

EX. 1



Concord Steam  
P.O. Box 2520  
Concord, NH 03302-2520  
Fax: 603. 224.7816  
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Steam and Power Generation

<b>ORIGINAL</b>
N.H.P.U.C. Case No. <u>DG-10-242</u>
Exhibit No. <u>#1</u>
Witness: <u>Peter Bloomfield</u>
DO NOT REMOVE FROM FILE

September 10, 2010

Debra A. Howland  
Executive Director and Secretary  
New Hampshire Public Utilities Commission  
Walker Building  
21 South Fruit Street, Suite 10  
Concord, NH 03301

Re: DG 10 - Concord Steam Corporation 2010 Cost of Energy

Dear Ms. Howland:

Enclosed for filing are an original and six copies of Concord Steam Corporation's 2010 cost of energy filing. An electronic copy has been sent to the Commission.

Please include Sarah Knowlton of McLane, Graf, Raulerson & Middleton, Professional Association, 100 Market Street, P.O. Box 459, Portsmouth, NH 03802 on the service list in this matter.

Yours Truly,

Peter Bloomfield, PE  
President

cc: Sarah Knowlton  
Office of Consumer Advocate

RATES AND CHARGES

Service classification G (General)

RATES

Usage Rate:

First 500 M (1000) lbs per month	\$ 18.54 per M lb
All over 500 M lbs up to 2000 M lbs per month	\$ 16.27 per M lb
All over 2000 M lb per month	\$ 13.48 per M lb

Temporary Surcharge: \$ 0.06 per M lb

Meter Charge:

Meter Size

Type A or B	\$ 10 per month per meter in service
Type C, D, or E	\$ 25 per month per meter in service
Type F, G or Steam Flow	\$ 40 per month per meter in service

Cost of Energy:

Rate effective November 1, 2010 \$ 16.64

The Company may adjust monthly cost of energy charge within given range to balance annual charges.

Maximum	\$ 19.97/Mlb
Minimum	\$ 13.31/Mlb

Terms:

Bills will be rendered within the first 15 days of each month for service during the previous month, shall be payable upon presentation and shall bear interest at the rate of 1-1/2% per month from the first of the following month on the unpaid balance.

Issued: , 2010  
Effective: November 1, 2010  
Authorized by NHPUC Order #  
In Docket # DG 10- Dated

By \_\_\_\_\_  
Peter G. Bloomfield, President

RATES AND CHARGES

Service classification G (General)

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Meter Charge:

Meter Size

Type A or B	\$ 10 per month per meter in service
Type C, D, or E	\$ 25 per month per meter in service
Type F, G or Steam Flow	\$ 40 per month per meter in service

Cost of Energy:

Rate effective November 1, 2010

\$ 19.89

The Company may adjust monthly cost of energy charge within given range to balance annual charges.

Maximum	\$ 20.83 /Mlb
Minimum	\$ 13.48 /Mlb

Terms:

Bills will be rendered within the first 15 days of each month for service during the previous month, shall be payable upon presentation and shall bear interest at the rate of 1-1/2% per month from the first of the following month on the unpaid balance.

Issued: , 2010

Effective: November 1, 2010

Authorized by NHPUC Order #

In Docket # DG 10-0000 Dated,

By \_\_\_\_\_  
Peter G. Bloomfield, President

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**STATE OF NEW HAMPSHIRE**  
**BEFORE THE**  
**PUBLIC UTILITIES COMMISSION**

**Re: Concord Steam Corporation**  
**Cost of Energy**

**DG 10-\_\_\_\_\_**

**DIRECT PRE-FILED TESTIMONY**  
**OF**  
**PETER G. BLOOMFIELD**

**September 10, 2010**

1 **Q. Please state your name and address.**

2 A. My name is Peter G. Bloomfield. My business address is P.O. Box 2520, Concord, NH  
3 03302.

4 **Q. How are you associated with Concord Steam Corporation?**

5 A. I am President of Concord Steam Corporation (the "Company").

6 **Q. Please describe your education and professional background.**

7 A. I graduated from Union College in 1976 with a BS in Mechanical Engineering. I am a  
8 registered Professional Engineer in New Hampshire, New York, and Colorado. I have  
9 been employed as an engineer in the steam and power industry since college. I became  
10 President of the Company in the fall of 1986.

11 **Q. What is the purpose of your testimony?**

12 A. The purpose of my testimony is to provide support for the Company's cost of energy  
13 request for the upcoming heating season. I will present documents and other information  
14 in support of the Company's request, and explain the development of the cost of energy  
15 charges and a calculation of the proposed charge. The exhibits that I am presenting  
16 consist of Schedules-1 to 8 as further described below.

17 **Q. Please describe the Company and its customers.**

18 A. Concord Steam provides district steam service from its facility at Pleasant Street in  
19 Concord, NH, and is the only steam utility in New Hampshire. It has approximately 110  
20 customers, all of which are located in the City of Concord and all of which are  
21 commercial or institutional customers, with the exception of one residential customer.

