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4 **Revenue Requirement**
5 **Traditional Ratemaking**
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8 **Q. Please explain the \$876,506 revenue deficiency as calculated by Staff using**
9 **traditional ratemaking methods.**

10 **A.** Staff calculated an overall rate of return of 7.35 percent based on Concord
11 Steam's 2011 year end capital structure, the Company's cost of debt and a 9.50%
12 return on equity as was recently approved for Northern Utilities, Inc.³ The overall
13 rate of return was applied to rate base of \$5,273,417, resulting in an income
14 requirement of \$387,768. The revenue deficiency of \$876,506 was determined by
15 adding the test year net operating loss of \$234,399 to the income requirement and
16 adjusting for taxes. See Schedule 1, p. 1 of 10.

17 **Q. What adjustments were made to rate base?**

18 **A.** The Company used a 13 month average to determine rate base and made no
19 adjustments to plant balances. Staff made two adjustments to rate base. One, a
20 \$590,515 increase to include the average deferred tax asset monthly balance. The
21 Company's rate base only reflected deferred tax liabilities instead of the net of
22 deferred tax liabilities and assets. The second adjustment is a decrease of \$139 to
23 remove intangible plant for rate base. See Schedule 1, p. 8 of 10.

24 **Q. Did Staff make adjustments to the income statement?**

25 **A.** Yes, Staff made adjustments to test year revenues and expenses. A summary of
26 both the Company's and Staff's income statement adjustments can be found on
27 Schedule 1, p. 4 of 10.

³ ROE for Northern Utilities, Inc., Order No. 25,352 (April 24, 2012).

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Q. What adjustments did Staff make to test year revenue?

A. Staff accepted the Company's revenue adjustments and made four additional adjustments.

The Company's revenue adjustments include reduced usage and meter revenue due to customer losses and Staff reduced usage and meter revenues an additional \$972 and \$145, respectively, based on updated/corrected estimates provided by the Company during discovery. See DR 1-7 & 3-10.

Staff increased test year revenue by \$8,000 to reflect full recovery of boiler chemical costs through the COE which were understated in the Company's adjustment increasing fuel charge revenues related to for boiler chemical costs. See DR 2-1.

Staff increased revenue by \$10,379, the net adjustments to CSC revenues as recommended by the Audit Staff in its Final Audit Report.

Q. What adjustments did Staff make to test year operating expenses?

A. Staff accepted the Company's expense adjustments and made four additional adjustments.

The Company's expense adjustments included an increase in steam production and labor expenses related to higher sales based on normal weather, partially offset by reduced sales due to customer losses. Staff increased those test year expenses by \$948 based on updated/corrected estimates provided by the Company during discovery. See DR 1-7.

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4 Staff decreased expenses by \$1,791 to correct the test year expense to install
5 service at three customer locations. See DR 3-22.

6 Concord Steam also adjusted test year administrative and general (A&G)
7 expenses to reflect a 3% salary increase, a 10% increase in insurance costs and a 5%
8 increase on all other A&G expenses. Staff accepted the salary and insurance
9 increase but increased the other 2011 A&G expenses by 1.95% as opposed to the
10 Company's 5% increase, resulting in a \$10,433 decrease in those expenses. The
11 1.95% increase is based on the average inflation rate for 2010, 2011 and the first half
12 of 2012, a conservative estimate given the 1.57% inflation rate over the first half of
13 2012.

14 Staff decreased expenses by \$148,354, the net adjustments to CSC expenses
15 as recommended by the Audit Staff in its Final Audit Report. The decrease is
16 primarily due to the Audit Staff's finding that the 2011 wood yard lease expense of
17 \$141,792 had been double booked in the filing, recorded as both a delivery and COE
18 expense.

19 **Q. Did Staff make any other adjustments than those described above?**

20 **A.** Working capital and income taxes changed as a result of the above adjustments.

21 Staff used the same methodology as CSC in calculating the working capital and
22 income tax adjustments, using the same timing difference between revenues and
23 expenses for working capital and the same tax rates for income taxes. See Schedule
24 1, p. 9 of 10 and p. 2 of 10.

CONCORD STEAM CORPORATION
Revenue Requirement

	Reference	CSC Proposed	Calculated using Traditional Rate Making	Settlement
Rate Base Proposed	p.8	4,542,272	5,273,417	5,273,417
Rate of Return	p. 10	6.00%	7.35%	5.70%
Income Required		272,536	387,768	300,501
Net Operating Income	p. 3	(411,290)	(234,399)	(234,399)
Revenue Deficiency before Taxes		683,826	622,167	534,900
Income Tax	p. 2	178,757	254,338	197,100
Revenue Deficiency		862,584	876,506	732,000
Increase in Annual Revenue				
Percent Increase - Total Revenues				
Revenue Deficiency		862,584	876,506	732,000
Test Year Revenues	p.3	4,853,437	4,853,437	4,853,437
Percent Increase		17.77%	18.06%	15.08%
Percent Increase - Base Revenues				
Revenue Deficiency		549,600	563,522	419,016
Test Year Base Revenues		2,744,195	2,744,195	2,744,195
Percent Increase		20.03%	20.54%	15.27%
Percent Increase - COE Revenues				
Revenue Deficiency		312,984	312,984	312,984
Test Year COE Revenues	p.3	2,109,242	2,109,242	2,109,242
Percent Increase		14.84%	14.84%	14.84%

CONCORD STEAM CORPORATION
State & Federal Income Tax Computation - Utility Operations

Line No.	Description	Reference	Company	Traditional Staff	Settlement
1	Calculation of State Income Tax				
2	Revenue Deficiency before Taxes	p. 1	683,826	622,167	534,900
3	Less: Test Year Loss	p. 1	<u>(411,290)</u>	<u>(234,399)</u>	<u>(234,399)</u>
4	Operating Income Before Taxes	p. 1	272,536	387,768	300,501
5	Tax Gross-up Factor (Note 1)		1.6559	1.6559	1.6559
6	Revenue Deficiency	p. 1	451,294	642,106	497,601
7	State Income Tax (Note 2)		<u>38,360</u>	<u>54,579</u>	<u>42,296</u>
8	Income Subject to Federal Income Tax (income less state tax)		412,934	587,527	455,305
9	Federal Income Tax (Note 2)		<u>140,397</u>	<u>199,759</u>	<u>154,804</u>
10	Total Federal & State Taxes		<u>178,757</u>	<u>254,338</u>	<u>197,100</u>

Note 1 - Gross-up Factor

	Rate	Amount	Amount	
11	Federal Income Tax Rate	34.00%	0.3400	0.3400
12	State Income Tax Rate	8.50%	0.0850	0.0850
13	Federal Benefit of State Income Tax -(Line 11 * Line 12)		<u>(0.0289)</u>	<u>(0.0289)</u>
14	Effective Tax Rate		0.3961	0.3961
15	Gross-up Factor (1/1-Line 14)		1.6559	1.6559

Note 2 - Tax Rates

16	Net Operating Income	100.00%
17	Business Profits Tax	8.50%
18	Subject to FIT (Line 16 - Line 17)	91.50%
19	Federal Income Tax	34.00%
20	Federal Tax Rate (Line 18 * Line 19)	31.11%
21	Total tax paid (Line 17 + Line 20)	39.61%
22	Income after tax (Line 18 - Line 20)	60.39%

