change</th>
<th>Impact on Earnings</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre-tax</td>
<td>After-tax</td>
</tr>
<tr>
<td>5.00%</td>
<td>$9,047,538</td>
<td>$5,880,900</td>
</tr>
<tr>
<td>4.00%</td>
<td>$7,238,031</td>
<td>$4,704,720</td>
</tr>
<tr>
<td>3.00%</td>
<td>$5,428,523</td>
<td>$3,528,540</td>
</tr>
<tr>
<td>2.00%</td>
<td>$3,619,015</td>
<td>$2,352,360</td>
</tr>
<tr>
<td>1.00%</td>
<td>$1,809,508</td>
<td>$1,176,180</td>
</tr>
<tr>
<td>0.00%</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>-1.00%</td>
<td>-$1,809,508</td>
<td>-$1,176,180</td>
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The Solution: Revenue-Based Regulation or “Decoupling” – it’s pretty simple

• Prices set the old-fashioned way: in a rate case
• But now the amount of revenues that the company will receive is determined:
  • The “revenue requirement” becomes the company’s “allowed” (or “authorized” or “target”) revenue
• Differences between actual revenues and allowed revenues are trued-up through periodic rate adjustments (monthly, quarterly, yearly)
• Other (non-sales-related) adjustments to revenue can also be made
  • E.g., inflation, productivity, changes in numbers of customers, exogenous factors, rewards/penalties for performance, etc.
Revenue-Sales Decoupling (1)

- Breaks the mathematical link between sales volumes and revenues
  - Makes revenue levels immune to changes in sales volumes
  - It enables recovery of the utility’s costs, including return on investment, in a way that doesn’t create perverse incentives for unwanted outcomes

- Objectives:
  - **To improve economic efficiency**
    - Preserves the utility’s incentive to improve its operational efficiency
      - Net income remains a function of utility operations & management
    - Removes the utility’s incentive to increase net income by increasing sales
    - Shifts focus to customer service
  - **To reduce risk for both the utility and the customer**
    - Eliminates impacts (up or down) on revenue from weather, changes in the economy, and other exogenous factors
    - Likewise, eliminates impacts associated with least-cost actions
Revenue-Sales Decoupling (2)

• This is a *revenue* issue, not a *pricing* issue: it is not intended to decouple customers bills from their consumption
  • Customers continue to see the cost implications of their consumption decisions through usage-based pricing
  • Use more, pay more. Use less, pay less
# How Decoupling Works

## Periodic Decoupling Calculation

<table>
<thead>
<tr>
<th>From the Rate Case</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Target Revenues</td>
<td>$10,000,000</td>
</tr>
<tr>
<td>Test Year Unit Sales</td>
<td>100,000,000</td>
</tr>
<tr>
<td>Price</td>
<td>$0.10000</td>
</tr>
</tbody>
</table>

## Post Rate Case Calculation

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Actual Unit Sales</td>
<td>99,500,000</td>
</tr>
<tr>
<td>Required Total Price</td>
<td>$0.1005025</td>
</tr>
<tr>
<td>Decoupling Price &quot;Adjustment&quot;</td>
<td>$0.0005025</td>
</tr>
</tbody>
</table>
Decoupling Rate Adjustments Have Generally Been Very Small

Total Utility Decoupling Adjustment Rate Impacts

- Residential/All
- Commercial
- Other
- Total

Refunds

Surcharges

Percentage Rate Impacts

Number of Decoupling Adjustments

Source: Lesh, 2009
Credit Implications of Decoupling

- Standard & Poor Views Decoupling as Generally Positive from a Credit Perspective:
  - Provides the opportunity for a utility to earn a pre-determined level of distribution revenue regardless of the actual KWH sold
  - Enables utilities to project cash flow more accurately and avoid much of the earnings volatility from changes due to policy goals (and other influences – weather/economy) that occur under traditional regulations
  - Reduces the need for rate case filings, resulting in lower overall costs for the utilities
Conclusion

- Decoupling promotes economic efficiency
  - Stabilizes utility revenues
    - Reduces or eliminates a host of risks for both utility & customers
  - Eliminates the key financial barrier to utility support for customer-sited resources
- Decoupling elsewhere has worked well
  - “Now we can focus on customer service instead of worrying about revenue levels.”
3 Public Interest Benefits of Revenue Regulation
Consumer Benefits of Decoupling

• Requires utility to refund to the customer any excess revenues beyond those authorized by the Commission – injects a level of accountability and customer protection that is otherwise generally lacking.

• Removes the disincentive to for utilities to engage in energy efficiency (EE) the least cost resource option. EE:
  - Contributes to reductions in overall rate increases; and,
  - Provides tools for customers to reduce their bills through energy savings.

• Opens the opportunity to reduce revenue requirements by enabling changes to the debt – equity ratio.

• Can be designed to achieve public policy goals
Design Approaches to Protect Customers

• Symmetry – ensure that credits are provided.

• Stability: cap on rate changes or bands around size of rate adjustment, (e.g. plus or minus 3%)

➤ Provisions for carry-over of over or under recoveries

• Bill simplification
Design Approaches to Protect Customers

• Changes to capitalization ratio to reflect risk reductions (Recommended Approach); or

• Reductions in utility return on equity to reflect reduced risk, (e.g. 50 basis points)
  ➢ Controversial among utilities, environmental groups and consumer groups
Design Approaches to Protect Customers

• Direct more energy efficiency/DERs
  o Decoupling conditioned on comprehensive programs and minimum energy efficiency requirements

• Direct more distribution efficiency

• Low income provisions
  o Rate design approaches
    ▪ Refunds allocated to the first block; surcharges to the tail block
  o EE programs directed towards LI
    ▪ Can be combined with HWAP funds for more comprehensive approach.
Decoupling and the Cost of Capital

- Earnings are more stable

- Utility can carry a lower equity ratio and still protect bondholders from risk of insolvency

- S&P: ~3% more debt for a utility with decoupling, for the same bond rating

- 3% more debt (and less equity) means about $3+ million/year in lower revenue requirement per $1 billion of rate base which results in more consumer savings.
## Illustration of Debt/Equity Ratio Shift

<table>
<thead>
<tr>
<th>Without Decoupling</th>
<th>Ratio</th>
<th>Cost</th>
<th>Weighted without-tax cost of capital</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equity</td>
<td>48%</td>
<td>10%</td>
<td>7.38%</td>
</tr>
<tr>
<td>Debt</td>
<td>52%</td>
<td>7%</td>
<td>2.37%</td>
</tr>
<tr>
<td>Weighted cost</td>
<td></td>
<td></td>
<td>9.75%</td>
</tr>
<tr>
<td>Revenue requirement: $1 Billion Rate Base</td>
<td></td>
<td></td>
<td>$97,506,154</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>With Decoupling</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Equity</td>
<td>45%</td>
<td>10%</td>
<td>6.92%</td>
</tr>
<tr>
<td>Debt</td>
<td>55%</td>
<td>7%</td>
<td>2.5%</td>
</tr>
<tr>
<td>Weighted cost</td>
<td></td>
<td></td>
<td>9.43%</td>
</tr>
<tr>
<td>Revenue Requirement: $1 Billion Rate Base</td>
<td></td>
<td></td>
<td>$94,255,769</td>
</tr>
</tbody>
</table>

Savings Due to Decoupling Cost of Capital Benefit: $3,250,385
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

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