22 **Q. Are you familiar with the books and records of the Company?**

23 A. Yes.

- 1 **Q. Has this filing been prepared by you or under your supervision?**
- 2 A. Yes.
- 3 **Q. Will the proposed change to the Company's cost of energy charge have any effect on**  
4 **the Company's profit, net income or rate of return?**
- 5 A. No. This is a revenue neutral change.
- 6 **Q. What is the current cost of energy charge?**
- 7 A. The current cost of energy charge is \$19.89 per Mlb, as approved in Order No. 25,036.
- 8 **Q. Why is the Company filing this cost of energy case?**
- 9 A. The Company's projected cost of energy for the coming 12 months is less than the actual  
10 cost of the past 12 months, such that the currently approved rate is no longer reflective of  
11 its energy costs.
- 12 **Q. Are there any over or under charge adjustments that need to be made to the Cost of**  
13 **Energy for the upcoming year?**
- 14 A. Yes, we are estimating that there will be an over charge of \$9,874 over the previous Cost  
15 of Energy period. This is a change from the 2009-2010 under charge of \$31,747. Due to  
16 decreased fuel costs, the Company is requesting a decrease in its energy charge to  
17 \$16.64/Mlb, as set forth in Schedule-1 to my testimony.
- 18 **Q. Please explain Schedule -1.**
- 19 A. Schedule-1 is a table that lists the amount of steam that the Company expects to sell for  
20 the period of November 2010 through October 2011, as proformed. Also listed is the  
21 amount of fuel and the cost of the fuel that the Company expects to consume for the same  
22 period. Schedule-2 is the backup detail for Schedule-1.
- 23 **Q. Please explain Schedules-3 and -4.**

1 A. Schedule-3 is the worksheet showing how the steam sales figures were proformed based  
2 on the 30-year degree day average. Schedule-4 is the reconciliation of energy cost versus  
3 revenue for the 2009-2010 season. This shows an expected \$9,874 over collection for the  
4 year.

5 **Q. How will this change to the Company's cost of energy charge affect its customers?**

6 A. As set forth in Schedule-6 to my testimony, I estimate that the Company's customers will  
7 experience an approximate 4% overall decrease in their total bill. This is based upon an  
8 expected decrease in the Company's fuel costs for the upcoming year as set forth on  
9 Schedule-1.

10 **Q. Why is the cost of energy changing this heating season?**

11 A. The decrease in cost is due to decreases in the cost of all fuels: wood, oil and gas.

12 **Q. Can oil and gasoline prices affect the price of wood for the Company?**

13 A. A change in the cost of diesel fuel will cause a corresponding increase or decrease in the  
14 cost of wood. The loggers use diesel fuel to operate the logging equipment as well as the  
15 delivery tractor trailer trucks. For every \$1.00/gal increase in diesel, the cost of wood  
16 increases \$2.00/ton. Wet weather can also cause an increase in the cost of wood fuel, due  
17 to production problems with working in wet forest lots.

18 **Q. What different factors can affect the collection of the correct amount of energy  
19 charges over the year?**

20 A. Fluctuations in the amount of steam sold and in the cost of fuel.

21 **Q. Are there any changes in types of fuel being used at Concord Steam?**

22 A. There have been no significant changes from the prior year. The Company has been  
23 burning wood since January 1, 2004. Wood has replaced oil and gas as the primary fuel,

1           although the Company still uses some oil and gas. The Company does expect to burn  
2           more natural gas this year and reduce the amount of oil burned due to the lower price of  
3           natural gas. The Company procures natural gas through a competitive bid process. This  
4           year the Company has contracted with Santa Energy. Approximately 70% of the steam is  
5           generated by burning wood in two of the four boilers used by the Company. The  
6           Company's other two boilers are used as peaking units, and can burn natural gas, waste  
7           oil and oil.

8   **Q.    What are the expected savings due to burning wood instead of oil and gas?**

9   A.    The Company has entered into contracts for its wood supply that will result in an average  
10       delivered cost of approximately \$32/ton. Of this cost, approximately \$1.00 is for the  
11       actual cost of the wood, \$13.00 is for labor and chipping and \$12.00 for transport. A ton  
12       of wood is approximately equivalent to a barrel of oil in net steam energy out of the  
13       boiler. At the present cost of oil at \$88/bbl and gas at \$7.50/MMBtu, wood at \$32/ton is  
14       attractive and economical. The annual estimated savings to the Company's customers,  
15       including the allowance for additional direct costs associated with burning wood, is over  
16       \$600,000.

17 **Q.    Are there any changes in the Company's wood storage and handling systems?**

18 A.    No. The Company has been successfully operating the wood storage yard, and it has  
19       gone very well. The yard gives the Company better control over its wood supply and has  
20       allowed for some creative uses that have enabled the Company to keep the cost of wood  
21       fuel low. The yard also allows for better timing of deliveries of wood to the plant. In  
22       addition, by directly operating the wood yard, the Company has been able to use its  
23       employees more efficiently. Personnel work at the yard in the winter and are able to

1 work at the plant in the summer for maintenance.

