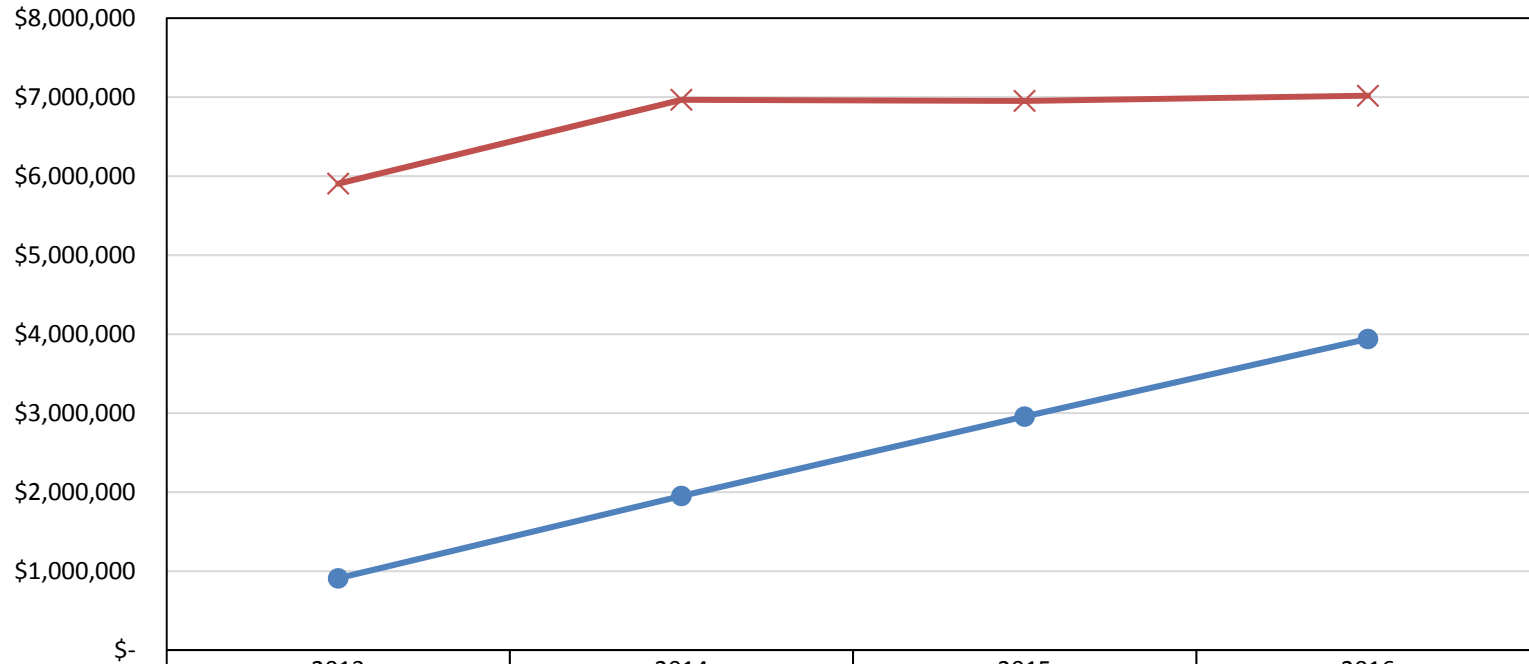


Northern Utilities - New Hampshire Planned TIRA Spending and Revenue Requirement



	2013	2014	2015	2016
● Annual Rev Req	\$910,282	\$1,951,979	\$2,957,270	\$3,940,131
✕ TIRA Spending	\$5,905,526	\$6,966,542	\$6,952,382	\$7,018,824

Northern Utilities, Inc. - New Hampshire
Targeted Infrastructure Rate Adjustment
Revenue Requirement for Year Ended December 31, 20XX

