Public Service Commission
Cost of Service Ratemaking Overview
Before the
House Economic Matters Committee

January 10, 2019

Ratemaking Overview: Topics Covered

- Rate-Making Concepts
- Legal Standard
- Key Ratemaking Principles
- Rate Case Procedure
  - Rate Base
  - Revenues and Expenses
  - Cost of Capital Rate of Return
  - Rate Design and Cost Allocation

Utility Rate-Making Concepts

- The process usually starts when a utility files a rate (increase) request.
- Rates (Revenues) are set by the Commission to allow utilities to recover their expenses and provide a reasonable return on investments.
- Utilities typically file rate cases in response to rising expenses and investments when the utility believes a fair return cannot be earned using existing rates.
- Generation and Transmission Rates are not covered in rate cases for utilities that provide Standard Offer Service.

What is a Rate Case?

- Rate Cases are formal proceedings before the Public Service Commission that consider evidence, sworn testimony and legal arguments to set new or revised rates based on the case record.
- Maryland rate cases must be completed within 210 days.
- At the end of a rate case, the Commission issues an Order that decides all the issues in the case and establishes new rates, charges, fees and terms of service.
- A utility must file tariffs in compliance with the Commission's Order before charging the new or revised rates or fees.

Legal Standard

Just and Reasonable Rates

- Defined in Section 4-101 of the Public Utilities Article.
- Rates which result in an operating income to the public service company that yields, after reasonable deduction for depreciation and other necessary and proper expenses and reserves, a reasonable return on the fair value of the public service company's property used and useful in providing service to the public.

Key Ratemaking Principles

- **Matching** – need to ensure that revenues, expenses and rate base use consistent periods – assures that costs and benefits affect similar customers during the same period.
- **Known and Certain** – preference for actual auditable expenses – provides incentive to control costs.
- **Prudence** – cost incurred by a utility as a result of managerial imprudence cannot be recovered from the company's customers.
- **Balancing** – Commission must weigh the interests of shareholders and ratepayers in establishing rates – sufficient revenue to allow reliable service while keeping rates affordable.
- **Retroactive Ratemaking** – (typically not permitted) setting rates which permit a utility to recover past losses or which require it to refund past profits.

Rate Making Process

Determine Revenue Requirement

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Allocate Cost to Customer Classes

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Design Rates

Steps in Developing Distribution Rates

- **Revenue Requirement** – Set the revised level of annual revenue to be collected by the utility.

- **Cost Allocation** - Assign costs to customer classes. – e.g. residential, commercial and industrial

- **Rate Design** – Calculate the rates needed to collect the class revenue requirement. – e.g. monthly (fixed) charges and volumetric (per kWh) rates

Revenue Requirement Formula

Revenue Requirement = r(RB) + E + D + T

r = rate of return (weighted average cost of capital)

RB = rate base = investment less accumulated depreciation

E = operating expense

D = depreciation and amortization

T = taxes

Revenue Requirement Calculation

Line No.	Description		
1	Rate Base (Investment in plant)	$ XXXX	
2	Multiplied by Rate of Return	X%	
3	Required Operating Income		$ XX
4	Operating Revenue	$ XXX	
5	Less: Operating Expenses	$ XXX	
6	Achieved Net Operating Income	$ XX	
7	Operating Income Deficiency/(Sufficiency) (line 3 less line 6)	$ XX	
8	Gross Revenue Conversion Factor		1.7
9	Revenue Deficiency (Sufficiency): Amount of required rate increase (decrease) (Line 7 x Line 8)		$ XX

Test Year (Test Period)

- The test year is typically the reference period for developing the rate base and cost of service for the years rates will initially be in effect
- The test year is generally a recent historical 12-month period
- The period where rates will initially be in effect is referred to as the rate effective period
- The rate effective period should be similar to the test year but could be modified to account for:
  - The test year with specific changes for known and measurable costs and/or events (e.g. labor contracts, postal increase)
  - The test year modified based on specific projections for changes anticipated to occur (e.g. new facilities or equipment)

Rate Base (Overview)

- Rate base represents the investment the utility has in plant, materials and supplies, and other assets that are used and useful in providing service.

- Investors are entitled to receive a fair rate of return on rate base.

- Rate base must match (same time period) with the revenue and expense items.
  - Does rate base reflect the net plant investment that will be in service and servicing customers in the period rates are in effect?
  - Does rate base include the investment needed to generate the test period revenues?

- Rate Base amount can be taken at end of test period, the average test period, or a projected rate year.