2 **Q. Are any of the costs associated with operation of the wood yard included in this**  
3 **filing?**

4 A. Yes. The lease of the yard and the direct cost of running the yard are included in the cost  
5 of wood fuel. The monthly lease payment for the wood yard is \$11,816. The direct costs  
6 are the maintenance of the equipment, diesel fuel for the front end loader and the delivery  
7 truck, and utilities for the yard. These estimated costs are itemized on Schedule-8. As  
8 reflected on Schedule-8, the expected use of diesel fuel will increase from the prior year  
9 due to more fuel being delivered to the yard and less direct to the plant due to the  
10 expected reduction in the BCAP program. In addition, the Company incurred \$900 in  
11 costs for a software consultant to modify the truck scale data base program to allow the  
12 system to accept additional suppliers and different grades of fuel. The cost of labor has  
13 not been included in the cost of wood fuel which is consistent with how the costs of  
14 operating the wood yard have been treated in prior cost of energy proceedings.

15 **Q. What is the BCAP program and how does it affect wood supply?**

16 A. Biomass Crop Assistance Program is a subsidy paid by USDA through FSA to wood fuel  
17 suppliers. This was a new program last year which ran from February through April of  
18 2010 and resulted in our using more wood direct from the woods to the plant than was  
19 anticipated. As a result, we cycled less wood through the wood yard over a three month  
20 period of February through April.

21 **Q. How will you accurately estimate the cost of fuel 12 months ahead?**

22 A. The Company presently pre-purchases 25% of its wood fuel requirements and 90% of its  
23 fossil fuel requirements for the upcoming heating season. The remainder of the fuel is

1 priced according to the estimated cost of fuel as of the time of this filing. As the great  
2 majority of the Company's consumption occurs during the heating season, any fuel cost  
3 changes later in the Company's heating season will have a small effect on the annual  
4 charge. The Company is pre-buying market wood now for use later in the heating  
5 season. The wood the Company is buying now is being stored off site for reclamation  
6 during the heating season. The Company is expecting wood to be over 70% of total fuel  
7 consumed.

8 **Q. How will a change of annual steam sales affect the recovery of the actual energy**  
9 **costs?**

10 A. If the Company sells less steam in a year than forecasted, the amount of energy consumed  
11 is reduced as well. The reverse is also true, in that if sales increase, energy use would  
12 increase. This means that variations in steam sales will have a limited effect on energy  
13 recovery charges. A change in steam sales will result in a different mix of oil vs wood  
14 fuel, which can change our cost forecasts.

15 **Q. How much do steam sales vary from year to year?**

16 A. Steam sales generally are within a plus or minus 5% range of the Company's projections.  
17 Last heating season was well below average. The heating degree days were 88% of the  
18 30 year average, and the steam sales were reduced accordingly.

19 **Q. How did you calculate your steam sales projections?**

20 A. I weather normalized the Company's actual steam sales from Aug/09 through July/10 to a  
21 30-year degree-day average. See Schedule-3.

22 **Q. How will you account for over or under collection of annual energy costs?**

23 A. The Company tracks costs all year, and if the cost of energy changes significantly from

1 expected, the Company will apply a cost of energy adjustment part way through the year  
2 as authorized by the Commission. At the end of the energy cost adjustment year, the  
3 Company reconciles revenues collected versus cost of fuel and will adjust the energy cost  
4 calculation for the next year accordingly.

5 **Q. How did the collection of energy cost work out this past year? What was the**  
6 **amount of over or under collection?**

7 A. The Company projects it will over collect \$9,874 for the period from 11/09 to 10/10,  
8 which was less than 2% of its total energy charges for the year. This is itemized on  
9 Schedule-4, with the detail shown on Schedule-5. This under collection is due to normal  
10 fluctuations in fuel consumption, steam sales and fuel costs.

11 **Q. Has the number of customers changed over the past year?**

12 A. Not significantly. We are adding McCloud's Florist as of October, 2010 and have added  
13 the Rundlett Middle school as of August 15, 2010.

14 **Q. What does the Company project for the upcoming heating season?**

15 A. The Company will try to minimize the amount of over or under collection by adjusting its  
16 energy rates during the year as allowed by the Commission. In past years, the  
17 Commission has authorized the Company to adjust its energy rates by +/- 20%.

18 **Q. When does the Company seek to implement this new rate?**

19 A. The Company is requesting to implement this rate on a service rendered basis as of  
20 November 1, 2010.

21 **Q. Has the Company taken any steps to reduce losses of steam in its system?**

22 A. Yes. The Company has been continuing to repair and upgrade underground steam lines.  
23 We are investigating a system which can insulate existing piping systems in place. We

1 will be submitting a plan to the Commission for approval to use Federal grant money to  
2 fund a complete steam system thermal study to better track and control system line  
3 losses.