LINE NO.	(1)	(2)	(3)	(4)	(5)
	DESCRIPTION	YEAR			
		2013	2014	2015	2016
	<u>Rate Base:</u>				
1	Plant in Service	\$ 5,314,973	\$ 11,584,861	\$ 17,842,005	\$ 24,158,947
2	Accumulated Reserve for Depreciation	(519,287)	(990,294)	(1,293,821)	(1,437,303)
3	Net Plant in Service	5,834,261	12,575,156	19,135,826	25,596,249
4	Accumulated Deferred Income Tax	50,719	206,450	464,088	811,521
5	Rate Base	\$ 5,783,542	\$ 12,368,705	\$ 18,671,738	\$ 24,784,729
	<u>Revenue Requirement:</u>				
6	Rate Base	\$ 5,783,542	\$ 12,368,705	\$ 18,671,738	\$ 24,784,729
7	Pre Tax Rate of Return	11.94%	11.94%	11.94%	11.94%
8	Return and Related Income Taxes	690,415	1,476,524	2,228,953	2,958,697
9	Annualized Depreciation Expense	142,530	308,764	474,660	642,141
10	Property Tax	77,337	166,691	253,657	339,294
11	Total TIRA Revenue Requirement	\$ 910,282	\$ 1,951,979	\$ 2,957,270	\$ 3,940,131
	<u>Rate Cap Limit:</u>				
12	TIRA Cumulative Revenue Requirement	\$ 910,282	\$ 1,951,979	\$ 2,957,270	\$ 3,940,131
13	Previous Year TIRA Cumulative Revenue Requirement	-	910,282	1,951,979	2,957,270
14	Current Year Incremental TIRA Revenue Requirement	\$ 910,282	\$ 1,041,697	\$ 1,005,291	\$ 982,861
15	Prior Year Total Weather Normal Revenue	\$ 84,114,828	\$ 85,025,110	\$ 86,066,808	\$ 87,072,098
16	Percent Limit	2.00%	2.00%	2.00%	2.00%
17	Maximum Annual Revenue Requirement Increase	\$ 1,682,297	\$ 1,700,502	\$ 1,721,336	\$ 1,741,442
18	Allowable Incremental TIRA Revenue Requirement	\$ 910,282	\$ 1,041,697	\$ 1,005,291	\$ 982,861
19	Total Allowable TIRA Revenue Requirement	\$ 910,282	\$ 1,951,979	\$ 2,957,270	\$ 3,940,131

**Northern Utilities, Inc. - New Hampshire
Targeted Infrastructure Rate Adjustment
Revenue Requirement for Year Ended December 31, 20XX**

LINE NO.	(1) DESCRIPTION	(2)	(3)	(4)	(5)	(6)
		YEAR				Total
		2013	2014	2015	2016	
	<u>Capital Expenditures:</u>					
1	376 Mains	\$ 5,379,807	\$ 6,227,704	\$ 6,242,851	\$ 6,254,205	\$ 24,104,567
2	378 Meas. & Reg. Stations	193,990	457,328	518,776	560,174	1,730,268
3	380 Services	331,729	281,510	190,755	204,445	1,008,439
4	XXX Description	-	-	-	-	-
5	YYY Description	-	-	-	-	-
6	Total Capital Expenditures	\$ 5,905,526	\$ 6,966,542	\$ 6,952,382	\$ 7,018,824	\$ 26,843,274
7	Cost of Removal Estimate	10%	10%	10%	10%	10%
	<u>Cost of Removal:</u>					
8	376 Mains	\$ 537,981	\$ 622,770	\$ 624,285	\$ 625,421	\$ 2,410,457
9	378 Meas. & Reg. Stations	19,399	45,733	51,878	56,017	173,027
10	380 Services	33,173	28,151	19,076	20,445	100,844
11	XXX Description	-	-	-	-	-
12	YYY Description	-	-	-	-	-
13	Total Cost of Removal	\$ 590,553	\$ 696,654	\$ 695,238	\$ 701,882	\$ 2,684,327
	<u>Plant Additions:</u>					
14	376 Mains	\$ 4,841,826	\$ 5,604,934	\$ 5,618,566	\$ 5,628,785	\$ 21,694,110
15	378 Meas. & Reg. Stations	174,591	411,595	466,898	504,157	1,557,241
16	380 Services	298,556	253,359	171,680	184,001	907,595
17	XXX Description	-	-	-	-	-
18	YYY Description	-	-	-	-	-
19	Total Plant Additions	\$ 5,314,973	\$ 6,269,888	\$ 6,257,144	\$ 6,316,942	\$ 24,158,947
	<u>Depreciation Rates:</u>					
20	376 Mains	2.64%	2.64%	2.64%	2.64%	2.64%
21	378 Meas. & Reg. Stations	2.25%	2.25%	2.25%	2.25%	2.25%
22	380 Services	3.61%	3.61%	3.61%	3.61%	3.61%
23	XXX Description	0.00%	0.00%	0.00%	0.00%	0.00%
24	YYY Description	0.00%	0.00%	0.00%	0.00%	0.00%
25	Weighted Avg Depreciation Expense	2.68%	2.65%	2.64%	2.64%	2.65%

