

INTRODUCTION TO COST OF SERVICE CONCEPTS AND TECHNIQUES FOR ELECTRIC UTILITIES

August 9-10, 2010

OVERVIEW

This two-day course will lead participants through the cost of service process from start to finish in detail. We will discuss and compare differences between investor owned utilities, municipal utilities, and electric cooperatives in cost of service principles and techniques. Both traditional and unbundled cost of service analytical techniques will be discussed. Each participant will complete a sample cost of service analysis during the course. Training materials will be provided.

WHO SHOULD ATTEND

This course is recommended for policy makers, managers, attorneys, regulators, key accounts representatives, accountants, engineers, and analysts who would like introductory hands-on training related to cost of service concepts and techniques for electric utilities.

RECOMMENDED BACKGROUND & REQUIREMENTS

No prior cost of service experience is required, although knowledge of utility system infrastructure, business environment, and operations will be helpful. **To participate in model development, a laptop computer with Microsoft Excel is required.**

PROGRAM AGENDA

MONDAY, AUGUST 9, 2010

Registration and Continental Breakfast: 7:30 – 8:00 a.m.

Course Timing: 8:00 a.m. – 4:30 p.m.

8:00 – 8:30 a.m.

Course Overview and Introduction

- Course Objectives
- Reference Materials
- Course Overview
 - Steps in Ratemaking Process
 - Steps in Cost of Service Process
 - Developing Cost of Service Analysis – Different Perspectives
 - Interpreting Cost of Service Results

8:30 – 9:00 a.m.

Overview of Cost of Service Process

- Process Overview
- Introduction
- State Regulatory Process
- Local Regulatory Process
- Federal Mandates
- The Cost of Service Team
- Stakeholders

9:00 – 10:00 a.m.

Study Preparation

- Introduction
 - Four Important Considerations
 - Common Supporting Analyses to Ensure Success
- Financial Planning
- Study Period Selection
- Load Research Study
- System Loss Study
- Resource Planning Studies
- Minimum System Studies
- Accounting for Direct Assignment
- Lighting Study
- Load Forecasting

10:00 – 10:15 a.m.

Morning Break

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PROGRAM AGENDA

MONDAY, AUGUST 9, 2010 (CONTINUED)

10:15 – 11:30 a.m.

Policies, Objectives and Strategies

- Introduction
- Policies
- Objectives
- Strategies
 - Marginal vs. Embedded Costs
 - Cost Unbundling
 - Competitive Pricing
 - Time-of-Use Pricing Support
 - Real-Time Pricing Support
 - Varying Return on Investment
 - Cost Recovery through Rules and Regulations
 - Other Strategies

11:30 a.m. – 12:30 p.m. Group Luncheon

12:30 – 2:15 p.m.

Revenue Requirement

- Introduction
 - Steps in Rate Design Process
 - Definition
 - What is Included in Revenue Requirement
- Test Year Concept
 - Known and Measurable Adjustments
 - Used and Useful Adjustments
 - Components
- Utility Approach (IOU)
 - FERC Uniform System of Accounts
 - Rate Base
 - Components
 - Definitions
 - Return on Rate Base
 - Weighted Average Cost of Capital (WACC)
 - Cost of Debt
 - Cost of Equity
- Utility Approach (Regulated Cooperative)

- Cash Approach (Municipal)
- Debt Service Coverage Ratio
- Comparison
- Adjustments to Base Rates
- Introduction to Cost of Service Model
- ATTACHMENTS: Revenue Requirements Examples 5-1 through 5-4

2:15 – 2:30 p.m.

Afternoon Break

2:30 – 3:30 p.m.

Revenue Requirement (cont'd)

- Classroom Exercise 1: Revenue Requirement Test Year Adjustment – Adding a New Load
- Classroom Exercise 2: Revenue Requirement Test Year Adjustment – Adding a New Resource

3:30 – 4:30 p.m.