CONCORD STEAM CORPORATION
Operating Income Statement

	CSC	CSC	CSC	Staff	Staff
	Test Year	Adjustments	Pro Forma Test Year	Adjustments	Pro Forma Test Year
Revenues					
Base Rate	2,131,573	(296,097)	1,835,476	(972)	1,834,504
Fuel Charge	2,109,242	376,081	2,485,323	8,000	2,493,323
Meter Charge	29,750	(490)	29,260	(145)	29,115
Electricity Sales	94,733	(50,000)	44,733		44,733
Other	488,139	(413,665)	74,474	10,379	84,853
Total Operating Revenues	4,853,437	(384,171)	4,469,266	17,262	4,486,528
		83,314	13,427	96,741.28	
Expenses					
Production - Fuel Costs	2,199,323		2,199,323		2,199,323
Production - Other (sewer, loader, elec, etc.)	1,200,181	22,273	1,222,454	948	1,223,402
Distribution O&M	522,775	(325,672)	197,103	(1,791)	195,312
Customer Accounts Expense	43,031	1,291	44,322		44,322
Sales & New Business	3,137		3,137		3,137
Admin & General Expenses	590,784	40,181	630,965	(10,433)	620,532
Write off uncollectable expense	18,025		18,025		18,025
Depreciation	250,327		250,327		250,327
Amortization	(6,875)		(6,875)		(6,875)
Operating Rents, net	243,704		243,704		243,704
Taxes Other Than Income Taxes - Property	120,940		120,940	-	120,940
Final Audit Report Net Adjustments - Expenses				(148,354)	(148,354)
Total Operating Expenses	5,185,352	(261,927)	4,923,425	(159,630)	4,763,795
Operating Income Before Federal Income Taxes	(331,915)	(122,244)	(454,159)	176,892	(277,267)
State Income Taxes/BET	-	-	-		0
Federal Income Taxes	-		0	-	0
Deferred State Income Tax	-				0
Deferred Federal Income Tax	(42,868)	-	(42,868)		(42,868)
Total Income Taxes	(42,868)	-	(42,868)	-	(42,868)
Operating Income After Federal & State Income Taxes	(289,047)	(122,244)	(411,291)	176,892	(234,399)

CONCORD STEAM CORPORATION
 Summary of Income Statement Adjustments

Pro Forma Adjustments to Revenue

CSC Revenue Adjustments		(384,170)
Reduced sales related to customers that have terminated service	(38,937)	
Increase sales - Weather normalization (test year warmer than normal)	55,825	
2011 expenses to recovered through the COE	<u>(312,984)</u>	
	(296,096)	
COE 2011 under recovery as of December 31, 2011	90,081	
2011 Expenses to COE (water,sewer,ash, air permit,boiler chemicals)	<u>286,000</u>	
	376,081	
Reduce meter revenue for lost customers	(490)	
Reduce electric revenue - price being paid for electricity lower in 2012	(50,000)	
Revenue from 3 major installation projects for customers in 2011	(413,665)	
Staff Revenue Adjustments		17,262
2011 test year revenue from lost customers	(972)	
COE revenue for boiler chemicals understated	8,000	
Reduce meter revenue for lost customers	(145)	
Net change resulting from Final Audit Report findings	10,379	
Total Test Year Pro forma Revenue Adjustment - Net Decrease		(366,908)

Pro Forma Adjustments to Expenses

CSC Operating Expense Adjustments		(261,927)
Increase in production expenses, normal weather less customer losses	1,322	
Increase in production labor, normal weather less customer losses	<u>20,951</u>	
	22,273	
Outside expense for three customer installation projects	(325,672)	
Increase in production labor rates - 3%	1,291	
A&G increases - 3% salary, 10% insurance & gas, 5% all others	40,181	
Staff Operating Expense Adjustments		(159,630)
Increased expense for adjusted sales	948	
A & G increases - all others 1.95% (inflation rate)	(10,433)	
Decrease expense - overstated outside expense for customer installations	(1,791)	
Net change resulting from Final Audit Report findings (see p. 3)	(148,354)	
Total Test Year Pro forma Operating Expense Adjustment - Net Decrease		(421,557)

CONCORD STEAM CORPORATION
Summary of Income Statement Adjustments

Pro Forma Adjustments to Revenue

CSC Revenue Adjustments		(384,170)
Reduced sales related to customers that have terminated service	(38,937)	
Increase sales - Weather normalization (test year warmer than normal)	55,825	
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CONCORD STEAM CORPORATION

2011 Usage & Revenue for Customers that terminated service & new customer
Source: DR 1-7 & 3-10

REVENUE ADJUSTMENTS

Customer/termination	Termination Date	Mlbs	COE	Usage	Meter
PRM Holding	12/29/11	735.2	12,225.30	13,662.02	225.00
BBB of NH	11/1/11	106.7	1,775.49	1,984.61	120.00
Riverbend	8/31/11	150.9	2,510.97	2,804.48	200.00
Riverbend	8/31/11	649.4	10,806.01	12,066.41	200.00
Episcopal Diocesan	5/27/11	200.7	3,339.64	3,733.02	125.00
NH Bindery, Inc.	4/16/12	311.8	5,239.69	5,793.69	175.00
VFW Post 1631	3/12/12	<u>198.3</u>	<u>3,317.05</u>	<u>3,685.20</u>	<u>70.00</u>
Total		2,353.0	39,214.15	43,729.43	1,115.00
New Load - Abbot Downing School (times special contract usage rate)		764.0	5.00	3,820.00	480.00
Customer Losses less Customer Gains				39,909.43	635.00
CSC adjustment (average usage rate of 16.88 times lost sales of 2,307)				38,937.00	490.00
Revenue Adjustments for Customer Losses				(972.43)	(145.00)

EXPENSE ADJUSTMENT

Sales Adjustment for Lost Customers (CSC Schedule 1-C)	(2,307)
Adjustment per DR 1-7	154
Adjustment per DR 3-10	564
Total Post-filing Adjustment to Sales	<u>718</u>
Per unit cost of production (CSC Schedule 1-4)	1.32
Expense Adjustment for Increased Steam Sales	947.76

CONCORD STEAM CORPORATION

Administrative & General Expenses

Source: Bloomfield Testimony Schedule 1-3

Company	12 Months		Proforma Adjustments	Proformed
	Ended 12/31/2011	Percent Increase		12 Months Ended 12/31/2011
General Office Salaries	25,557	3.00%	767	26,324
General Office Supplies and Expense	24,202	5.00%	1,210	25,412
Supervision Fees and Special Services	99,692	5.00%	4,985	104,677
Regulatory Commission Expense	54,955	5.00%	2,748	57,703
Insurance	105,691	5.00%	5,285	110,976
Employees Welfare and Relief	192,021	10.00%	19,202	211,223
Miscellaneous General Expense	53,372	5.00%	2,669	56,041
Maintenance of General Property	4,263	5.00%	213	4,476
Transportation Expense	31,031	10.00%	3,103	34,134
Total	590,784		40,181	630,965

Staff	12 Months		Proforma Adjustments	Proformed
	Ended 12/31/2011	Percent Increase		12 Months Ended 12/31/2011
General Office Salaries	25,557	3.00%	767	26,324
General Office Supplies and Expense	24,202	1.95%	472	24,674
Supervision Fees and Special Services	99,692	1.95%	1,945	101,637
Regulatory Commission Expense	54,955	1.95%	1,072	56,027
Insurance	105,691	1.95%	2,062	107,753
Employees Welfare and Relief	192,021	10.00%	19,202	211,223
Miscellaneous General Expense	53,372	1.95%	1,041	54,413
Maintenance of General Property	4,263	1.95%	83	4,346
Transportation Expense	31,031	10.00%	3,103	34,134
Total	590,784		29,748	620,532

Staff Proforma Adjustment**(10,433)**

Bureau of Labor Statistics	2010	1.57%
Consumer Price Index - All Urban Consumers	2011	2.71%
Area: Boston-Brockton-Nashua, MA-NH-ME-CT	2012 First Half	1.57%
http://www.bls.gov/ro1/9150.htm	Average	1.95%