**Northern Utilities, Inc. - New Hampshire
Targeted Infrastructure Rate Adjustment
Illustrative Example: Revenue Requirement for Year Ended December 31, 2013**

LINE NO.	(1) DESCRIPTION	(2) TOTAL
	<u>Rate Base:</u>	
1	Plant in Service	\$ 5,314,973
2	Accumulated Reserve for Depreciation	(519,287)
3	Net Plant in Service	5,834,261
4	Accumulated Deferred Income Tax	50,719
5	Rate Base	\$ 5,783,542
	<u>Revenue Requirement:</u>	
6	Rate Base	\$ 5,783,542
7	Pre Tax Rate of Return	11.94%
8	Return and Related Income Taxes	690,415
9	Annualized Depreciation Expense	142,530
10	Property Tax	77,337
11	Total TIRA Revenue Requirement	\$ 910,282
	<u>Rate Cap Limit:</u>	
12	TIRA Cumulative Revenue Requirement	\$ 910,282
13	Previous Year TIRA Cumulative Revenue Requirement	-
14	Current Year Incremental TIRA Revenue Requirement	\$ 910,282
15	Prior Year Total Weather Normal Revenue	\$ 84,114,828
16	Percent Limit	2.00%
17	Maximum Annual Revenue Requirement Increase	\$ 1,682,297
18	Allowable Incremental TIRA Revenue Requirement	\$ 910,282
19	Total Allowable TIRA Revenue Requirement	\$ 910,282

**Northern Utilities, Inc. - New Hampshire
Targeted Infrastructure Rate Adjustment
Illustrative Example: Eligible TIRA Investments - Additions and Retirements**

(1)		(2)	(3)	(4)
LINE NO.	DESCRIPTION	2013 BEGINNING BALANCE	2,013 ADDITIONS	2013 ENDING BALANCE
	Distribution Plant:			
1	376 Mains	-	4,841,826	4,841,826
2	378 Measuring & Regulating Stations	-	174,591	174,591
3	380 Services	-	298,556	298,556
4	XXX Description	-	-	-
5	YYY Description	-	-	-
6	Total TIRA Investments	\$ -	\$ 5,314,973	\$ 5,314,973

**Northern Utilities, Inc. - New Hampshire
Targeted Infrastructure Rate Adjustment
Illustrative Example: Accumulated Reserve for Depreciation**

(1)		(2)	(3)	(4)	(5)
LINE NO.	DESCRIPTION	2013 BEGINNING BALANCE	2013 CURRENT YEAR DEPRECIATION ⁽¹⁾	2013 CURRENT YEAR COST OF REMOVAL	2013 ENDING BALANCE
Distribution Plant:					
1	376 Mains	\$ -	\$ 63,912	\$ 537,981	\$ (474,069)
2	378 Measuring & Regulating Stations	-	1,964	19,399	(17,435)
3	380 Services	-	5,389	33,173	(27,784)
4	XXX Description	-	-	-	-
5	YYY Description	-	-	-	-
6	Total Accumulated Reserve for Depreciation	\$ -	\$ 71,265	\$ 590,553	\$ (519,287)

Notes

(1) See Page 4 Column 7

Northern Utilities, Inc. - New Hampshire
Targeted Infrastructure Rate Adjustment
Illustrative Example: Depreciation Expense

