



USAID
FROM THE AMERICAN PEOPLE



National
Association of
Regulatory
Utility
Commissioners

New York State Gas Ratemaking Concepts

Thomas G. Dvorsky
Director, Office of Gas and Water
New York State Department of Public
Service
Thomas_Dvorsky@dps.state.ny.us

June 2007



USAID
FROM THE AMERICAN PEOPLE



N A R U C
National Association of Regulatory Utility Commissioners

Gas Ratemaking Topics

- Rate Case Process
- Rate Case Issues
 - Revenues
 - O&M Expenses
 - Depreciation
 - Taxes
 - Rate Base
 - Rate of Return
- Revenue Allocation and Rate Design



USAID
FROM THE AMERICAN PEOPLE



National
Association of
Regulatory
Utility
Commissioners

Rate Case Process



USAID
FROM THE AMERICAN PEOPLE



N A R U C
National Association of Regulatory Utility Commissioners

Total Revenue Requirements

- Rates charged for gas services must be sufficient to recover total costs in order to remain viable
- The Regulatory Commission determines the level of revenues necessary for a distribution company to earn a fair rate of return



USAID
FROM THE AMERICAN PEOPLE



N A R U C
National Association of Regulatory Utility Commissioners

Rate Case Process

- Company files a rate case (direct testimony and exhibits) with tariff changes
 - Requests suspended until Commission action (11 month litigated proceeding)
- Field Investigation, Data Requests, Interrogatories
- Public Hearing
- Cross-examination of Company
- Direct Testimony of Staff and Intervenors



USAID
FROM THE AMERICAN PEOPLE



N A R U C
National Association of Regulatory Utility Commissioners

Rate Case Process (cont'd)

- If settlement...
 - Settlement negotiations may occur at any time with notice to reach agreement on issues and avoid litigation
 - Multi-year agreements also can be reached through the settlement process
- If fully litigated...
 - Initial and Reply Briefs to the Administrative Law Judge (ALJ)
 - ALJ's Recommended Decision
 - Briefs on Exception, Replies to Exceptions
 - Commission Order



USAID
FROM THE AMERICAN PEOPLE



N A R U C
National Association of Regulatory Utility Commissioners

Rate Case Filing – First Review

- Future Year Ratemaking Policy
 - Historic Test Year – actual data not older than 150 days
 - Future Rate Year – conditions as forecast to exist in first year of new rates
 - Link period between the two
- Past Decisions and Orders
 - Utility’s most recent Commission Order setting rates
 - Generic Proceedings
 - Policy Statements
- One Year Case versus Multi-year Case
- Major versus Mini Rate Case
 - Major: Greater than 2.5% of revenues, Hearings required
 - Minor: Less than or equal to 2.5%, No hearings required



USAID
FROM THE AMERICAN PEOPLE



National
Association of
Regulatory
Utility
Commissioners

Rate Case Issues



USAID
FROM THE AMERICAN PEOPLE



N A R U C
National Association of Regulatory Utility Commissioners

Rate-making Overview

- Revenues – Expenses = Net Income
- Net Income / Rate Base = Rate of Return
- Revenue Requirement = Expenses + Rate of Return x Rate Base



USAID
FROM THE AMERICAN PEOPLE



N A R U C
National Association of Regulatory Utility Commissioners

Rate Case Issues

Revenues

- Sales and Transportation
 - Growth in Customers
 - Use per customer
 - Weather Normalization
- Other Revenues, e.g. late payment charges
- Purchased Gas Expense
 - Gas Purchasing Practices
 - Gas Cost Incentives
 - Matching Gas Cost Recoveries and Gas Costs Incurred
 - Lost-And-Unaccounted-For (LAUF) Gas
- Gross Receipts Taxes
- Net Revenues/Margin



USAID
FROM THE AMERICAN PEOPLE



N A R U C
National Association of Regulatory Utility Commissioners

Rate Case Issues (Cont'd)

Operation and Maintenance Expenses

Definition: The cost of operating and maintaining gas plant and providing utility service

- Pro Forma Adjustments
- Normalization
- Annualization
- Attrition
- Activity Units versus Elements of Cost
- Examine Major Programs, e.g. gas leak surveys



USAID
FROM THE AMERICAN PEOPLE



N A R U C
National Association of Regulatory Utility Commissioners

Rate Case Issues (Cont'd)