4 **Q. Is there anything else as part of this filing that you would like to explain?**

5 A. Yes. As part of Commission Order 24,147, the Company is required to submit a cost  
6 benefit analysis of the steam turbine cogeneration operations. As of January of 2005, the  
7 "Cogen" division of the Company has been made part of the utility, and all of the costs  
8 and revenues from that operation are part of the regulated company. Order 24,147  
9 requires the Company to justify that this combination makes economic sense. Schedules  
10 CB-1 through CB-5 provide the cost/benefit analysis with back up data.

11 **Q. Has the electric power generation operation been cost effective?**

12 A. Yes, from August 2009 to July 2010 the cogeneration system has saved the Company  
13 (and ultimately its ratepayers) over \$50,000, from sales of excess electricity to ISO-NE  
14 and from avoiding buying power from Unitil. This savings is after all costs, including  
15 fuel, are taken into account.

16 **Q. Has any progress been made on the new steam plant project?**

17 A. Yes. The project has all of its city permits and the State and federal permits are well  
18 under way. 73% of the power output of the facility has been sold under a 20 year  
19 contract. The project has arranged financing, and is working to find a purchaser for the  
20 remainder of the electricity and RECs from the facility, with the intent to start  
21 construction this year. The new plant will be in service by Fall of 2012.

22 **Q. Does this conclude your direct testimony?**

23 A. Yes, it does.

**Concord Steam Corporation  
Cost Of Energy (COE)**

**DG 10 -  
Schedule 1**

	Projected Steam Sales Mlbs	Projected Fuel Use MMBtu	\$/Mlb	Steam Revenue Energy	Cost of Energy	Projected Over/Under Collection
Nov-10	15,221	50,776	\$ 16.64	\$ 253,242	\$ 239,467	\$ 13,776
Dec-10	24,500	68,091	16.64	\$ 407,633	\$ 306,815	\$ 100,818
Jan-11	27,561	70,048	16.64	\$ 458,571	\$ 342,885	\$ 115,685
Feb-11	26,303	68,156	16.64	\$ 437,638	\$ 336,729	\$ 100,910
Mar-11	19,795	66,735	16.64	\$ 329,347	\$ 319,463	\$ 9,883
Apr-11	10,140	43,334	16.64	\$ 168,714	\$ 208,596	\$ (39,882)
May-11	4,216	28,651	16.64	\$ 70,143	\$ 128,796	\$ (58,654)
Jun-11	1,709	20,251	16.64	\$ 28,435	\$ 87,718	\$ (59,283)
Jul-11	931	20,700	16.64	\$ 15,490	\$ 88,710	\$ (73,220)
Aug-11	889	20,300	16.64	\$ 14,791	\$ 85,054	\$ (70,263)
Sep-11	1,626	21,904	16.64	\$ 27,054	\$ 91,522	\$ (64,468)
Oct-11	9,509	31,488	16.64	\$ 158,212	\$ 143,388	\$ 14,824
<b>TOTAL</b>	<b>142,399</b>	<b>510,434</b>		<b>2,369,269</b>	<b>\$ 2,379,143</b>	<b>(9,874)</b>

Over collection from previous year 9,874

Total of Cost of Energy Charge 2,369,269

Energy Charge - \$ per Mlb \$ 16.64

Average COE charge for last year \$ 17.83

Percent reduction from last year 6.7%

Concord Steam Corporation  
Cost Of Energy (COE)

DG 10 -  
Schedule-2

Projected MMBtu's and Cost:

	Projected MMBtu's					Total
	Nat. Gas	Waste	#6 Resid	Waste+ #6	Wood	
Nov-10	9,670	1,000		1,000	40,106	50,776
Dec-10	10,087	1,000		1,000	57,004	68,091
Jan-11	12,031	1,000	2,000	3,000	55,017	70,048
Feb-11	12,756	1,000	1,800	2,800	52,600	68,156
Mar-11	9,453	1,000	2,000	3,000	54,282	66,735
Apr-11	5,385	500	1,800	2,300	35,649	43,334
May-11	5,216	500	-	500	22,935	28,651
Jun-11	1,719	0	500	500	18,032	20,251
Jul-11	1,500	0	500	500	18,700	20,700
Aug-11	1,100	200	300	500	18,700	20,300
Sep-11	1,350	300	200	500	20,054	21,904
Oct-11	6,400	500	-	500	24,588	31,488
	76,667	7,000	9,100	16,100	417,668	510,434
				6.13		
	bbls	bbls	bbls	tons		
		1,167	1,468	2,597	49,137	