CONCORD STEAM CORPORATION
Average Rate Base

	(Note 1) Total Gas Plant In Service	Accumulated Depreciation	Utility Materials & Supplies A/C 151-154	Prepayments	Deferred Taxes	Deferred Taxes	Customer Deposits	CIAC	Amortization of CIAC	(Total) Net Utility Plant Service
December-07	11,418,663	(5,765,888)	297,665	31,385	(1,156,409)	586,294	-	(671,975)	79,711	4,819,446
January-08	11,424,198	(5,786,060)	286,169	29,055	(1,156,409)	586,294	-	(671,975)	79,711	4,790,983
February-08	11,425,824	(5,806,233)	279,531	19,120	(1,156,409)	586,294	-	(671,975)	79,711	4,755,863
March-08	11,446,654	(5,826,406)	175,236	9,185	(1,156,409)	586,294	-	(671,975)	79,711	4,642,290
April-08	11,465,647	(5,846,579)	145,005	25,884	(1,156,409)	586,294	-	(671,975)	79,711	4,627,578
May-08	11,469,368	(5,866,751)	147,949	15,948	(1,156,409)	586,294	-	(671,975)	79,711	4,604,135
June-08	11,495,886	(5,886,924)	154,044	66,585	(1,156,409)	586,294	-	(671,975)	79,711	4,667,212
July-08	11,534,509	(5,907,097)	144,788	56,490	(1,156,409)	586,294	-	(671,975)	79,711	4,666,311
August-08	11,601,378	(5,927,270)	165,216	46,394	(1,156,409)	586,294	-	(671,975)	79,711	4,723,339
September-08	11,615,319	(5,947,442)	147,613	36,299	(1,156,409)	586,294	-	(671,975)	79,711	4,689,410
October-08	11,665,016	(5,967,615)	162,526	26,204	(1,156,409)	586,294	-	(671,975)	79,711	4,723,752
November-08	11,678,535	(5,987,788)	175,698	16,108	(1,156,409)	586,294	(600)	(671,975)	79,711	4,719,574
December-08	11,737,336	(6,001,809)	210,811	14,536	(1,168,377)	641,131	(600)	(671,975)	89,379	4,850,432
Subtotal	149,978,333	(76,523,862)	2,492,251	393,193	(15,045,285)	7,676,659	(1,200)	(8,735,675)	1,045,911	61,280,325
13 month average	11,536,795	(5,886,451)	191,712	30,246	(1,157,330)	590,512	(92)	(671,975)	80,455	4,713,871
Company Rate Base (13 months)	11,536,795	(5,886,451)	191,712	30,246	(1,157,330)	-	92	(671,975)	80,455	4,123,544
								<u>Company</u>	<u>Staff</u>	
								4,123,544	4,713,871	
								579,638	559,684	
									(139)	
								<u>Rate Base</u>	<u>Rate Base</u>	
								4,703,182	5,273,417	

Note 1: Net of Construction Work in Progress.

CONCORD STEAM CORPORATION
Working Capital

	<u>CSC</u>	<u>Staff Adjustment</u>	<u>Proformed Test Year</u>
Total O&M & Income Tax - test year (Income Statement)	4,880,557	(159,630)	4,720,927
Less: Depreciation & Amortization (Income Statement)	<u>(243,452)</u>	0	<u>(243,452)</u>
Net O&M	4,637,105		4,477,475
Monthly Average (Net O&M / 12 months)	386,425		373,123
45 day average (1.5 * monthly average)	579,638		559,684
Total Working Capital			<u>559,684</u>

CONCORD STEAM CORPORATION
Overall Rate of Return
Traditional Ratemaking Purposes

<u>Item</u>	<u>Amount</u>	<u>Component Ratio (%)</u>	<u>Component Cost Rate(%)</u>	<u>Weighted Average Cost Rate (%)</u>
Common Stock	\$2,897,396	64%	9.50%	6.10%
Long Term Debt	\$552,762	12%	4.06%	0.50%
Short Term Debt	\$1,062,643	24%	3.22%	0.76%
Total	\$4,512,801	100%		7.35%

Stephen P. Frink

Educational & Professional Experience

Mr. Frink graduated from the University of New Hampshire with a Bachelor of Arts degree in Sociology in 1977 and a Masters in Business Administration in 1980. He attended and completed Depreciation Programs sponsored by Depreciation Programs, Inc. at Grand Rapids, Michigan in 1992, 1993, 1994 and is a member in good standing of the Society of Depreciation Professionals since 1994.

In 1981, Mr. Frink worked as a High School Math Teacher in Manchester, New Hampshire.

In 1982, Mr. Frink relocated to Texas and worked as an Auditor for Dallas County. He audited various county departments and performed monthly reconciliations of various fund accounts.

In 1985, Mr. Frink went to work for Schenley Industries, Inc., a wholesale liquor distributor located in Dallas, Texas, where he audited national and international manufacturing plants.

In 1986, Mr. Frink left Schenley to work for the City of Dallas as a Budget/Financial Analyst, where he prepared and monitored budgets, prepared pro forma statements, amortization schedules and performed cash flow analysis. He was promoted to Senior Analyst in 1987.

In 1988, Mr. Frink left the City of Dallas to work for the City of Austin as a Financial Analyst. There he prepared budgets and fiscal impact statements, developed a capital projects tracking and monitoring system, and provided training and technical assistance in the implementation of a new accounting system.

In 1990, Mr. Frink joined the Finance staff of the New Hampshire Public Utilities Commission. Working as a member of the PUC Audit Team, he conducted or participated in audits of the books and records of public utilities. He performed desk audits and determined rates of returns. He prepared schedules and exhibits supporting testimony in dockets involving rate increases and participated in settlement conferences. In 1995, Mr. Frink became a full time Analyst for the Finance Department and in 1996 was promoted to a Senior Analyst position, primarily responsible for analyzing and advising the Commission on issues of depreciation, cost of gas adjustment filings, special contracts, and finance and rate increase petitions. In 1998, Mr. Frink was promoted to Assistant Finance Director. As Assistant Finance Director, he assisted in the direction of all aspects of a department responsible for the audit, analysis and review of public utility financial operations, including financing, rate cases and various utility studies filings related to public utility regulation. In 2001, New Hampshire Public Utilities Commission operations were restructured and Mr. Frink became Assistant Director of the Gas & Water Division and now administers all aspects of regulation of gas utilities.

DG 12-242

**Concord Steam Corporation
Proposed Increase in Distribution Rates
Data Requests from Commission Staff – Set #1
September 18, 2012**

Date Request Received: 9/18/12
Request No. Staff 1-7

Date of Response: 9/24/12
Witness: Peter Bloomfield

REQUEST:

Ref. Testimony p. 6, lines 9-11: Please provide supporting schedules for the 2,307 Mlb reduction in annual sales due to steam customers converting to gas. For each customer that terminated service, provide the service termination date, 2010 and 2011 monthly sales, and 2010 and 2011 monthly revenue for meter charges, usage and COE.

RESPONSE:

Supporting schedules are attached hereto as Attachment Staff 1-7. These schedules show a revised reduction in sales of 2,153 Mlbs.

Revised schedules attached.