LINE NO.	(1) DESCRIPTION	(2) 2013 BEGINNING BALANCE ⁽¹⁾	(3) DEPR RATES	(4) DEPR. ON BEGINNING BALANCE	(5) 2013 ADDITIONS ⁽²⁾	(6) DEPRECIATION ON 2013 ADDITIONS ⁽³⁾	(7) CURRENT YEAR DEPRECIATION ⁽⁴⁾	(8) ANNUALIZED DEPRECIATION
Distribution Plant:								
1	376 Mains	\$ -	2.64%	\$ -	\$ 4,841,826	\$ 63,912	\$ 63,912	\$ 127,824
2	378 Measuring & Regulating Stations	-	2.25%	-	174,591	1,964	1,964	3,928
3	380 Services	-	3.61%	-	298,556	5,389	5,389	10,778
4	XXX Description	-	0.00%	-	-	-	-	-
5	YYY Description	-	0.00%	-	-	-	-	-
6	Total	\$ -		\$ -	\$ 5,314,973	\$ 71,265	\$ 71,265	\$ 142,530

Notes

(1) See Page 2 Column 2

(2) See Page 2 Column 3

(3) Actual Depreciation on Current Year Additions

(4) Represents Columns 4 plus 6

**Northern Utilities, Inc. - New Hampshire
Targeted Infrastructure Rate Adjustment
Illustrative Example: Accumulated Deferred Income Taxes - Tax Depreciation**

LINE NO.	(1)			(2)	
	DESCRIPTION	ADDITIONS	RATE ⁽¹⁾	2013	
	Book Depreciation				
1	2013	\$ 5,314,973	2.65%	\$	71,265
2	Total Book Depreciation			\$	71,265
	Tax Depreciation				
3	2013	\$ 5,314,973	3.750%	\$	199,312
4	Total Tax Depreciation			\$	199,312
5	Tax Minus Book Depreciation			\$	128,046
6	Tax Rate				39.61%
7	Deferred Income Tax			\$	50,719
8	Accumulated Deferred Income Tax			\$	50,719

Notes

(1) Actual depreciation rate for TIRA additions will be reflected in filings

**Northern Utilities, Inc. - New Hampshire
Targeted Infrastructure Rate Adjustment
Illustrative Example: Accumulated Deferred Income Taxes - Tax Depreciation**

LINE NO.	(1) DESCRIPTION	(2) TOTAL
1	Plant in Service ⁽¹⁾	\$ 5,314,973
2	Reserve for Depreciation ⁽²⁾	<u>(519,287)</u>
3	Net Plant in Service	5,834,261
4	Property Tax Rate ⁽³⁾	1.33%
5	Annual Property Taxes	<u>\$ 77,337</u>

Notes

(1) See Page 2 Line 6

(2) See Page 3 Line 6

(3) Property tax rate is a composite rate of all towns served in New Hampshire by Northern Utilities. Rate will be updated annually.

Northern Utilities, Inc. - New Hampshire
Targeted Infrastructure Rate Adjustment
Illustrative Example: Pre Tax Rate of Return

LINE NO.	(1) DESCRIPTION	(4) AMOUNT	(5) WEIGHT	(6) COST OF CAPITAL	(7) WEIGHTED COST OF CAPITAL	(8) TAX FACTOR	(9) PRE-TAX COST
1	Common Stock Equity	\$114,272,237	51.76%	10.00%	5.18%	1.6559	8.58%
2	Long Term Debt	105,000,000	47.56%	7.05%	3.35%		3.35%
3	Short Term Debt	1,515,793	0.69%	2.01%	0.01%		0.01%
4	Total	<u>\$ 220,788,030</u>	<u>100.00%</u>		<u>8.54%</u>		<u>11.94%</u>