	Projected Costs					Total
	Nat. Gas	Waste Oil	#6 Resid	Waste+ #6	Wood	
Nov-10	\$ 77,728	\$ 9,811	\$ -	\$ 9,811	\$ 151,928	\$ 239,467
Dec-10	\$ 81,066	\$ 9,811	\$ -	\$ 9,811	\$ 215,938	\$ 306,815
Jan-11	\$ 96,630	\$ 9,811	\$ 28,032	\$ 37,843	\$ 208,412	\$ 342,885
Feb-11	\$ 102,435	\$ 9,811	\$ 25,229	\$ 35,040	\$ 199,254	\$ 336,729
Mar-11	\$ 75,993	\$ 9,811	\$ 28,032	\$ 37,843	\$ 205,627	\$ 319,463
Apr-11	\$ 43,420	\$ 4,906	\$ 25,229	\$ 30,134	\$ 135,042	\$ 208,596
May-11	\$ 37,010	\$ 4,906	\$ -	\$ 4,906	\$ 86,881	\$ 128,796
Jun-11	\$ 12,403	\$ -	\$ 7,008	\$ 7,008	\$ 68,306	\$ 87,718
Jul-11	\$ 10,864	\$ -	\$ 7,008	\$ 7,008	\$ 70,838	\$ 88,710
Aug-11	\$ 8,050	\$ 1,962	\$ 4,205	\$ 6,167	\$ 70,838	\$ 85,054
Sep-11	\$ 9,809	\$ 2,943	\$ 2,803	\$ 5,747	\$ 75,967	\$ 91,522
Oct-11	\$ 45,340	\$ 4,906	\$ -	\$ 4,906	\$ 93,142	\$ 143,388
	\$ 600,747	\$ 68,678	\$ 127,544	\$ 196,222	\$ 1,582,174	\$ 2,379,143

	Projected mmbtu costs			Average oil		
	Gas	Waste	#6	#6 + waste	Wood	
\$/MMBtu	\$ 6.02	\$ 9.81	\$ 14.02	\$ 12.19	\$ 3.79	
\$/unit	\$ 6.02	\$ 61.81	\$ 88.30	\$ 76.78	\$ 32.20	
	Decatherm	Bbl	Bbl		Ton	

Other production related costs not in COE	
Ash disposal	28,070
State Air Permit fees	37,199
Water/Sewer	170,000
Total	235,269

Concord Steam Corporation  
 Cost Of Energy (COE)

DG 10 -  
 Schedule-3

	Actual Sales Mlbs 2009/10	Steam sold non heating	Steam sold heating	New customers	Actual Deg Days 2009/10	Deg Days 30 yr ave	Adjusted Base rate Sales 2008/09
Nov-09	12,298	1,500	10,798	1,420	697	794	15,221
Dec-09	22,692	1,500	21,192	1,700	1182	1188	24,500
Jan-10	24,708	1,500	23,208	1,600	1296	1366	27,561
Feb-10	23,431	1,500	21,931	1,420	1087	1159	26,303
Mar-10	14,034	1,500	12,534	1,080	715	982	19,795
Apr-10	7,863	1,500	6,363	640	474	596	10,140
May-10	3,575	1,500	2,075	500	196	299	4,216
Jun-09	1,709	1,709	-	-	97	85	1,709
Jul-09	931	931	-	-	36	16	931
Aug-09	889	889	-	-	36	35	889
Sep-09	1,226	1,226	-	400	223	184	1,626
Oct-09	10,066	1,500	8,566	530	591	516	9,509
<b>TOTAL</b>	<b>123,421</b>			<b>9,290</b>	<b>6,630</b>	<b>7,220</b>	<b>142,399</b>





Concord Steam Corporation  
 Cost Of Energy (COE)

DG10 -  
 Schedule-6

Customer Size	Annual usage M/lbs	Energy Charge at new rate 16.64	Energy Charge at 09/10 average 17.83	Meter Charge	Base Rate	New rate Total	Last year cost based on average energy cost over 09/10
Small	295	\$ 4,908	\$ 5,259	\$ 60	\$ 4,682	\$ 9,650	\$ 10,001 -3.51% % decrease from last year
Medium	1201	\$ 19,983	\$ 21,411	\$ 225	\$ 17,595	\$ 37,802	\$ 39,231 -3.64% % decrease from last year
Large	4797	\$ 79,814	\$ 85,519	\$ 480	\$ 65,959	\$ 146,252	\$ 151,958 -3.75% % decrease from last year

Concord Steam Company  
 Cost of Energy (COE)  
 2010-11 filing  
 Revenue Summary

DG 10 -  
 Schedule -7

	Nov-09	Dec-09	Jan-10	Feb-10	Mar-10	Apr-10	May-10	Jun-10	Jul-10	(projected) Aug-10	(projected) Sep-10	(projected) Oct-10
Actual Mlbs. Sold	12,298	22,692	24,708	23,431	14,034	7,863	3,575	1,282	846	889	1,835	8,549
Actual Rate Per Mlb.	\$ 17.36	\$ 17.89	\$ 17.89	\$ 17.89	\$ 17.89	\$ 17.89	\$ 17.89	\$ 17.89	\$ 19.89	\$ 19.89	\$ 19.89	\$ 19.89
Actual/Projected Revenues	\$ 213,490	\$ 405,964	\$ 442,022	\$ 419,173	\$ 251,069	\$ 140,660	\$ 63,956	\$ 22,935	\$ 16,827	\$ 17,682	\$ 36,495	\$ 170,031