Concord Steam Corp.
 PO Box 2520
 Concord, NH 03302-2520

Customers Off Steam 2011-2012

Date	Mlbs	Energy	Base	Meter		
PRM Holdings, LLC						
Termination Date 12/29/11						
1/31/10	154.4	\$2,762.22	\$2,862.57	\$25.00		
2/28/10	117.6	\$2,103.86	\$2,180.31	\$25.00		
3/31/10	88.6	\$1,585.05	\$1,642.65	\$25.00		
4/30/10	61	\$1,091.29	\$1,130.94	\$25.00		
5/31/10	22.6	\$404.31	\$419.01	\$25.00		
10/31/10	68.6	\$1,364.45	\$1,275.96	\$25.00		
11/30/10	112	\$1,863.68	\$2,083.20	\$25.00		
12/31/10	140.6	\$2,339.58	\$2,615.16	\$25.00		
1/31/11	164.9	\$2,743.94	\$3,067.14	\$25.00		
2/28/11	143.4	\$2,386.18	\$2,667.24	\$25.00		
3/31/11	106.3	\$1,768.83	\$1,977.18	\$25.00		
4/30/11	66	\$1,098.24	\$1,227.60	\$25.00	2011	2011
5/31/11	42.7	\$710.53	\$794.22	\$25.00	Meter	steam
6/30/11	28.5	\$474.24	\$528.39	\$25.00	Charges	sold
10/31/11	29.6	\$492.54	\$548.79	\$25.00		Mlbs
11/30/11	86.1	\$1,345.74	\$1,596.30	\$25.00		
12/31/11	67.7	\$1,205.06	\$1,255.16	\$25.00	\$225.00	735.2
	1500.6	\$25,739.74	\$27,871.82	\$425.00		
Better Business Bureau of NH						
Termination Date 11/1/11						
1/31/10	41.4	\$740.65	\$767.55	\$30.00		
2/28/10	37.4	\$669.09	\$693.39	\$30.00		
3/31/10	16	\$286.24	\$296.64	\$30.00		
4/30/10	6.2	\$110.92	\$114.95	\$30.00		
5/31/10	1.5	\$26.84	\$27.81	\$30.00		
10/31/10	6.2	\$123.32	\$115.31	\$30.00		
11/30/10	19.8	\$329.47	\$368.28	\$30.00		
12/31/10	39.3	\$653.95	\$730.98	\$30.00		
1/31/11	37.3	\$620.67	\$693.77	\$30.00		
2/28/11	38.9	\$647.30	\$723.54	\$30.00		
3/31/11	21.7	\$361.09	\$403.62	\$30.00		
4/30/11	8.8	\$146.43	\$163.68	\$30.00	\$120.00	106.7
	274.5	\$4,715.97	\$5,099.52	\$360.00		

**Riverbend Community Mental Health
Termination Date 8/31/11**

1/31/10	34.4	\$615.42	\$637.77	\$25.00		
2/28/10	35	\$626.15	\$648.90	\$25.00		
3/31/10	24.6	\$440.09	\$456.09	\$25.00		
4/30/10	22	\$393.58	\$407.88	\$25.00		
5/31/10	20.6	\$368.53	\$381.93	\$25.00		
6/30/10	24.8	\$443.67	\$461.28	\$25.00		
7/31/10	6.9	\$137.24	\$128.34	\$25.00		
8/31/10	4.2	\$83.54	\$78.12	\$25.00		
9/30/10	2.1	\$41.77	\$39.06	\$25.00		
10/31/10	8.3	\$165.09	\$154.38	\$25.00		
11/30/10	20	\$332.80	\$372.00	\$25.00		
12/31/10	24.6	\$409.34	\$457.56	\$25.00		
1/31/11	32.2	\$535.81	\$598.92	\$25.00		
2/28/11	28.5	\$474.24	\$530.10	\$25.00		
3/31/11	19.8	\$329.47	\$368.28	\$25.00		
4/30/11	18.6	\$309.50	\$345.96	\$25.00		
5/31/11	14	\$232.96	\$260.40	\$25.00		
6/30/11	13.2	\$219.65	\$244.73	\$25.00		
7/31/11	11	\$183.04	\$203.94	\$25.00		
8/31/11	13.6	\$226.30	\$252.15	\$25.00	\$200.00	150.9
	378.4	\$6,568.19	\$7,027.79	\$500.00		

**Riverbend Community Mental Health
Termination Date 8/31/11**

1/31/10	100.6	\$1,799.73	\$1,865.13	\$25.00		
2/28/10	102.3	\$1,830.15	\$1,896.64	\$25.00		
3/31/10	70.4	\$1,259.46	\$1,305.21	\$25.00		
4/30/10	67.3	\$1,204.00	\$1,247.74	\$25.00		
5/31/10	61.2	\$1,094.87	\$1,134.65	\$25.00		
6/30/10	72.4	\$1,295.24	\$1,346.64	\$25.00		
7/31/10	51.7	\$1,028.31	\$961.62	\$25.00		
8/31/10	64.1	\$1,274.95	\$1,192.26	\$25.00		
9/30/10	60.5	\$1,203.35	\$1,125.29	\$25.00		
10/31/10	61.1	\$1,215.28	\$1,136.46	\$25.00		
11/30/10	83.2	\$1,384.45	\$1,547.52	\$25.00		
12/31/10	114.3	\$1,901.95	\$2,125.98	\$25.00		
1/31/11	112.8	\$1,876.99	\$2,098.08	\$25.00		
2/28/11	113.1	\$1,881.98	\$2,103.66	\$25.00		
3/31/11	82.4	\$1,371.14	\$1,532.64	\$25.00		
4/30/11	71.1	\$1,183.10	\$1,322.46	\$25.00		
5/31/11	62.8	\$1,044.99	\$1,168.08	\$25.00		
6/30/11	76	\$1,264.64	\$1,409.04	\$25.00		
7/31/11	59.2	\$985.09	\$1,097.57	\$25.00		

8/31/11	72	\$1,198.08	\$1,334.88	\$25.00	\$200.00	649.4
	1558.5	\$27,297.75	\$28,951.55	\$500.00		

Episcopal Diocesan

Termination Date 5/27/11

1/31/10	63.5	\$1,136.01	\$1,177.29	\$25.00		
2/28/10	61.4	\$1,098.45	\$1,138.35	\$25.00		
3/31/10	31.7	\$567.11	\$587.72	\$25.00		
4/30/10	13.2	\$236.15	\$244.73	\$25.00		
5/31/10	8.1	\$144.91	\$150.17	\$25.00		
9/30/10	2.6	\$51.71	\$48.36	\$25.00		
10/31/10	16.2	\$322.22	\$301.32	\$25.00		
11/30/10	38.2	\$635.65	\$710.52	\$25.00		
12/31/10	64.4	\$1,071.62	\$1,197.84	\$25.00		
1/31/11	63.5	\$1,056.64	\$1,181.10	\$25.00		
2/28/11	62.7	\$1,043.33	\$1,166.22	\$25.00		
3/31/11	42.3	\$703.87	\$786.78	\$25.00		
4/30/11	10.6	\$176.38	\$197.16	\$25.00		
5/31/11	21.6	\$359.42	\$401.76	\$25.00	\$125.00	200.7
	500.0	\$8,603.47	\$9,289.32	\$350.00		

NH Bindery, Inc.

Termination Date 4/16/12

1/31/10	77.7	\$1,390.05	\$1,440.56	\$25.00		
2/28/10	84	\$1,502.76	\$1,557.36	\$25.00		
3/31/10	39.2	\$701.29	\$726.77	\$25.00		
10/31/10	20.1	\$399.79	\$373.86	\$25.00		
11/30/10	32.5	\$540.80	\$604.50	\$25.00		
12/31/10	77.7	\$1,292.93	\$1,445.22	\$25.00		
1/31/11	74.4	\$1,238.02	\$1,383.84	\$25.00		
2/28/11	87	\$1,447.68	\$1,618.20	\$25.00		
3/31/11	43.1	\$717.18	\$801.66	\$25.00		
4/30/11	10.7	\$178.05	\$199.02	\$25.00		
10/31/11	6.7	\$111.49	\$124.22	\$25.00		
11/30/11	24.4	\$381.37	\$452.38	\$25.00		
12/31/11	65.5	\$1,165.90	\$1,214.37	\$25.00	\$175.00	311.8
1/31/12	46.9	\$792.61	\$869.53	\$25.00		
2/29/12	60.7	\$1,080.46	\$1,125.38	\$25.00		
3/31/12	23	\$425.50	\$426.42	\$25.00		
4/30/12	3.3	\$61.05	\$61.18	\$25.00		
	776.9	\$13,426.93	\$14,424.47	\$425.00		