Cost Allocation Methodologies

- Introduction
 - Steps in Ratemaking Process
 - Sample Cost Allocation Methods
- Common Approaches to Cost Allocation
 - Embedded
 - Marginal
- Common Approaches to Cost Allocation
 - Bundled
 - Unbundled

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PROGRAM AGENDA

TUESDAY, AUGUST 10, 2010

7:30 – 8:00 a.m. Continental Breakfast
8:00 a.m. – 4:15 p.m. Course Timing

8:00 – 8:30 a.m. Review of Day 1

8:30 – 10:00 a.m. Functionalization of Costs

- Introduction
 - Steps in Ratemaking Process
 - Bundled Approach
 - Unbundled Approach
- Business Unit Concept
 - Products and Services
 - Allocations
 - Direct
 - Derived
- Classroom Exercise 3: Functionally Unbundling Costs

10:00 – 10:15 a.m. Morning Break

10:15 – 11:15 a.m. Classification of Costs

- Introduction
 - Steps in Ratemaking Process
 - Basic Cost Categories
- Fixed and Variable Costs
- Cost Classifications
 - Demand-Related
 - Energy-Related
 - Customer-Related
 - Revenue-Related
 - Direct Assignments
- Classification of Functions
- Special Studies
 - Minimum Systems
 - Zero Intercept
- Special Cases
 - Substituting Classifications
- Classroom Exercise 4: Classification of Distribution Plant

11:15 – 11:45 a.m. Rate Class Determination

- Overview of Issues
 - Rate Classes
 - Number of Classes
 - Type of Classes
 - Classes within Classes
 - Cost of Service Support

11:45 a.m. – 12:45 p.m. Group Luncheon

12:45 – 2:15 p.m. Development of Allocation Factors

- Introduction
 - Steps in Ratemaking Process
- Demand Allocation Factors
 - Coincident Peak
 - Non-Coincident Peak
 - Sum of Max Demands
 - Average and Excess
 - Other
- Energy Allocation Factors
- Customer Allocation Factors
- Revenue Allocation Factors
- Direct Assignment
- Classroom Exercise 5: Development of Demand Allocation Factors

2:15 – 3:15 p.m. Allocation of Costs

- Classroom Exercise 6: Allocated Cost of Service

3:15 – 3:30 p.m. Afternoon Break

3:30 – 4:00 p.m. Interpreting Cost of Service Results

- Introduction
- Subsidization
 - Interclass Subsidization
 - Intraclass Subsidization

4:00 – 4:15 p.m. Course Wrap-Up

INTRODUCTION TO RATE DESIGN FOR ELECTRIC UTILITIES

August 11-12, 2010

OVERVIEW

This two-day course will introduce rate design concepts to participants. The course will build upon information discussed and developed in the Introduction to Cost of Service Concepts and Techniques for Electric Utilities course. Each participant will work through sample rate design exercises during the course. Training materials will be provided.

WHO SHOULD ATTEND

This course is recommended for policy makers, managers, attorneys, regulators, key account representatives, accountants, engineers, and analysts who would like introductory hands-on training related to rate design concepts for electric utilities.

RECOMMENDED BACKGROUND & REQUIREMENTS

No prior rate design experience is required, although knowledge of utility system infrastructure, business environment, and operations will be helpful. **To participate in model development, a laptop computer with Microsoft Excel is required.**

PROGRAM AGENDA

WEDNESDAY, AUGUST 11, 2010

7:30 – 8:00 a.m. Registration and Continental Breakfast
8:00 a.m. – 4:00 p.m. Course Timing

8:00 – 8:30 a.m.

Course Overview and Introduction

- Introduction
 - Building on Cost of Service
 - Overlap
 - Background and Requirements
- Instructors
- The Process

8:30 – 9:30 a.m.

General Ratemaking and Regulatory Principles

- Introduction
- Bonbright Principles
- Regulations
- Factors
- Objectives
- Ratemaking Guidelines
 - Factors
 - Rate Adjustments
 - Competing Objectives
- Equity
- Rate Levels
- Social Engineering
- Competition
- Simplicity

9:30 – 10:30 a.m.

Electric Utility Pricing: Trends That Matter

- Fundamental Trends Affecting Electric Utility Pricing
 - Global Changes
 - Utility Environment
 - Advanced Metering Infrastructure
 - Customer Environment
- Pricing Interface
- Pricing Implications of Risk
- Transactional Risk
 - Decoupling
- Risk Management Strategies
- Pricing Strategies

10:30 – 10:45 a.m.

Morning Break

10:45 – 11:15 a.m.

