Table of Contents

Preface to the Second Edition		xi
Part I: Princ	iples	1
Chapter 1: A Brief History of Electric and Natural Gas Regulation		3
1.1	Introduction	3
Chapter 2	17	
2.1	Introduction	17
2.2	The Fundamental Economic Goal of Regulation	19
2.3	The Competitive Ideal	20
2.4	Factors that Preclude a Competitive Outcome	24
2.5	Profit Maximization Under Monopoly	29
2.6	The Contestability of Markets	30
2.7	The Regulator's Pricing Challenge	34
2.8	Other Complicating Factors	37
2.9	How Deregulation Can Lead to More Regulation	40
2.10) Chapter Summary	43
Chapter 3	3: The Role of the Revenue Requirement	45
3.1	Introduction	45
3.2	Meeting the Regulatory Challenge	46
3.3	Key Regulatory Principles	48
3.4	Why Revenue Requirements Underlie <u>All</u> Regulatory Structures	57
3.5	Revenue Requirement Components	63
3.6	Other Issues	71
3.7	Chapter Summary	74
Chapter 4: Alternative Regulatory Structures		75
4.1	Introduction	75
4.2	Common Aspects of Regulatory Structures	76
4.3	Cost Differences and Operating Environments	78
4.4	Cost of Service	78
4.5	Performance-Based Regulation	83
4.6	Yardstick Competition	89
4.7	Comparing Different Regulatory Regimes to Set Tariffs	93
4.8	Chapter Summary	95
APP	ENDIX: Model Company Analysis	96
Chapter 5: Cost Measurements		105
5.1	Introduction	105
5.2	Why Regulators Measure Costs	105
5.3	Estimating and Regulating Operating Costs	112
5.4	Estimating and Regulating the Rate Base	128
5.5	Estimating the Regulated Rate of Return	139
5.6	Deferred Costs and Regulatory Assets	157
5.7	Chapter Summary	159

APP	APPENDIX 5-1: Depreciation Mechanics	
APP	APPENDIX 5-2: Country Risk Methodologies	
Chapter 6: Cost Allocation		175
6.1	Introduction	175
6.2	Cost Functionalization	176
6.3	Cost Classification	179
6.4	Cost Allocation	181
6.5	Regulatory Accounting Standards	192
6.6	Separating Regulated and Unregulated Activities	195
6.7	Allocation Practices	199
6.8	Chapter Summary	206
Chapter 7: Rate-Setting Principles and Procedures		207
7.1	Introduction	207
7.2	Billing Determinants	208
7.3	Tariff Design	221
7.4	Alternative Design Structures	223
7.5	Tariff-Setting Methods	228
7.6	Incremental and Rolled-In Methods	250
7.7	Pricing and Social Policy	256
7.8	Electric Restructuring and Default Service	258
7.9	Chapter Summary	262
Appendix 7-1: Estimation Issues in Forecasting Energy Demand		262
Appendix 7-2: Ramsey Pricing Formula		265
Appendix 7-3: Incremental or Rolled-In: Which Pricing Regime is Preferred from a Purely Economic View		267
Chapter	3: Rate and Tariff Adjustment Mechanisms	269
8.1	Introduction	269
8.2	Pass-Through Mechanisms	269
8.3	Inflation Adjustments	271
8.4	An Alphabet Soup of Adjustment Factors	277
8.5	Decoupling	291
8.6	Shared-Savings and Off-Ramps	293
8.7	Chapter Summary	293
Арр	endix 8-1: The Inflation Adjustment Formula	294
Арр	endix 8-2: Level Based Methods: DEA Approach to Measure Efficiency	296
Арр	endix 8-3: TFP Derivation	298
Appendix 8-4: TFP Calculation Methodologies		299
Chapter 9: Market Power in the Electric and Natural Gas Industries		307
9.1	Introduction	307
9.2	Defining Market Power	309
9.3	Dominant Firms	313

9.4	Horizontal and Vertical Market Power	314
9.5	Remedies for Market Power	322
9.6	The Essential Facilities Doctrine	325
9.7	Chapter Summary	326
APPE	NDIX: Short- and Long-Run Impacts of Government Subsidized Entry on Capacity Markets	328
Chapter 10): Dealing With Uncertainty	331
10.1	Introduction	331
10.2	Key Issues	332
10.3	Making Investment Decisions Under Uncertainty	334
10.4	Measuring Price Volatility	350
10.5	Nonmarket Uncertainties	352
10.6	Chapter Summary	356
Chapter 1	1: Environmental Regulation of the Energy Industry	357
11.1	Introduction	357
11.2	Environmental Costs and Environmental Externalities	359
11.3	Regulatory Responses	361
11.4	Measuring Environmental Costs and Benefits	369
11.5	Environmental Costs and Energy Prices	372
11.6	Externality Adders	373
11.7	Current Regulatory Policies: Renewable Energy and Global Climate Change	374
11.8	Chapter Summary	385
Chapter 12: Energy Markets and Electric System Reliability		387
12.1	Introduction	387
12.2	Direct Current Circuits	388
12.3	Alternating Current Circuits	392
12.4	Defining Reliability	393
12.5	Reliability and Installed Capacity Markets	407
12.6	Capacity Markets Across the World	411
12.7	Chapter Summary	415
Chapter 1	3: Regulation and Reform in International Markets	417
13.1	Introduction	417
13.2	Transition Mechanisms	418
13.3	Alternative Privatization Arrangements	420
13.4	Establishing the Regulatory Framework	422
13.5	Renegotiation and Change	425
13.6	Eminent Domain, Expropriation, and Regulatory Takings	427
13.7	International Arbitration	429
13.8	Use of Regulatory Assets Accounting in Response to Regulatory Takings	431
13.9	Chapter Summary	433