VFW Post 1631

Termination Date 3/12/12

1/31/10	42.5	\$760.33	\$787.95	\$10.00		
2/28/10	42.7	\$763.90	\$791.66	\$10.00		

3/31/10	20.9	\$373.90	\$387.49	\$10.00		
4/30/10	3.4	\$60.83	\$63.03	\$10.00		
5/31/10	1.8	\$32.20	\$33.37	\$10.00		
11/30/10	34.8	\$579.07	\$647.28	\$10.00		
12/31/10	50.9	\$846.98	\$946.74	\$10.00		
1/31/11	47.1	\$783.74	\$876.06	\$10.00		
2/28/11	46.4	\$772.10	\$863.04	\$10.00		
3/31/11	33.7	\$560.77	\$626.82	\$10.00		
4/30/11	18.1	\$301.18	\$336.66	\$10.00		
10/31/11	7	\$116.48	\$129.78	\$10.00		
11/30/11	16.6	\$259.46	\$307.76	\$10.00		
12/31/11	29.4	\$523.32	\$545.08	\$10.00	\$70.00	198.3
1/31/12	42.7	\$721.63	\$791.66	\$10.00		
2/29/12	8.1	\$144.18	\$150.17	\$10.00		
	446.1	7600.07	8284.55	160		

Total Meter charge \$ 1,115

Total Mlbs in 2011 2,353

Estimated use at Abbot Downing 200

Total reduction in steam sales 2,153

DG 12-242

**Concord Steam Corporation
Proposed Increase in Distribution Rates
Data Requests from Commission Staff – Set #1
September 18, 2012**

Date Request Received: 9/18/12
Request No. Staff 1-20

Date of Response: 9/24/12
Witness: Peter Bloomfield

REQUEST:

Ref. Testimony, p. 9, lines 18-23: With the proposed transfer of water, sewer, ash disposal, State air permit fees and boiler chemicals, are there any remaining costs related to steam production recovered through distribution charges? If so, please identify and explain.

RESPONSE:

The only other cost that is related to production is the cost of purchased electricity. There is a base load that the plant requires that consists of lights, ventilation fans, office equipment, and other miscellaneous loads, but the majority of the power is used to drive boiler fans and pumps and conveyors. The average load varies from a minimum of about 120 kW in the summer to a peak demand of about 450 kW in the winter heating season when all boilers are running.

The company paid Unutil \$87,000 in 2011.

DG 12-242

**Concord Steam Corporation
Proposed Increase in Distribution Rates
Data Requests from Commission Staff – Set #2
October 9, 2012**

Date Request Received: 9/18/12
Request No. Staff 2-1

Date of Response: 10/17/12
Witness: Peter Bloomfield

REQUEST:

Ref. DR 1-2 response: Please explain the discrepancy between the Boiler Chemical COE forecasted annual cost of \$22,000 and the 2011 test year expense of \$36,652.

RESPONSE:

In reviewing the cost of chemicals, we have averaged \$33,925/yr from 2008 thru 2011. The response to DR 1-3 shows the chemical costs from 2010 thru 2012 with a total of \$89,177. The \$22,000 estimate that was originally listed for the production costs was based on actual costs from Aug 2011 through July 2012. This is lower than average by about \$10,000 due to timing of bulk purchases. The corrected forecasted cost is \$30,000.

DG 12-242

**Concord Steam Corporation
Proposed Increase in Distribution Rates
Data Requests from Commission Staff – Set #3
November 27, 2012**

Date Request Received: 9/18/12
Request No. Staff 3-2

Date of Response: 12/7/12
Witness: Peter Bloomfield

REQUEST:

2. Ref. DR 1-20 response: Please calculate the electricity cost to drive the boiler fans, pumps and conveyors. Explain assumptions used in determining the cost and supporting schedules.

RESPONSE:

The electrical consumption varies by month and is related to the amount of steam production each month. The spreadsheet shows a variation from about 110,000 kWh/mnth to 250,000kWh/mnth over the year. If we assume that the base load of the plant is about 105,000 kWh/mnth, or a little less than lowest summer load, the amount of kWh/incremental Mlb sold is in a range of about 5 to 9 kWh/Mlb.

With an average 2011 energy price of purchased electricity of \$0.092/kWh and an average cost of self generated power of \$0.034/kWh, the average energy cost of electricity used at the plant is \$0.080/kWh.

The amount of additional marginal electrical energy needed to generate the steam for sale in 2011 was 771,015 kWh, for a cost of \$61,564.

The total purchased power bill in 2011 was \$86,345 and the fully burdened cost to generate the power that was used in house was \$60,056, for a total cost of power of \$146,401.

See attached spreadsheets.

	Kwh Energy	Energy \$	Deliv \$	Demand				\$	TOTAL \$	All ¢/kWh	Demand ¢/kWh	Energy ¢/kWh	Generated	Sold	net used
				KW	PF	KVA	Billed								
DEC			0				0	90	#DIV/0!	#DIV/0!	#DIV/0!			0	
NOV			0				0	90	#DIV/0!	#DIV/0!	#DIV/0!			0	
OCT	25,594	1,158	593	238		239	285	1,722	3,563	13.9	6.7	6.842		0	
SEP	63,581	2,769	1,474	198		209	285	1,722	6,055	9.5	2.7	6.674	93	-93	
AUG	53,270	2,459	1,207	175		189	285	1,720	5,476	10.3	3.2	6.883	40	-40	
JUL	48,000	2,028	980	224		231	285	1,714	4,811	10.0	3.6	6.267	60,000	1,200	58,800
JUN	24,269	1,033	495	177		182	285	1,714	3,331	13.7	7.1	6.296	74,400	3,721	70,679
MAY	3,139	156	64	214		216	285	1,704	2,012	64.1	54.3	6.985	242,400	98,373	144,027
APR	768	52	15	273		273	285	1,665	1,819	236.9	216.8	8.727	362,400	230,022	132,378
MAR	15,408	1,032	307	227		235	285	1,665	3,092	20.1	10.8	8.694	410,400	206,335	204,065
FEB	86	6	2	80		211	285	1,665	1,760	2,037.1	1,927.2	9.052	424,800	215,989	208,811
2012 JAN	346	29	7	187		214	285	1,665	1,788	517.3	481.8	10.246	465,600	237,265	228,335

2011	Kwh Energy	Energy \$	Deliv \$	Demand				\$	TOTAL \$	All ¢/kWh	Demand ¢/kWh	Energy ¢/kWh	kWh Generated	Sold	Generated used in house
				KW	PF	KVA	Billed								
DEC	26,160	2,148	521	254		356	356	2,081	4,838	18.5	8.0	10.203	424,800	199,224	225,576
NOV	12,384	1,003	247	315		317	317	1,853	3,190	25.8	15.0	10.096	424,800	288,114	136,686
OCT	75,466	5,375	1,504	236		236	292	1,707	8,673	11.5	2.3	9.115	165,600	100,618	64,982
SEP	100,330	7,026	2,000	219		222	292	1,707	10,819	10.8	1.7	8.995	9,800	5	9,795
AUG	107,242	7,880	2,164	204		219	292	1,717	11,848	11.0	1.6	9.366	2,400	55	2,345
JUL	109,402	7,272	2,455	217		225	292	1,809	11,623	10.6	1.7	8.891	7,200	2,202	4,998
JUN	91,824	6,056	2,061	221		224	292	1,809	10,012	10.9	2.0	8.839	31,200	1,017	30,183
MAY	6,691	475	152	184		210	292	1,794	2,510	37.5	26.8	9.369	187,200	67,032	120,168
APR	110,150	7,660	2,811	344		345	345	1,963	12,543	11.4	1.8	9.506	136,800	55,432	81,368
MAR	17,338	1,186	442	330		331	331	1,880	3,618	20.9	10.8	9.393	384,000	189,932	194,068
FEB	9,782	694	250	250		261	302	1,716	2,768	28.3	17.5	9.642	537,600	309,336	228,264
2011 JAN	16,493	1,302	421	364		364	365	2,072	3,903	23.7	12.6	10.446	602,400	353,080	249,320
TOTAL	683,262	48,075	15,028						86,345			9.236	2,913,800	1,566,047	1,347,753