Projected Mlbs. and Revenues:

Projected/Actual Mlbs. and Projected/Adjusted Revenues:

	Projected Mlbs.	Rate per Mib.	Projected Revenue \$
Nov-09	15,516	\$ 17.36	\$ 269,360
Dec-09	22,744	\$ 17.89	\$ 406,886
Jan-10	30,612	\$ 17.89	\$ 547,640
Feb-10	25,744	\$ 17.89	\$ 460,566
Mar-10	21,361	\$ 17.89	\$ 382,153
Apr-10	11,169	\$ 17.89	\$ 199,812
May-10	4,578	\$ 17.89	\$ 81,908
Jun-10	1,583	\$ 17.89	\$ 30,116
Jul-10	931	\$ 17.89	\$ 16,656
Aug-10	889	\$ 17.89	\$ 15,904
Sep-10	1,835	\$ 17.89	\$ 32,826
Oct-10	8,549	\$ 17.89	\$ 152,934
<b>Total</b>	<b>145,611</b>	<b>\$ 17.83</b>	<b>\$ 2,596,761</b>

	Actual/Projected Mlbs.	Rate per Mib.	Revenue \$
Nov-09	12,298	\$ 17.36	\$ 213,490
Dec-09	22,692	\$ 17.89	\$ 405,964
Jan-10	24,708	\$ 17.89	\$ 442,022
Feb-10	23,431	\$ 17.89	\$ 419,173
Mar-10	14,034	\$ 17.89	\$ 251,069
Apr-10	7,863	\$ 17.89	\$ 140,660
May-10	3,575	\$ 17.89	\$ 63,956
Jun-10	1,282	\$ 17.89	\$ 22,935
Jul-10	846	\$ 19.89	\$ 16,827
Aug-10	889	\$ 19.89	\$ 17,682
Sep-10	1,835	\$ 19.89	\$ 36,495
Oct-10	8,549	\$ 19.89	\$ 170,031
<b>Total</b>	<b>122,000</b>	<b>\$ 18.04</b>	<b>\$ 2,200,304</b>

**Concord Steam Corporation  
Cost Of Energy (COE)**

**DG 10 -  
Schedule-8**

Estimated cost of Wood Yard Operations

Tons of wood per year	49,137			
Delivered cost of material	\$ 26.00	\$ 1,277,572		
			09	08
Yard Lease	\$ 141,792	\$ 141,792	\$ 141,792	\$ 141,792
Diesel Fuel Yard/trucking	\$ 18,000	\$ 13,203	\$ 13,203	\$ 20,488
Electricity	\$ 5,500	\$ 4,794	\$ 4,794	\$ 3,551
Loader rental	\$ 51,600	\$ 51,600		
Mechanical repairs	\$ 500	\$ 518	\$ 518	\$ 828
Small tools	\$ 180	\$ 22	\$ 22	\$ 160
Truck/Loader/scale maintenance	\$ 13,305	\$ 13,477	\$ 13,477	\$ 21,075
Contract Grinding/Hauling	\$ 18,000	\$ 13,214	\$ 13,214	\$ 34,129
Misc Prepaid Yard expenses	\$ 500	\$ 14	\$ 14	\$ 464
Propane heat	\$ 3,500	\$ 3,167	\$ 3,167	\$ 20,987
Veh Registration	\$ 1,535	\$ 1,559	\$ 1,559	\$ 1,447
Fees	\$ 180	\$ -	\$ -	\$ 180
Cleaning supplies	\$ 160	\$ -	\$ -	\$ 160
Software consultant	\$ 900	\$ -	\$ -	\$ 900
Highway use tax	\$ 550	\$ 550	\$ 550	\$ 550
Property tax	\$ 26,600	\$ 24,371	\$ 24,371	\$ 26,410
Wood Broker	\$ 35,000	\$ 35,000	\$ 35,000	\$ 35,000
Subtotal	\$ 317,802	\$ 303,281	\$ 303,281	\$ 308,120
Rental revenue				
Capital Paving	\$ (13,200)			
Total net cost	\$ 304,602			
Cost of Yard operations per ton	\$ 6.20			
Delivered cost of material	\$ 26.00			
Total Cost of wood fuel per ton	\$ 32.20			

DG 10 -  
 Concord Steam  
 Cost-Benefit Ratio Summary

Schedule CB-1

**Cogen Turbines - Benefit - Cost Analysis  
 Including Savings from Cogeneration of Electricity**

<i>Estimated cost to purchase all electricity from Unitil            (If there was no self generation)</i>	\$	193,123
<i>Cost of electricity with self generation</i>		
<i>Purchased power from Unitil</i>	\$	86,657
<i>Cost to generate electricity</i>	\$	<u>119,850</u>
<i>Subtotal all costs</i>	\$	<u>206,507</u>
<i>Revenue from sale of power</i>	\$	75,133
<i>Net cost of electricity for CSC</i>	\$	131,374
<b>Benefits:</b>		
Sale of Electricity to ISO	\$	75,133
Savings from generating own electricity in lieu of purchasing from Unitil	\$	<u>106,466</u>
Total Benefits from continuing Cogen	\$	<u>181,599</u>
<b>Costs:</b>		
Operating Expenses, Return and Fuel Costs for Self Generation	\$	<u>119,850</u>
	\$	119,850
<b>Benefits in Excess of Costs</b>	\$	61,749
<b>Benefit/Cost Ratio</b>		<b>1.52</b>

