Fundamentals of a Utility Rate Study
Topics to be Covered

• Elements of a Rate Study
  – Current and Historical Fund Analysis
  – Determining a Rate Structure
  – Calculating a Rate Level
  – Rate and Fund Management through Forecasting

• Types of Rate Studies
  – Cash Basis
  – Utility Basis
  – Rate Calculation
Elements of a Rate Study

Current and Historical Fund Analysis

- Audit
  - Balance Sheet / Statement of Net Assets
    - Manage ‘Asset’ Cash Balances for Maintenance and Improvement Spending Fluctuations
  - Changes in Revenues, Expenditures and Net Assets
    - Not Cash Basis, Depreciation, Debt Interest Only
  - Statement of Cash Flows
    - Shows All Impacts to Cash, Debt Principal
Current and Historical Fund Analysis

• **Budget**
  - Historical
    • Year over Year Actual Cash Flows
    • More Detailed Line Items than an Audit
  - Current
    • Use Detailed, Accurate Expense Budgets
    • Avoid ‘Balanced Budget by Plug’
      - Capital Improvement Plan vs. ‘Leftovers’
Elements of a Rate Study

Current and Historical Fund Analysis

• Rate Management with Audits
  – Some Water and Sewer funds are combined for Audit purposes.
    • Budget becomes a better source of information since it separates fund 590 (sewer) and 591 (water)
Determining a Rate Structure

- Two basic types of rate structures to support operations, maintenance and capital expenses:
  - Commodity Charge + Base Rate
  - Residential Equivalent Unit Charge
Determining a Rate Structure

- Commodity Charge + Base Rate
  - Base Rate = Ready to Serve (RTS) Charge
    - RTS supports fixed costs of the system
      - Can include a volume allowance (not preferred)
    - Commodity charge supports variable costs
- Allocation of RTS and Commodity is not boilerplate
  - Should be based on professional advice and reflect the cost of service
Determining a Rate Structure

- Residential Equivalent Unit Charge
  - Used when there are no meters or accurate readings available
  - REU tables can be very different

- One of the most important steps in the rate study process is the verification of data.
Determining a Rate Structure

- Objectives for Setting Rates:
  - Revenue Sufficiency
  - Cost Based Charges
  - Revenue Stability
  - Economic and Equitable Rates
  - Understandable
  - Rate Continuity
  - Reflect Ordinance
  - Compliant with State and Federal Requirements
  - Legally Defensible
Elements of a Rate Study

Determining a Rate Structure

• Other Rates:
  – Extra Strength Surcharges
    • Computed amounts
  – Connection Charges
    • Incremental cost method and equity method
  – Hydrant Rental
    • Paid from general fund
  – Debt Charge
    • Communicates cost incurred
  – Inclining or Declining Block Rates
    • Accounts for cost allocation between different customers
  – Fire Suppression Charges
Determining a Rate Structure

• Other Considerations:
  – State Law
    • Act 94 of 1933
  – Case Law
    • Bolt v. Lansing
Calculating a Rate Level

• Rate calculation is only one part of the full rate study approach
• The following subsection will detail several approaches to rate calculations
Calculating the Rates

• Cash Basis
  – Operations: Personnel, utilities, administration, etc.
    • Can be divided between plant, distribution and collection system
    • Does not include depreciation
  – Maintenance: Regular and periodic maintenance
    • State CWRF and DWRF require an annual budget line item as defined in the User Charge System
    • USDA Rural Development requires Replacement, Repair and Improvement Reserve
Calculating the Rates

• Cash Basis (cont’d)
  – Debt: Principal and interest on outstanding debt
    • Should only include the debt issues or portion of debt to be supported by rates
  – Capital: Improvements and replacements
    • Cash funding – “Pay as you go”
    • Debt financing
    • Deciding between these options requires fund forecasting and balancing rate adjustment with cash management
Calculating the Rates

• Utility Basis
  – Mandated for investor-owned utilities
  – Operations: Personnel, utilities, administration, etc.
    • Can be divided between plant, distribution and collection system
    • Includes depreciation
  – Maintenance: Regular and periodic maintenance
    • State CWRF and DWRF require an annual budget line item as defined in the User Charge System
    • USDA Rural Development requires Replacement, Repair and Improvement Reserve
Calculating the Rates

• Utility Basis (cont’d)
  – Debt: Not Included
    • It is intended that interest on debt is recouped by funding ROI
    • It is intended that principal is recouped by funding depreciation
  – Capital: Improvements and replacements
    • Cash funding – “Pay as you go”
    • Debt financing
    • Deciding between these options requires fund forecasting and balancing rate adjustment with cash management
Calculating the Rates

• Utility Basis (cont’d)
  – Return on Investment (ROI)
    • Intended to pay annual interest cost or provide a fair return for capital investments
    • There is no single optimal method for determining a fair or reasonable rate of return
  – Utility basis implies allocating expenses among customer classes. This can also be achieved with a true cost of service, cash basis analysis
    • Determines the mix of RTS and commodity charge
Rate Calculation

• Rate calculation is one of the four elements of a rate study
  – Cannot be used independently to set rates

• Rate calculations can be an extension of a full rate study
  – Use in interim years between rate studies in conjunction with Cash Flow Forecasts
Rate Calculation

• A Rate Calculation Does NOT:
  – Analyze/Interpret Historical Cash Flows
  – Analyze/Interpret Current Budget Data
  – Apply “Other Revenue” Elements
  – Include Coverage of Administrative Costs
  – Implementation/Management of Regulatory Requirements for Reserves
  – Allocate Costs by Customer Class
  – Guide in the Allocation of Fixed and Variable Costs
Rate Calculation

• A Rate Calculation Does NOT:
  – Select the Proper Rate Structure to Reflect the Customer Base
  – Calculate Other Rates (Connection Charges)
  – Manage Existing Debt
  – Suggest Potential Refinancing, Restructuring, or Retirement Opportunities
  – Consider Regulatory/Ordinance Requirements (Rate Covenants and Bond Tests)
Rate Calculation

• A Rate Calculation Does NOT:
  – Address the Balance Between Cash Funding and Debt Financing for Capital Projects
  – Establish a Target Level of Cash and Investments

• A rate study with professional guidance can address all of these issues and more
Rate and Fund Management Through Forecasting

- **Test Year**
  - Analysis tool based on historical fund performance and the current budget
  - Remove any one-time revenues or expenditures when using as a forecasting instrument
Rate and Fund Management Through Forecasting

- Forecast
  - Conservative accounting for ‘other’ revenues
  - Evaluate inflation figures used individually
    - Personnel benefits may require a higher rate of increase due to trends in health care costs
  - Consider maintenance of state and federal agency short lived asset reserves
  - Include all debt supported by utility rates
  - Form a capital improvement plan
  - Cash and investment level forecasts are key to appropriate rate management
Rate and Fund Management Through Forecasting

- **Rate Projection**
  - The test year provides a foundation for the forecast
  - The forecast provides direction for rate projection
  - OM&R, debt, capital improvement and cash targets together yield the roadmap to rate management from year to year
  - Successful rate management takes into account all of the elements of a forecast
Rate and Fund Management Through Forecasting

• Dodd-Frank Act of 2010
  – Significant regulator changes in financial markets

  • Anyone providing advice on the management of debt must now be registered with the Securities and Exchange Commission
    – Debt Duration
    – Estimated Rates
    – Debt Structure
    – Market
    – State or Federal Programs
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