Northern Utilities - New Hampshire
TIRA Rate Calculations by Class

Calculation of Proforma Revenues at 4/30/14 Rates

		Test Year Billing Determinants						Distribution Rates in effect April 30, 2014				Distribution Revenues at 4/30/2014 Rates [M]	
		Annual Bills [C]	Winter		Summer		Customer Charge [H]	Distribution Charges Per therm					
			1 st Block [D] therms	2 nd Block [E] therms	1 st Block [F] therms	2 nd Block [G] therms		Winter		Summer			
								1 st Block [I]	2 nd Block [J]	1 st Block [K]	2 nd Block [L]		
[A]	[B]		[D]	[E]	[F]	[G]		[I]	[J]	[K]	[L]		
1	Residential, Heating	R-5/R-10	252,581	5,442,017	7,196,068	2,671,552	303,673	\$ 25.00	\$ 0.4127	\$ 0.3614	\$ 0.3675	\$ 0.3675	\$12,254,491
2	Residential, Non-Heating	R-6/R-11	18,438	68,941	183,242	63,855	50,903	\$ 25.00	\$ 0.3084	\$ 0.3084	\$ 0.3084	\$ 0.3084	\$574,117
3	Total Residential		271,019	5,510,958	7,379,310	2,735,407	354,575						\$12,828,608
4	Low Annual, High Winter Use	G-40/T-40	55,456	1,666,230	5,991,108	648,718	704,133	\$ 60.00	\$ 0.1493	\$ 0.1614	\$ 0.1493	\$ 0.1614	\$4,753,571
5	Low Annual, Low Winter Use	G-50/T-50	11,126	260,657	1,056,151	240,032	627,265	\$ 60.00	\$ 0.1493	\$ 0.1614	\$ 0.1493	\$ 0.1614	\$1,014,030
6	Medium Annual, High Winter Use	G-41/T-41	6,701	8,918,931	0	2,183,891	0	\$ 175.00	\$ 0.1873	\$ -	\$ 0.2490	\$ -	\$3,386,897
7	Medium Annual, Low Winter Use	G-51/T-51	2,859	1,475,527	985,243	1,080,465	622,712	\$ 175.00	\$ 0.1637	\$ 0.1387	\$ 0.1337	\$ 0.1137	\$1,093,801
8	High Annual, High Winter Use	G-42/T-42	309	2,863,461	0	1,358,136	0	\$ 1,000.00	\$ 0.1855	\$ -	\$ 0.1139	\$ -	\$994,864
9	High Annual, Low Winter Use	G-52/T-52	379	7,441,833	0	5,252,008	0	\$ 1,000.00	\$ 0.1576	\$ -	\$ 0.0735	\$ -	\$1,937,922
10	Total Commercial and Industrial		76,830	22,626,639	8,032,502	10,763,250	1,954,110						\$13,181,084
11	Total		347,848	28,137,597	15,411,812	13,498,657	2,308,685						\$26,009,692

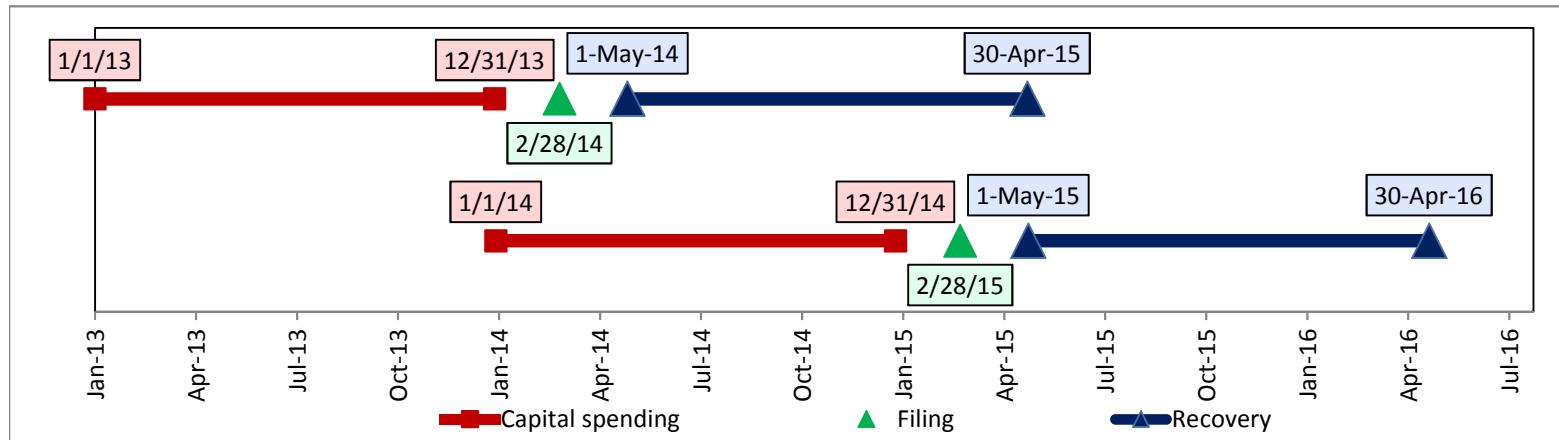
Calculation of TIRA Rate Adjustment factor