DG 10 -  
Concord Steam  
Benefit Computation

Schedule CB-2

**Benefits**

***Sale of Power to ISO-New England:***

<i>Volume of kWh's sold from 8/09 - 7/10</i>		1,495,996
Revenues received	\$	<b>75,133</b>
Rate per kWh	\$	0.050

<i>Estimated Cost if there was no Self Generation:</i>	\$	193,123
--	----	---------

***Savings from self-generation of Electricity:***

<i>Power purchased from Unitil</i>	\$	86,657
Value of avoided power purchase from Unitil	\$	<b>106,466</b>

Self generated Electricity Consumed (Excl. kWh purchased from Unitil)		1,076,804
Average Unitil cost \$/kWh	\$	0.10

***Total Benefits from Sales to ISO and Self-Generation***

DG 10 -  
 Concord Steam  
 Expense Detail

Schedule CB-3

Cost of Sales:	Turbine Generator Operating/Maintenance Costs		
	7/09-6/10	7/09-12/09	1/10-6/10
5-7051 Consumables/Mech.	\$ 765	433	332
5-7052 Pipe fittings	\$ 350		350
5-7053 Valves	\$ 605		605
5-7055 Misc. small tools	\$ 109	109	
5-7060 Consumables/Elec.	\$ -		
5-7065 Consumables/Structural Repairs	\$ 33	33	
5-7085 Rental Fees/Generator Maint.	\$ -		
5-7095 Repair Parts/Mech.	\$ 1,458	1189	269
5-7100 Repair Parts/Elec.	\$ 58	58	0
5-7110 Contract Maintenance & Repair	\$ -		0
Total Cost of Sales	<u>\$ 3,378</u>		

Expenses:		
Payroll	Maintenance - 40hrs @ \$25/hr	\$ 1,000
Depreciation		\$ 20,485
Amortization		\$ 436
Property Tax		\$ 1,016
Employer FICA		\$ 77
Bank Fees		
Telephone		\$ 600
Other Consultants		
Insurance/Plant		\$ 6,281
Employees Ins. Med.,etc.		\$ 200
Uniforms		
Total		<u>\$ 30,095</u>
Total Revenue Deductions		\$ 33,473

Net Operating Income (Loss) Before Taxes	
Federal Income Taxes	
Net Operating Income/(Loss) After Taxes	<u><u>\$ -</u></u>

**Summary of Revenue Requirements:**

Rate Base	\$ 144,044
Rate of Return	<u>7.24%</u>
Allowed Return	\$ 10,429
Net Operating Income, per above	\$ -
Revenue Requirements Deficiency/(Surplus)	<u>\$ 10,429</u>
Gross-up for Taxes (x 1.68)	<u><u>\$ 17,531</u></u>

DG 10 -  
Concord Steam  
Cost

Schedule CB-4

Costs

	Jan-10	Feb-10	Mar-10	Apr-10	May-10	Jun-10	Jul-09	Aug-09	Sep-09	Oct-09	Nov-09	Dec-09	Total
<b>Fuel:</b>													
Total kWh's Generated	532,800	427,200	352,800	182,400	136,800	9,600	50,400	16,800	2,400	14,400	343,200	504,000	2,572,800
Total kWh's Sold	292,687	205,897	161,465	81,438	35,459	1,467	49,805	15,429	3,369	15,155	337,445	296,380	1,495,996
\$ received from sales	\$ 18,997	\$ 11,365	\$ 6,048	\$ 2,902	\$ 1,526	\$ 154	\$ 1,575	\$ 555	\$ 104	\$ 696	\$ 12,386	\$ 18,825	\$ 75,133
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	1,853	1,486	1,227	634	476	33	175	58	8	50	1,194	1,753	8,949
Fuel cost \$/MMBtu	4.06	4.17	5.21	5.29	5.76	6.33	5.35	5.71	6.03	5.24	5.06	4.78	
Fuel Cost per MLb	\$ 7.79	\$ 8.00	\$ 9.99	\$ 10.14	\$ 11.05	\$ 12.13	\$ 10.25	\$ 10.94	\$ 11.55	\$ 10.04	\$ 9.71	\$ 9.16	
Total Fuel Cost of Steam	\$ 14,430	\$ 11,883	\$ 12,257	\$ 6,431	\$ 5,256	\$ 405	\$ 1,796	\$ 639	\$ 96	\$ 503	\$ 11,587	\$ 16,052	\$ 81,336
Total Fuel Cost of Steam	\$ 14,430	\$ 11,883	\$ 12,257	\$ 6,431	\$ 5,256	\$ 405	\$ 1,796	\$ 639	\$ 96	\$ 503	\$ 11,587	\$ 16,052	\$ 81,336
Overhead:	\$ 2,789	\$ 2,789	\$ 2,789	\$ 2,789	\$ 2,789	\$ 2,789	\$ 2,789	\$ 2,789	\$ 2,789	\$ 2,789	\$ 2,789	\$ 2,789	\$ 33,473
Total Overhead	\$ 2,789	\$ 2,789	\$ 2,789	\$ 2,789	\$ 2,789	\$ 2,789	\$ 2,789	\$ 2,789	\$ 2,789	\$ 2,789	\$ 2,789	\$ 2,789	\$ 33,473
<b>Return on Investment</b>													
Rate Base													\$ 144,044
Rate of Return													3.50%
Total Return on Investment	\$ 942	\$ 942	\$ 942	\$ 942	\$ 942	\$ 942	\$ 942	\$ 942	\$ 942	\$ 942	\$ 942	\$ 942	\$ 5,042
<b>Grand Total Costs</b>	\$ 18,161	\$ 15,614	\$ 15,988	\$ 10,162	\$ 8,987	\$ 4,136	\$ 5,527	\$ 4,370	\$ 3,827	\$ 4,234	\$ 15,318	\$ 19,783	\$ 119,850
Total Volume kWh's													<u>2,572,800</u>
Rate per kWh													<u>\$ 0.04658</u>