Electric Utility Pricing: Trends That Matter (cont'd)

- Classroom Exercise 1 – Special Rate Design: Solar Installation

INTRODUCTION TO RATE DESIGN FOR ELECTRIC UTILITIES

August 11-12, 2010

PROGRAM AGENDA

WEDNESDAY, AUGUST 11, 2010 (CONTINUED)

11:15 a.m. – 12:00 p.m. **Applying Cost of Service Results**

- Cost of Service Overview
- Developing Cost Curves
 - Bundled Embedded Cost
 - Unbundled Embedded Cost
 - Marginal Cost
- Evaluation of Competitive Alternatives

12:00 a.m. – 1:00 p.m. **Group Luncheon**

1:00 – 1:30 p.m. **Applying Cost of Service Results (cont'd)**

- Classroom Exercise 2: Developing Cost Curves

1:30 – 2:45 p.m. **Traditional Rate Design**

- Rate Overview
- Flat Rate (energy only)
- Two Part Rate (customer/energy or energy/demand)

- Three Part Rate (energy/demand/customer)
- Blocked Rates
 - Declining
 - Inverted/Inclining
- Wright Rate
- Relationship between Rate Design and Cost Curves
- Classroom Exercise 3: Designing Bundled Rates

2:45 – 3:00 p.m.

Afternoon Break

3:00 – 4:00 p.m.

Unbundled Rate Design

- Unbundled Rate Overview
- Traditional Bundled vs. Unbundled
- ATTACHMENT: Examples of Unbundled Rate Design 6-1 through 6-6
- Unbundling Strategies

THURSDAY, AUGUST 12, 2010

7:30 – 8:00 a.m. **Continental Breakfast**

8:00 a.m. – 4:15 p.m. **Course Timing**

8:00 – 8:30 a.m. **Unbundled Rate Design (cont'd)**

- Classroom Exercise 4: Unbundled Rate Design

8:30 – 10:00 a.m. **Time Based Rates and Demand Management**

- Review of EPAAct 2005
- Time of Use Overview
- Real Time Pricing
- Critical Peak Pricing
- Load Reduction Credits
- Other Approaches
- Smart Metering
- TOU
 - Seasonal
 - Daily
 - Hourly
 - Cost Differentials
 - Variations
- ATTACHMENT: Examples of Rate Design 7-1 through 7-8
- Designing Time-of-Use Rate
 - Time Periods
 - Cost Differentials
 - Price Elasticity
 - Changes – Class Load Characteristics

- Changes – Revenue
- Changes – Time Related Costs
- Rate Level Adjustments
- Demand Management

10:00 – 10:15 a.m.

Morning Break

10:15 – 11:30 a.m.

Marginal Cost Pricing

- Resources
- Application and Use
- Short Run and Long Run
- Marginal Capacity Costs
- Production Cost Modeling
- Marginal Energy Costs
- Marginal Transmission Costs
- Plant Investment Method
- Planning Method
- Marginal Distribution Costs
- Revenue Reconciliation
- Inverse Elasticity Method
- Differential Adjustment Method
- Lump Sum Method
- Equi-Proportional Method
- Dilemma of Reconciliation

INTRODUCTION TO RATE DESIGN FOR ELECTRIC UTILITIES

August 11-12, 2010 R

PROGRAM AGENDA

THURSDAY, AUGUST 12, 2010 (CONTINUED)

11:30 a.m. – 12:30 p.m. Group Luncheon

12:30 – 2:00 p.m. Classroom Exercise 5a – Residential Rate Design

2:00 – 2:15 p.m. Afternoon Break

2:15 – 3:00 p.m. Classroom Exercise 5b – Commercial Rate Design

3:00 – 3:30 p.m. Special Rate Provisions

- Minimum Bills
- Demand Ratchets
- Power Factor
- Service Voltage
- Paying for Growth
- Customer Ownership of Facilities
- Energy Cost Adjustment Charges
- Net Metering
- Standby Rates
- Feed-In Tariffs
- Special Contracts
- Others

3:30 – 4:00 p.m. Interclass Transitions and Communicating the Plan

- Introduction
- Rate Form Transition Problems
- Promotional and Special Rates
- Communicating the Plan
 - Confidence in Data
 - Summarize Process
 - Known and Measurable Changes to Test Year
 - Do Not Hide Facts
- Example Graphs
- Communications Summary

4:00 – 4:15 p.m. Course Wrap-up

INSTRUCTORS

David A. Berg, P.E., North Dakota State University: B.S. and M.S. in Electrical Engineering

As a Senior Director in R. W. Beck's Rates Practice, Mr. Berg brings 26 years of consulting experience to the utility sector. He specializes in consulting services requiring a combination of technical and financial expertise. His electric industry restructuring and pricing work has assisted utilities in stabilizing their customer base and revenues in an increasingly complicated environment as well as in educating them on the particular industry changes that could affect their operations most significantly. His project feasibility, financing and system acquisition projects have provided clients with a sound technical and financial basis upon which to make decisions on purchasing, selling or modifying facilities. He understands the special issues confronting small and medium size municipal utilities, as well as the joint action agencies serving these utilities. He has also assisted industrial customers in analyzing particular industry issues that impact their operations.