12	TIRA Revenue Requirement: Calendar Year 2013 TIRA Spending	\$ 910,282
13	Proforma Revenues at 4/30/14 Rates	\$26,009,692
14	Proforma Revenues at 5/1/14 Rates	\$26,919,974
15	TIRA Rate Adjustment Factor	1.0350

Calculation of Distribution Rates in effect May 1, 2014 (1st TIRA year)

			Distribution Rates in effect May 1, 2014 (1 st TIRA year)				
			Customer Charge [N]	Distribution Charges Per therm			
				Winter		Summer	
				1 st Block [O]	2 nd Block [P]	1 st Block [Q]	2 nd Block [R]
16	Residential, Heating	R-5/R-10	\$ 25.87	\$ 0.4271	\$ 0.3740	\$ 0.3804	\$ 0.3804
17	Residential, Non-Heating	R-6/R-11	\$ 25.87	\$ 0.3192	\$ 0.3192	\$ 0.3192	\$ 0.3192
18	Low Annual, High Winter Use	G-40/T-40	\$ 62.10	\$ 0.1545	\$ 0.1670	\$ 0.1545	\$ 0.1670
19	Low Annual, Low Winter Use	G-50/T-50	\$ 62.10	\$ 0.1545	\$ 0.1670	\$ 0.1545	\$ 0.1670
20	Medium Annual, High Winter Use	G-41/T-41	\$ 181.12	\$ 0.1939	\$ -	\$ 0.2577	\$ -
21	Medium Annual, Low Winter Use	G-51/T-51	\$ 181.12	\$ 0.1694	\$ 0.1436	\$ 0.1384	\$ 0.1177
22	High Annual, High Winter Use	G-42/T-42	\$ 1,035.00	\$ 0.1920	\$ -	\$ 0.1179	\$ -
23	High Annual, Low Winter Use	G-52/T-52	\$ 1,035.00	\$ 0.1631	\$ -	\$ 0.0761	\$ -

Northern Utilities - New Hampshire
TIRA Timeline



Northern Utilities - New Hampshire
Earnings Sharing Mechanism Calculations

Line	Item	2012	Explanation
1	<u>Actual Weather-Normalized Return on Equity</u>		
2	Equity Portion of Rate Base	\$39,970,977	NH PUC 509.01 F-1 Rate of Return Filing (Equity % of Capitalization * Rate Base)
3	Weather-Normalized Return on Equity	5.8%	NH PUC 509.01 F-1 Rate of Return Filing Note: Any Earnings Sharings in Rates to be Excluded in F-1 Filings
4	<u>Earnings Sharing Calculation</u>		
5	Commission Authorized Return on Equity	10.0%	Amount approved by the Commission
6	Dead-Band Upper Threshold	11.0%	Approved ROE + 100 bps
7	Dead-Band Lower Threshold	9.0%	Approved ROE - 100 bps
8	<u>If Weather-Normalized ROE Greater Than Dead-Band Upper Threshold</u>		
9	Weather-Normalized Return On Equity	N/A	If Weather-Normalized ROE > 11%; Otherwise N/A
10	Dead-Band Upper Threshold	11.0%	Approved ROE + 100 bps
11	ROE Amount Subject to Earnings Sharing	N/A	Line 9 - 10
12	Equity Portion of Rate Base	\$39,970,977	Line 2
13	Absolute Value of ROE Amount Subject to Earnings Sharing	N/A	Absolute Value of Line 11
14	50% Sharing Between Company and Ratepayers	50.0%	Portion Shared Between Company and Ratepayers
15	Net Income to be Credited to Ratepayers	N/A	Line 12 * 13 * 14
16	Tax Effect	N/A	Line 17 - 15
17	Revenue to be Credited to Ratepayers	N/A	Line 15 * 1 / (1 - 0.3961)
18	<u>If Weather-Normalized ROE Less Than Dead-Band Lower Threshold</u>		
19	Weather-Normalized Return On Equity	5.8%	If Weather-Normalized ROE < 9%; Otherwise N/A
20	Dead-Band Lower Threshold	9.0%	Approved ROE - 100 bps
21	ROE Amount Subject to Earnings Sharing	-3.2%	Line 19 - 20
22	Equity Portion of Rate Base	\$39,970,977	Line 2
23	Absolute Value of ROE Amount Subject to Earnings Sharing	3.2%	Absolute value of Line 21
24	50% Sharing Between Company and Ratepayers	50.0%	Portion Shared Between Company and Ratepayers
25	Net Income to be Collected From Ratepayers	\$632,116	Line 22 * 23 * 24
26	Tax Effect	414,607	Line 27 - 25
27	Revenue to be Collected From Ratepayers	\$1,046,722	Line 25 * 1 / (1 - 0.3961)