Average cost of power used in plant
Marginal cost of power used to generate steam

Total 2011 cost of energy 63,103

Fully burdened cost of self generated power \$/kWh \$ 0.0446
Fully burdened cost of self generated power used in plant \$ \$ 60,056

Total cost of purchased and generated used in plant \$ 146,401

	\$/kWh \$0.034	Total cost	Mlb sold	Marginal Electricity kWh/Mlb
Total used				
0		-105,000		
0		-105,000		
25,594	1,751	-79,406		
63,488		-41,512		
53,230		-51,770		
106,800		1,800	972	2
94,948		-10,052	1,271	-8
147,166		42,166	3,357	13
133,146		28,146	9,503	3
219,473		114,473	12,341	9
208,897		103,897	21,020	5
228,681		123,681	23,465	5

Total used	\$/kWh \$0.034	Base of 105,000 Subtracted	Mlb sold	Marginal Electricity kWh/Mlb	Marginal cost Electricity \$/Mlb sold
251,736	\$17,112	146,736	18,141	8	\$ 0.65
149,070	\$15,693	44,070	11,885	4	\$ 0.30
140,448	\$12,509	35,448	7,770	5	\$ 0.36
110,125	\$9,358	5,125	1,329	4	\$ 0.31
109,587	\$10,126	4,587	1,200	4	\$ 0.31
114,400	\$9,972	9,400	1,041	9	\$ 0.72
122,007	\$9,177	17,007	1,527	11	\$ 0.89
126,859	\$6,992	21,859	4,480	5	\$ 0.39
191,518	\$15,122	86,518	9,763	9	\$ 0.71
211,406	\$14,685	106,406	17,909	6	\$ 0.47
238,046	\$19,222	133,046	25,720	5	\$ 0.41
265,813	\$22,204	160,813	25,506	6	\$ 0.50
2,031,015	\$162,172	771,015	126,271		\$ 0.49
plant \$/kwh am for sale	\$0.080	\$61,564			

Costs

	Jan-12	Feb-12	Mar-12	Apr-12	May-12	Jun-12	Jul-12	Aug-11	Sep-11	Oct-11	Nov-11	Dec-11	Total
Fuel:													
Total kWh's Generated	465,600	424,800	410,400	362,400	242,400	74,400	60,000	2,400	9,600	165,600	424,800	424,800	3,067,200
Total kWh's Sold	237,265	215,989	206,335	230,022	98,373	3,721	1,200	55	5	100,618	288,114	199,224	1,580,921
\$ received from sales	\$ 9,530	\$ 6,448	\$ 5,470	\$ 5,781	\$ 2,463	\$ 2,802	\$ 3,438	\$ 2,597	\$ 2,585	\$ 6,586	\$ -	\$ 4,309	\$ 52,009
Sale price \$/kWh	\$ 0.040	\$ 0.030	\$ 0.027	\$ 0.025	\$ 0.025			\$ 47.218	\$ 517.000	\$ 0.065	\$ -	\$ 0.022	\$ 0.033
Btu's/kWh	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000
Btu/Lb Steam @ 125 psig. 430 F	1,150	1,150	1,150	1,150	1,150	1,150	1,150	1,150	1,150	1,150	1,150	1,150	1,150
Total M Lbs of Steam	1,619	1,478	1,427	1,261	843	259	209	8	33	576	1,478	1,478	10,669
Fuel cost \$/MMBtu	4.87	5.15	5.31	5.05	4.93	4.90	5.18	5.41	4.95	5.54	5.53	4.87	
Fuel Cost per MLb	\$ 9.34	\$ 9.87	\$ 10.17	\$ 9.69	\$ 9.44	\$ 9.39	\$ 9.93	\$ 10.37	\$ 9.49	\$ 10.62	\$ 10.60	\$ 9.33	
Total Fuel Cost of Steam	\$ 15,128	\$ 14,590	\$ 14,522	\$ 12,209	\$ 7,960	\$ 2,430	\$ 2,072	\$ 87	\$ 317	\$ 6,116	\$ 15,661	\$ 13,792	\$ 104,882
Cost/kWh to generate	\$ 0.032	\$ 0.034	\$ 0.035	\$ 0.034	\$ 0.033	\$ 0.033	\$ 0.035	\$ 0.036	\$ 0.033	\$ 0.037	\$ 0.037	\$ 0.032	\$ 0.0342
Total Fuel Cost of Steam	\$ 15,128	\$ 14,590	\$ 14,522	\$ 12,209	\$ 7,960	\$ 2,430	\$ 2,072	\$ 87	\$ 317	\$ 6,116	\$ 15,661	\$ 13,792	\$ 104,882
Overhead:	\$ 2,317	\$ 2,317	\$ 2,317	\$ 2,317	\$ 2,317	\$ 2,317	\$ 2,317	\$ 2,317	\$ 2,317	\$ 2,317	\$ 2,317	\$ 2,317	\$ 27,807
Total Overhead	\$ 2,317	\$ 2,317	\$ 2,317	\$ 2,317	\$ 2,317	\$ 2,317	\$ 2,317	\$ 2,317	\$ 2,317	\$ 2,317	\$ 2,317	\$ 2,317	\$ 27,807
Return on Investment													
Rate Base													\$ 114,044
Rate of Return													3.50%
Total Return on Investment	\$ 333	\$ 333	\$ 333	\$ 333	\$ 333	\$ 333	\$ 333	\$ 333	\$ 333	\$ 333	\$ 333	\$ 333	\$ 3,992
Grand Total Costs	\$ 17,778	\$ 17,240	\$ 17,172	\$ 14,859	\$ 10,610	\$ 5,080	\$ 4,721	\$ 2,736	\$ 2,967	\$ 8,766	\$ 18,311	\$ 16,442	\$ 136,681
Total Volume kWh's													<u>3,067,200</u>
Rate per kWh													<u>\$ 0.04456</u>

DG 12-242

**Concord Steam Corporation
Proposed Increase in Distribution Rates
Data Requests from Commission Staff – Set #3
December 14, 2012**

Date Request Received: 9/18/12
Request No. Staff 3-10

Date of Response: 12/27/12
Witness: Peter Bloomfield

REQUEST:

10. Ref. DR 1-7 response: Please explain the Abbot Downing adjustment of 200 Mlbs. What date did Abbott Downing commence service, what is the expected monthly and annual usage and applicable usage rate. What is the applicable monthly meter charge and months it will be applied.

RESPONSE:

The 200 Mlbs was the estimated usage at the Abbot Downing school. Abbot Downing began service this past August, 2012. We now have three months worth of data of actual use and the table below shows a revised monthly and annual usage.

Abbott Downing has a steam flow meter, which is the large meter charge at \$40/month. The school uses steam year round for hot water, so that there will be 12 months of meter charge.

	Estimated normalized steam usage Mlbs
Jan	150
Feb	125
Mar	110
April	60
May	30
June	10
July	2
Aug	2
Sep	20
Oct	50
Nov	80
Dec	<u>125</u>
Total	764

DG 12-242
Concord Steam Corporation
Proposed Increase in Distribution Rates
Data Requests from Commission Staff – Set #3
December 14, 2012

Date Request Received: 9/18/12
Request No. Staff 3-13

Date of Response: 12/27/12
Witness: Peter Bloomfield

REQUEST:

13. Ref. response to DR 3-4: Adjust the attached table to split out from the appropriate existing column(s) the monthly Mlb estimates of steam used by the Company to maintain system integrity, based on actual operating conditions.

RESPONSE:

The steam system is kept hot with steam in it all year round, whether we are utilizing that particular section or not. The reason for this is that anytime the pipe is allowed to cool and then be reheated, there are steam leaks and expansion joint failures. By keeping them hot, there is no cycling of temperature and the upset to the system is kept to a minimum. The other reason for keeping steam in the pipes is that it keeps oxygen from getting too the piping, and avoids corrosion. The total amount of steam that is used to maintain operating pressure and temperature in the steam system is approximately 90,000 Mlbs/yr.