Operation and Maintenance Expenses

- Examine Major Activities by Type of Work, e.g. leak repairs, interference, cathodic protection
- Deferred and Uncontrollable Costs
- Research and Development – Internal and External
- Gas Marketer Issues
- Gas Safety Incentives
- Customer Service Quality Incentives
- Retail Access, Outreach and Education Incentives
- Low Income/Affordable Energy Programs



USAID
FROM THE AMERICAN PEOPLE



N A R U C
National Association of Regulatory Utility Commissioners

Rate Case Issues (Cont'd)

Depreciation

Definition: Loss in service value not restored by current maintenance

- Calculation of annual and accrued depreciation based on straight line method requires the estimation of survivor curves and the selection of group depreciation procedures and characteristics



USAID
FROM THE AMERICAN PEOPLE



N A R U C
National Association of Regulatory Utility Commissioners

Rate Case Issues (Cont'd)

Depreciation Studies

- Mortality Study
 - Use history of plant retirements to determine Average Service Life and Survivor Curves
 - Insufficient retirement data requires that analyst use best judgment in determining average service life and mortality characteristics of such plant account
- Net Salvage Study
 - Today's Cost of Removal far outstrips Original Cost of Installation – leads to high negative net salvage rates
- Book versus Theoretical Reserve Study
 - Compare book reserve (actual) to theoretical reserve (calculated) using average service lives, survivor curves, and net salvage rates determined by studies and best judgment of analyst
 - Amortization of book reserve that is greater than 10% excess or deficient when compared to theoretical reserve



USAID
FROM THE AMERICAN PEOPLE



N A R U C
National Association of Regulatory Utility Commissioners

Rate Case Issues (Cont'd)

Taxes Other than Income Taxes

- Payroll
- Property
- Gross Receipts
- Sales

Income Taxes

- Federal
- State



USAID
FROM THE AMERICAN PEOPLE



N A R U C
National Association of Regulatory Utility Commissioners

Rate Case Issues (Cont'd)

Rate Base

- Original Cost, i.e. cost of plant when first dedicated to public service
- Used and Useful
- Plant In Service, Accumulated Reserve for Depreciation, Net Plant
- Construction Projects, Slippage, Budget versus Actual
- Construction Work in Progress, Interest Bearing, Non-Interest Bearing
- Common Plant Allocations



USAID
FROM THE AMERICAN PEOPLE



N A R U C
National Association of Regulatory Utility Commissioners

Rate Case Issues (Cont'd)

Rate Base (Cont'd)

- Working Capital
 - Materials and Supplies
 - Cash Working Capital
 - Prepayments
 - Underground Storage of Gas
- Accumulated Deferred Income Taxes
- Accumulated Deferred Investment Tax Credits
- Earnings Base versus Capitalization Adjustment



USAID
FROM THE AMERICAN PEOPLE



N A R U C
National Association of Regulatory Utility Commissioners

Rate Case Issues (Cont'd)

Rate of Return

- Primarily consists of: Debt, Preferred Stock, Common Equity
- Most controversial component in Revenue Requirement
- Opportunity to Earn, Not a Guarantee
- Incentives and Sharing Mechanisms



USAID
FROM THE AMERICAN PEOPLE



National
Association of
Regulatory
Utility
Commissioners

Revenue Allocation and Rate Design



USAID
FROM THE AMERICAN PEOPLE



N A R U C
National Association of Regulatory Utility Commissioners

Revenue Allocation and Rate Design

- Introduction
 - Revenue Allocation determines who should pay
 - Rate Design determines how they will pay



USAID
FROM THE AMERICAN PEOPLE



N A R U C
National Association of Regulatory Utility Commissioners

Revenue Allocation and Rate Design

- Many factors are considered in determining the revenue allocation and rate design. (from Principles of Public Utility Rates by James Bonbright, Columbia University Press, 1961):
 - Cost of Service
 - Rate Stability
 - Revenue Stability
 - Historical Precedent
 - Customer Impact
- Equity, no cross-subsidization (“no undue discrimination”)
- Other factors include value of service, gradualism and social welfare considerations
- Apply all these factors with considerable judgment
- Rate Design is an “Art” not a “Science”



USAID
FROM THE AMERICAN PEOPLE



N A R U C
National Association of Regulatory Utility Commissioners

Revenue Allocation Guidance

- Relative Rates of Return from Embedded Cost of Service (ECOS) study
 - Unitized rate of return by service class
 - Revenue Excess or Deficiency
- Tolerance bands
 - With load studies, + or – 10%
 - Without load studies, + or – 20%
- Constraints and Guidelines
 - Service class impact (e.g. 1.5x system average)
 - % across-the-board net of gas costs (increases rate tilt)
 - Per unit across-the-board (maintains rate tilt)