James D. Simpson
Senior Vice President

Mr. Simpson is a senior executive with more than 30 years of experience in the energy industry. He has held positions at a natural gas utility; an entrepreneurial company providing a proprietary service to generating companies; and state regulatory agencies. His responsibilities have included pricing strategy, economic analysis and demand forecasting, regulatory affairs, analysis and planning and business development.

REPRESENTATIVE PROJECT EXPERIENCE

Regulatory Affairs

Representative engagements and responsibilities include:

- Designed rates and prepared testimony for Northeast electric and gas utilities
- Prepared rate consolidation studies and testimony for Northeast gas utilities
- Prepared decoupling and cost tracking mechanisms and testimony for Northeast electric and gas utilities
- Prepared marginal cost studies and testimony for Northeast electric and gas utilities
- Prepared forecasts of gas demand for Northeast gas utilities
- Prepared assessment of forecast methodology and forecast accuracy for Northeast utilities
- Served as primary rate design witness for Bay State Gas Company, Northern Utilities (Maine and New Hampshire) and Granite State Gas Transmission on issues including rate reclassification, restructuring, market competitiveness, and earnings stability
- Prepared strategic assessment of PBR options for South Central utility
- Prepared validation of sales forecast and analysis of declining use per customer for Northeast gas utility
- Prepared rate design for Mid Atlantic utility rate increase filing

Business Strategy and Operations

Representative engagements and responsibilities include:

- Held position of Chief Operating Officer for a major New England gas company, responsible for all regulated business activities including Gas Supply, Operations, Engineering, Marketing and Sales, and Planning
- Developed marketing plan and developed and implemented sales strategies
- Developed brand awareness strategy; created coordinated electronic and physical marketing materials; created and implemented a trade publication strategy. Simplified and shortened sales process; focused on prospective client decision making and understanding of company value proposition
- Implemented new Optimal Growth strategy to identify opportunities and track investments
- Led team that created plan to align company structure and culture with new competition-based growth and customer-focus strategy. Led organization during implementation of new strategy, structure, and culture

Contract Negotiations

Representative engagements and responsibilities include:

- Successfully negotiated contract for first new North America operations site in four years
- Persuaded state regulators to reverse established regulatory policies in conflict with company strategy
- Successfully negotiated unique contract with largest customer on company's system, reversing ten years of unproductive discussions
- Directed negotiation of groundbreaking labor contract that allowed company to use outside contractors, reduce the union work force by 10%
- Negotiated agreement with pipeline for short term incremental capacity at significant savings
- Negotiated company's commitment to conduct residential customer choice pilot program that provided stakeholders with residential unbundling experience

PROFESSIONAL HISTORY

Concentric Energy Advisors, Inc. (2005 – Present)

Senior Vice President

Vice President

Assistant Vice President

Executive Advisor

Separation Technologies, Inc. (2001 – 2004)

Vice President, Business Development

Bay State Gas Company (1982 – 2000)

Senior Vice President, Large Customer Sales and Regulatory Affairs (1999 – 2000)

Senior Vice President/COO of Regulated Utility Business (1996 – 1999)

Vice President, Market Analysis and Pricing (1993 – 1996)

Director/Manager of Rates (1982 – 1993)

Massachusetts Department of Public Utilities (1978 – 1982)

Director

Senior Analyst

Wisconsin Public Service Commission (1977 – 1978)

Senior Analyst

EDUCATION

M.S., Economics, University of Wisconsin

B.A., Economics, University of Minnesota, magna cum laude