This is an estimated number because of metering problems with the steam flow meters on the boilers. The meters are all old and in need of replacement, but have held off on all repairs and upgrades that are not critical and that are not transferable to the new plant. We therefore have to estimate the amount of steam generated each month based on the amount of fuel consumed and boiler efficiencies. Fluctuations in wood quality from month to month make this number less accurate than if we were only burning oil or gas. We are confident in the amount of steam sold and the amount of steam needed to generate power. The amount of steam used in plant, the auxiliary steam, is calculated at 15%. This is part calculation (feedwater heating) and part estimate (soot blowing, atomizing steam, etc), but the feed water heating is over 90% of this steam, so this calculation is fairly accurate. What is left over is the unaccounted for losses that are considered line loss. This is heat loss from the pipe system as well as any steam leaks in the distribution piping.

We need to maintain pressure in the system from 45 psig to 90 psig in order to deliver the product to the customers. The pressure has to be high enough for the steam valves, steam

traps, and customers equipment and controls to work properly. We reduce system pressure during the summer to reduce heat loss from the piping. The normal system pressure is 90 psig, but in the summer we reduce it to a lower pressure that varies from 70 to 45 psig.

The maintenance costs to keep the steam system operational and maintain system integrity is the amount of steam used to maintain temperature. The heat lost in this process is fairly consistent from month to month, although it is less in summer months due to lowered steam pressure (temperature) and lower steam velocities in the pipes.

There are some sections of the system that have no summer use, and therefore could be shut off, but the maintenance, repair and upkeep of the isolated lines would be expensive. If we are to define what amount of steam is needed to heat the sections of line that are not used in the summer, we should only consider those sections that can actually be isolated from the main system. In the response to DR 3-4 and 3-5, we examined this issue as to what could be done theoretically, not as how the system is actually configured. The section that could be shut has about 5,400 feet of 4" pipe, which is smaller than the average distribution pipe. Our distribution piping varies from 12" to 3", with the majority of it between 12 and 6". A 4" pipe has 50% less surface area than a 6" pipe, which has a direct relationship to heat loss. Less surface area is lower heat loss.

The revised table is attached, and shows an estimated amount that could be considered the amount of steam needed to heat the section of piping not needed in the summer. We arrived at this by multiplying the total estimated monthly line loss by 21% (percentage of feet of pipe that could be shut down for the summer), and again by 50% to allow for the smaller diameter of this particular section of pipe.

Concord Steam
 DG 12-242
 DR 3-4, 3-13

Date	Steam Prod Mlbs	Steam Sold Mlbs	Aux. Steam Mlbs	Steam for Elec Mlbs	Line Loss Mlbs	50% of 21% of summer loss
Oct-12	17662	7942	2649	1202	5869	
Sep-12	9852	1821	1478	351	6202	651
Aug-12	9861	1325	1479	125	6932	728
Jul-12	9999	972	1500	209	7318	768
Jun-12	10768	1271	1615	259	7622	
May-12	14784	3357	2218	843	8366	
Apr-12	21693	9503	3254	1261	7675	
Mar-12	24550	12341	3682	1427	7099	
Feb-12	36040	21044	5406	1478	8112	
Jan-12	40276	23465	6041	1619	9150	
Dec-11	34278	18141	5142	1478	9518	
Nov-11	26006	11885	3901	1478	8741	
	255768	113067	38365	11730	92605	2147
	100%	44%	15%	5%	36%	
Oct-11	18559	7770	2784	576	7429	
Sep-11	11673	1329	1751	33	8560	
Aug-11	11280	1200	1692	8	8380	880
Jul-11	9476	1041	1421	25	6989	734
Jun-11	10375	1527	1556	109	7183	754
May-11	16897	4480	2535	651	9231	
Apr-11	25438	9763	3816	476	11383	
Mar-11	38093	17909	5714	1336	13134	
Feb-11	41413	25720	6212	1870	7612	
Jan-11	43299	25506	6495	2095	9202	
Dec-10	39641	22481	5946	1928	9282	
Nov-10	26402	14045	3960	943	7454	
	292544	132771	43882	10050	105838	2368
Oct-10	20016	7997	3002	584	8443	
Sep-10	9968	1077	1495	0	7396	
Aug-10	8987	769	1348	0	6870	721
Jul-10	9518	847	1428	17	7227	759
Jun-10	9770	1282	1465	33	6989	734
May-10	16736	3575	2510	476	10175	
Apr-10	20713	7863	3107	634	9109	
Mar-10	30813	14034	4622	1227	10930	
Feb-10	38471	23431	5771	1486	7783	
Jan-10	41355	24708	6203	1853	8591	
Dec-09	39105	22692	5866	1753	8195	
Nov-09	26160	12298	3924	1194	8744	
	271,612	120,571	40,742	9,257	100,451	2,214

Steam line maintenance load

DG 12-242
 Rev 12/21/12
 DR 3-13

Active Steam line 26,000 ft
 Section of system not needed in summer* 5,400 ft
 % of stm system not needed in summer 21%

The pipe in this section is 4" steam pipe, which is smaller than system ave. This smaller diameter results in less surface area for lower heat loss than average. This is not accounted for here.

Normal operating pressure 90 psig
 Normal operating temp F 335 °F
 Summer operating pressure 45 psig
 Summer operating temp 292 °F

Ground temperature 80 °F
 Diff temp pipe/ground winter 255 °F
 Diff temp pipe/ground summer 212 °F

% difference in temperature differential 83%

Heat loss reduction due to zero velocity of steam inside pipe 60%

Months of line layup 3

% of line loss needed for maintenance 1.7% 10.7

Normal annual total Line loss Mlbs 90,000

Steam required for line maintenance 1,554

COE \$ 21.08
 Annual cost for line maintenance \$ 32,759

* reduced from 8,400 feet

DG 12-242

**Concord Steam Corporation
Proposed Increase in Distribution Rates
Data Requests from Commission Staff – Set #3
December 14, 2012**

Date Request Received: 9/18/12
Request No. Staff 3-17

Date of Response: 3/7/13
Witness: Peter Bloomfield

Revised response 3/7/13

REQUEST:

17. Please provide, using available information from 15 and 16, plus current annual cost estimates for new or replacement steam service installations, actual customer count data and average service life to calculate the appropriate tariff rates for meter charges, going forward.

RESPONSE:

Calculating the yearly depreciated cost of the meters and on-going maintenance and repair costs of service connections/meters (see attached calculations) the estimated monthly meter charges should be as follows:

Small - \$40
Medium - \$60
Large - \$110

However, we do not feel that more than doubling the small and medium meter charge all at once is an appropriate thing to do, and so we are proposing that the new meter charges be as follows:

Heating season – October - May
Small - \$20
Medium - \$50
Large - \$110

Summer – June – September (Recovers labor costs only)
All meters - \$16

This increase in meter charge will result in an annual revenue increase of \$27,851.