USAID
FROM THE AMERICAN PEOPLE



N A R U C
National Association of Regulatory Utility Commissioners

Cost of Service Studies

- Cost of service studies are only one of several ratemaking guides or tools
- Other factors must be taken into consideration when designing rates and allocating revenues



USAID
FROM THE AMERICAN PEOPLE



N A R U C
National Association of Regulatory Utility Commissioners

Cost of Service Studies

- Some considerations before using Cost of Service Study results
 - Rationality of assumptions and inputs
 - Comparison with previous studies
 - Reliance on data
 - Tolerance Bands



USAID
FROM THE AMERICAN PEOPLE



N A R U C
National Association of Regulatory Utility Commissioners

Rate Design

- Determining Rate Classes
 - How many classes are needed?
 - How should customers be grouped?
- Factors To Be Considered
 - Homogeneous loads
 - Size
 - Location
 - Diversity
 - Value of Service



USAID
FROM THE AMERICAN PEOPLE



N A R U C
National Association of Regulatory Utility Commissioners

Rate Design

- Typical Customer Groups
 - Residential Domestic
 - Space Heating
 - Non-space Heating
 - Small General
 - Large General



USAID
FROM THE AMERICAN PEOPLE



N A R U C
National Association of Regulatory Utility Commissioners

Rate Design

- Criteria of a Desirable Rate Structure
 - Simplicity, able to be understood
 - Effectiveness in yielding total revenue requirements
 - Revenue stability
 - Avoids undue discrimination
 - Price signal
 - Economic Efficiency and Impact
 - Social Concern
 - Gradualism



USAID
FROM THE AMERICAN PEOPLE



N A R U C
National Association of Regulatory Utility Commissioners

Rate Design

- Other Considerations
 - Load Factor
 - Rate blending across service classes
 - Load research findings
 - Sales/Billing data
 - Tail block rate: in excess of marginal cost, plus contribution to system
 - Elastic vs. inelastic Load



USAID
FROM THE AMERICAN PEOPLE



N A R U C
National Association of Regulatory Utility Commissioners

Rate Design

- Cost Bases
 - Embedded costs
 - Marginal costs
 - Value of Service
 - Alternate fuel cost
 - By-pass potential (physical or economic)
 - Related Considerations
 - Commission Policy Statements
 - Prior case opinions
 - Court cases
 - Generic and Special Proceedings



USAID
FROM THE AMERICAN PEOPLE



N A R U C
National Association of Regulatory Utility Commissioners

Rate Design

- Rate Features
 - Structure
 - Flat vs. Blocked
 - Declining vs. Inverted
 - Demand vs. Energy or Commodity
 - Customer and Minimum Charges
 - Minimum Bill
 - Fixed vs. Flexible pricing
 - Floor vs. Ceiling price



USAID
FROM THE AMERICAN PEOPLE



N A R U C
National Association of Regulatory Utility Commissioners

Rate Design

- Number and nature of different rates and charges by types of service
 - Gas Supply
 - Gas Delivery
 - Firm
 - Interruptible
 - Sales vs. Transportation
 - Seasonal Off-peak
 - Off-peak Firm (e.g., 335 days service)
 - Temperature Controlled (e.g. gas turned off at 15 degrees, back on at 20 degrees F)
 - Distributed Generation
 - Gas for Electric Generation
 - Natural Gas Vehicle
 - Air Conditioning
 - Standby
 - Balancing
 - Storage



USAID
FROM THE AMERICAN PEOPLE



N A R U C
National Association of Regulatory Utility Commissioners

Rate Design

- Gas Supply Charge
 - Commodity Rate (including Merchant Function Charge)
 - Weather Normalization Clause
 - Annual Reconciliation of Gas Costs
 - Lost-and-Unaccounted-For Gas
 - Pipeline Refunds



USAID
FROM THE AMERICAN PEOPLE



N A R U C
National Association of Regulatory Utility Commissioners

Rate Design

- Special Rate Forms
 - Economic Development Zones
 - Area Development Rates
 - Business Incentive Rates
 - Individual Negotiated Rates
- Discounted rates to encourage development in under-utilized capacity areas, or to retain customers who can by-pass distribution system