- In Maryland, a historical test year average period is generally used.

- Typically, plant items and accumulated depreciation are based on a 13-month average amount, while some other items may use a beginning/ending average.

Operating Revenues

- Operating Revenues
  - General business revenues – e.g. sales of electricity to customers
  - Other operating revenues – includes items such as late charges, miscellaneous revenues, rent of electric property, pole attachments, royalties, etc.
  - Gains (losses) on sales of utility property

Items to Consider in Reviewing Revenues

- Weather adjustments – Are the revenues included in the filing reflective of "normal" weather conditions?
- Normalized – Are the impacts of abnormal or non-recurring events excluded?
- Annualized – Based on annualization of tariffs currently in effect? (i.e., was there a mid-period change in rates, etc.) Any changes in special contracts?

Items to Consider in Reviewing Revenues (Continued)

- Customer levels – Are the expected number of customer accounts reflective of the test year?
  - Customer growth projections – reasonable, comparable to historic growth levels or projections, changes in trend?
  - Any new large customers projected to come on-line?
  - Any large customers projected to discontinue operations?

- Miscellaneous or other revenues – Should any items be based on averages or historic levels? Are there any known changes in levels and types?

Operating Expenses
Main Categories

- Utilities use a standard set of cost categories to track plant and expenses. (FERC USOA – Federal Energy Regulatory Commission Uniform System of Accounts)
  - Operating & Maintenance Expenses – Production, Transmission, Distribution
  - Administrative & General Expenses – Customer Accounting, Customer Service, A & G Salaries, Insurance, Employee Benefits, etc.
  - Depreciation & Amortization Expense
  - Taxes Other Than Income – Payroll Taxes, Property Taxes, Franchise Taxes, etc.
  - Income Taxes – State & Federal, Current & Deferred

Operating Expenses
Items Considered

- Distribution Expenses, Includes Tree Trimming
- Administrative and General Expenses
- Customer Account Expenses
- Customer Service Expenses
- Outside Services
- Property Insurance
- Injuries and Damages
- Employee Pensions and Benefits
- Regulatory Commission Expense
- Labor Costs
- Depreciation Expenses
- Taxes

Operating Income Concepts

- “Above-the-Line” vs. “Below-the-Line”
- An item is “Below-the-Line” if it is not part of regulated service. These items are not included in net operating income in determining the revenue requirement. Includes items such as the following:
  - Lobbying
  - Donations/Contributions
  - Non-regulated revenues and expenses
  - Gains/Losses on sales of non-utility property

Operating Income Concepts (Continued)

- "Above-the-Line" – Costs related to the provision of regulated service to customers.
- Typical Ratemaking Adjustments

  (Items are reviewed on case by case or issue by issue basis)
  - Remove expense items that are non-recurring or unusual – may also amortize depending upon item and situation
  - Add items not reflected or annualize those not wholly reflected
  - Remove non-utility or "inappropriate" cost items
  - Remove items that do not benefit customers
  - Normalize items that fluctuate from period to period (such as average level)

Cost of Capital/Rate of Return

- The Cost of Capital is the rate determined by the Commission to be applied to the rate base to provide a fair return to investors.
- Components of Capital Structure used to determine the Rate of Return.
  - Long-term Debt (as obtained in bond market)
  - Short-term Debt (market-based)
  - Preferred Stock (if issued)
  - Common Equity (return on equity (“ROE”) determined by the Commission in a rate case)

- The Rate of Return (“ROR”) is the weighted average cost of each component of the Capital Structure.

Cost Allocation

- **<u>Customer Class</u>** – a group of similar customers, e.g. residential, commercial industrial.
- **<u>Cost of Service Study</u>** - Each customer class is assigned cost responsibility (expenses and plant) through an analysis of the class impact on utility costs.
- Class revenue and expenses are determined to develop each class's individual return on that class's assigned plant.
- Class revenues (increase or decrease) are set based on the relative return of the class compared to the authorized return. Adjustments are made to limit rate shocks or correct for significant differences with the system return.

Rate Design

- Rate cases typically design rates for delivery or distribution service.
- Rates for each class are designed using one or more of several types of charges.
  - Customer Charge – fixed charge for each month.
  - Volumetric – charge paid per unit of use, e.g. kilowatt-hours (kWh).
  - Demand – charge paid by commercial and industrial customers based on maximum power output, e.g. kilowatts (kW).
- Rates are intended to collect each class's revenue separately.
- All customers in each class pay the same rates.

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