DG 12-242
 Concord Steam
 DR 3-17

revised 3/7/13

Distribution system customer service maintenance accounts

	Repair parts Distribution 5-6105	Pipe 5-6106	Pipe Insulation 5-6107	Road Repair Materials 5-6108	Valves 5-6109	Labor	Total Annual Costs
2002	3,688.48	123.63		1,224.53	2,968.50	24,898	32,903
2003	1,116.09	100.34	7,276.86	4,130.74	1,830.70	25,645	40,099
2004	4,903.50	738.94	2,653.50	913.98	4,700.55	26,414	40,324
2005	2,604.01	1,162.12	4,339.42	3,228.27	9,637.83	27,206	48,178
2006	3,684.95	3,143.33	3,338.97	2,256.61	17,546.53	28,022	57,993
2007	5,633.62	599.73	4,860.90	1,099.32	11,087.45	28,863	52,144
2008	1,427.70	1,381.83		655.50	19,495.22	29,729	52,689
2009	1,856.72	3,584.92	1,600.00	1,293.30	7,152.28	30,621	46,108
2010	986.08	4,686.77	366.40	2,441.81	13,695.17	31,540	53,716
2011	3,469.40	4,801.83	3,137.40	1,310.47	3,978.48	32,486	49,183
2012	4,656.45	3,642.30	38.30	808.40	3,837.08	33,460	46,443

Avg maint \$/year \$47,253
 total meters 179 Heating season
 Avg cost/meter Monthly Charge
 Small 35% \$27,695 \$43
 Med 45% \$36,622 \$57
 Large 20% \$16,238 \$113

	Meter Purchase	Per Meter Installation	Per Meter Total Cost	Total per category Yearly Depreciation
Avg new cost				
small A-D	\$ 3,075	\$ 1,080	\$ 4,155	\$ 11,156
med E-F	\$ 4,100	\$ 1,620	\$ 5,720	\$ 15,358
large G	\$ 5,600	\$ 2,180	\$ 7,780	\$ 2,321
Steam Flow	\$ 7,800	\$ 2,180	\$ 9,980	\$ 4,466

Labor only
Monthly Charge
\$ 16

DG 12-242

**Concord Steam Corporation
Proposed Increase in Distribution Rates
Data Requests from Commission Staff – Set #3
January 4, 2013**

Date Request Received: 1/4/13
Request No. Staff 3-22

Date of Response: 1/18/13
Witness: Peter Bloomfield

REQUEST:

22. Reference responses to DR 1-14, 2-5 & 3-11: Please reconcile the \$330,211 project costs cited in response 3-11 with the project costs of \$325,652 cited in responses 1-14 & 2-5 and the \$314,177.54 cost total reflected in the supporting detail provided in responses 1-14 & 2-5.

RESPONSE:

The \$325,652 amount cited previously is incorrect. The total of all expenses to install the snow melt at the Smile building and the service connections to Abbott Downing and McAuliffe is \$328,420 as itemized on the response to DR 1-14 and 2-5.

The \$330,211 amount is incorrect, and should be \$328,420.

DG 12-242

**Concord Steam Corporation
Proposed Increase in Distribution Rates
Data Requests from Commission Staff – Set #3
January 4, 2013**

Date Request Received: 1/4/13
Request No. Staff 3-23

Date of Response: 3/15/13
Witness: Peter Bloomfield

REQUEST:

23. Please provide a 'Report of Proposed Rate Changes' by meter size (small, medium, large). For each meter size and in total, provide the average number of customers, sales Mlbs, meter charge revenue, usage revenue, COE revenue, total revenue, the proposed sales Mlbs, revenue increase for the meter charge, usage revenue, COE revenue and total revenue and the percent change in meter charge revenue, usage revenue, COE revenue and total revenue.

RESPONSE:

Revised report attached.

DG 12-242
Concord Steam

Number and types of meters in service

Meter size	Pub	Com	Special	Total	
A	11	32		43	
B	4	31		35	78 Small
C	6	26	1	33	
D	12	22	1	35	
E	6	5		11	79 Med
F	3			3	
G	1			1	
Steam	8		3	11	15 Large
	51	116	5	172	172

DG 12-242
Concord Steam
Data Response 3-23

DG 12-242
Concord Steam

rev 3/8/13

Report of Proposed Rate Changes
Test Year ending Dec. 31, 2011

Actual sales are not weather normalized, lost customers are removed from data

Average increase in Usage Rate	18.0%	391,016
Increase in Energy Charge	18.4%	312,984 shift from usage
Meter charge increase		27,851
		731,851

Proposed changes of Meter Charges

	Existing	Proposed
Small	10	20
Medium	25	50
Large	40	110
Summer		16

	2012 COE	New COE	Increase in COE
\$/Mlb	\$17.80	\$21.08	18.4%

Effect on customer classes (average customer)

Meter Size	2011		Ave Meter Charge	Ave Usage Charge	COE Charge	Total
	Average use Mlbs/yr	Number of Customers				
Small	170	78	\$ 73	\$ 3,132	\$ 2,815	\$ 6,020
Med	730	79	\$ 210	\$ 12,991	\$ 11,694	\$ 24,895
Large	3800	15	\$ 370	\$ 69,294	\$ 64,476	\$ 134,140
				18.24		

Meter Size	Amount of Increase in annual revenue			
	Meter	Usage	COE	Total
Small	\$ 73	\$ 501	\$ 519	\$ 1,093
Med	\$ 210	\$ 2,338	\$ 2,155	\$ 4,703
Large	\$ 648	\$ 12,612	\$ 11,881	\$ 25,140

Meter Size	Total average annual revenue with increases			
	Meter	Usage	COE	Total
Small	\$ 146	\$ 3,633	\$ 3,334	\$ 7,113
Med	\$ 420	\$ 15,329	\$ 13,849	\$ 29,598
Large	\$ 1,018	\$ 81,906	\$ 76,357	\$ 159,280

Meter Size	% change			
	Meter	Usage	COE	Total
Small	100%	16.0%	18.4%	18.15%
Med	100%	18.0%	18.4%	18.89%
Large	175%	18.2%	18.4%	18.74%

DG 12-242
Concord Steam
Data Response 3-23

REVENUE PROOF

3/14/13

	2011 Total Mlbs/yr	Number of Customers	Total Meter Charge	Total Usage Charge	COE Charge	Total
Small	13,224	78	\$ 5,750	\$ 245,748	\$ 220,823	\$ 472,322
Med	57,354	79	\$ 16,775	\$ 985,882	\$ 957,800	\$ 1,960,457
Large	53,049	15	\$ 5,610	\$ 855,305	\$ 887,470	\$ 1,748,385
subtotal	123,627		\$ 28,135	\$ 2,086,935	\$ 2,066,094	\$ 4,181,164

Projected Total		Weather normalized, COE at 17.80/Mlb			
Mlbs/yr		Meter	Usage	COE	Total
13,700	Small	\$ 5,750	\$ 254,595	\$ 243,862	\$ 504,207
59,361	Med	\$ 16,775	\$ 1,020,388	\$ 1,056,625	\$ 2,093,788
54,906	Large	\$ 5,610	\$ 885,241	\$ 977,323	\$ 1,868,173
127,967	Total	\$ 28,135	\$ 2,160,224	\$ 2,277,810	\$ 4,466,169

Amount of Increase in annual revenue				
	Meter	Usage	COE	Total
Small	\$ 4,951	\$ 40,552	\$ 33,511	\$ 79,014
Med	\$ 14,447	\$ 188,053	\$ 145,197	\$ 347,697
Large	\$ 8,454	\$ 162,457	\$ 134,300	\$ 305,210
Total	\$ 27,851	\$ 391,062	\$ 313,007	\$ 731,920

Blended Rates \$/Mlb		Total annual revenue with increases, weather normalized			
		Meter	Usage	COE	Total
21.50	Small	\$ 10,701	\$ 294,553	\$ 277,373	\$ 583,221
20.36	Med	\$ 31,222	\$ 1,208,441	\$ 1,201,822	\$ 2,441,484
19.08	Large	\$ 14,064	\$ 1,047,697	\$ 1,111,622	\$ 2,173,383
	Total	\$ 55,986	\$ 2,550,691	\$ 2,590,817	\$ 5,198,089

Proformed test year revenue	\$ 4,486,528
Revenue Increase	<u>\$ 732,000</u>
Revenue requirement	\$ 5,218,528

	% change actual 2011 vs normalized projected			
	Meter	Usage	COE	Total
Small	86%	16.1%	15.2%	16.7%
Med	86%	18.6%	15.2%	17.7%
Large	151%	18.5%	15.1%	17.5%
Total	99%	18.7%	15.1%	17.5%