Mr. Berg has also been involved in financial and technical evaluation of power generation projects that utilize alternative fuels. These have included landfill gas, biomass and wind generation projects.

Mr. Berg is a popular speaker both at utility training session and state and national conferences, due to his ability to focus on the essential points of complicated issues and to recommend actions appropriate to the audience.

Brown D. Thornton, P.E., Tennessee Technological University: B.S. in Electrical Engineering, Vanderbilt University: MBA

Mr. Thornton is a Senior Director with R. W. Beck. He has more than 27 years of utility experience in consulting, management, operations, engineering, and construction. Mr. Thornton is involved in providing management consulting services, strategic and business planning, organizational reviews, financial and economic feasibility plans, system valuation studies, COS analysis and rate design, power supply planning, contract negotiation, and information technology planning and implementation.

Prior to joining R. W. Beck, Mr. Thornton worked for a major generation and transmission electrical utility as a strategic consultant, wholesale power contract administrator, billing analyst, project manager, operations supervisor, and field engineer. He leverages his broad experience base to work with utility management and governing bodies in engagements involving strategic planning, examination of complex issues and decision making.

Laurie A. Tomczyk, P.E., University of Nebraska: B.S. in Mechanical Engineering

Ms. Tomczyk is a Senior Analyst at R. W. Beck with over 18 years of experience in providing consulting services to clients in the electric power and solid waste industries. Her primary responsibilities include revenue requirement analyses, cost-of-service and rate design studies, financial projections, and other engineering/economic analyses. Rate-related projects have included studies to develop electric and water rates, wheeling and ancillary services rates, and electric standby rates, as well as competitive assessments.

Ms. Tomczyk has also provided testimony on cost-of-service issues as well as other types of rate-related litigation support. She has been involved in feasibility and implementation studies, procurement processes, independent engineering reviews, operation and maintenance reviews, and planning studies. Her clients have included electric cooperatives, municipal utilities, planning and regulatory agencies, and private sector clients.

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CPE CREDITS

Upon successful completion of this event, program participants interested in receiving CPE credits will receive a certificate of completion.

Introduction to Cost of Service Concepts and Techniques for Electric Utilities Course CPE Credits: 15.5

Introduction to Rate Design for Electric Utilities Introduction to Rate Design for Electric Utilities CPE Credits: 16.5

Program Level: Beginner

PROCEEDINGS

The proceedings of the seminar will be published and one copy will be distributed to each registrant at the course.

COURSE LOCATION

A room block has been reserved at the Hyatt Regency Chicago, 151 East Wacker Drive, Chicago, IL 60601, for the nights of August 8-12, 2010. Room rates are \$149 plus applicable tax. Call 312-565-1234 for reservations and mention the EUCI Conference to get the group rate. Make your reservations prior to July 23, 2010. There are a limited number of rooms available at the conference rate. **Please make your reservations early.**

REGISTRATION INFORMATION

REMEMBER, EVERY 4TH REGISTRANT IS FREE

For instant registration, call (201) 871-0474 or fax the Registration Form to (253) 663-7224.

Register 3, Send 4th Free!!

Any organization wishing to send multiple attendees to these courses may send 1 FREE for every 3 delegates registered. Please note that all registrations must be made at the same time to qualify.

All cancellations received on or before July 9, 2010 will be subject to a \$195 processing fee. Written cancellations received after this date will create a credit of the tuition (less processing fee) good toward any other EUCI conference or publication. This credit will be good for six months. In case of conference cancellation, Electric Utility Consultants' liability is limited to refund of the conference registration fee only. For more information regarding administrative policies such as complaints and refunds, please contact our offices at (201) 871-0474.

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PLEASE REGISTER THE FOLLOWING

- BEST VALUE:** Both Courses, Introduction to Cost of Service Concepts and Techniques for Electric Utilities and Introduction to Rate Design for Electric Utilities, August 9-12, 2010, \$2495

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Or chose a single course below

- Introduction to Cost of Service Concepts and Techniques for Electric Utilities, August 9-12, 2010, \$1495

Early Bird on or Before July 30, 2010, \$1295

- Introduction to Rate Design for Electric Utilities, August 9-12, 2010, \$1495

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