Purchased Power Costs  
 Cost Benefit Analysis  
 09/15/2008

DG 10 -  
 Concord Steam  
 Purchased Power Costs

Schedule CB-5

	Purchased Power kWh	Demand Charge	Energy Charge	Delivery Charge	Total	Cost \$/kWh
Jan-10	202	\$ 1,839	\$ 19	\$ 4	\$ 1,862	0.11
Feb-10	768	\$ 1,930	\$ 73	\$ 15	\$ 2,018	0.11
Mar-10	4,426	\$ 2,485	\$ 378	\$ 87	\$ 2,950	0.11
Apr-10	39,408	\$ 1,988	\$ 3,305	\$ 771	\$ 6,064	0.10
May-10	22,733	\$ 1,988	\$ 1,653	\$ 445	\$ 4,086	0.09
Jun-10	106,762	\$ 1,988	\$ 7,411	\$ 2,089	\$ 11,488	0.09
Jul-09	71,242	\$ 2,235	\$ 5,603	\$ 1,550	\$ 9,388	0.10
Aug-09	111,053	\$ 1,967	\$ 8,063	\$ 2,198	\$ 12,228	0.09
Sep-09	139,008	\$ 1,938	\$ 9,780	\$ 2,720	\$ 14,438	0.09
Oct-09	112,493	\$ 1,938	\$ 8,301	\$ 2,201	\$ 12,440	0.09
Nov-09	47,059	\$ 2,298	\$ 3,406	\$ 921	\$ 6,625	0.09
Dec-09	12,172	\$ 1,850	\$ 982	\$ 238	\$ 3,070	0.10
Total	667,326	\$ 24,444	\$ 48,974	\$ 13,239	\$ 86,657	

Average Cost/ \$ 0.10

**Concord Steam Corporation  
Cost Of Energy (COE)**

**DG 10 -  
Schedule-8**

Estimated cost of Wood Yard Operations

Tons of wood per year                    49,137  
Delivered cost of material     \$    26.00    \$1,277,572

		09	08
Yard Lease	\$ 141,792	\$ 141,792	\$ 141,792
Diesel Fuel Yard/trucking	\$ 18,000	\$ 13,203	\$ 20,488
Electricity	\$ 5,500	\$ 4,794	\$ 3,551
Loader rental	\$ 51,600	\$ 51,600	
Mechanical repairs	\$ 500	\$ 518	\$ 828
Small tools	\$ 180	\$ 22	\$ 160
Truck/Loader/scale maintenance	\$ 13,305	\$ 13,477	\$ 21,075
Contract Grinding/Hauling	\$ 18,000	\$ 13,214	\$ 34,129
Misc Prepaid Yard expenses	\$ 500	\$ 14	\$ 464
Propane heat	\$ 3,500	\$ 3,167	\$ 20,987
Veh Registration	\$ 1,535	\$ 1,559	\$ 1,447
Fees	\$ 180	\$ -	\$ 180
Cleaning supplies	\$ 160	\$ -	\$ 160
Software consultant	\$ 900	\$ -	\$ 900
Highway use tax	\$ 550	\$ 550	\$ 550
Property tax	\$ 26,600	\$ 24,371	\$ 26,410
Wood Broker	\$ 35,000	\$ 35,000	\$ 35,000
Subtotal	\$ 317,802	\$ 303,281	\$ 308,120

Rental revenue

Capital Paving    \$ (13,200)

Total net cost                    \$ 304,602

Cost of Yard operations per ton    \$ 6.20

Delivered cost of material    \$ 26.00

Total Cost of wood fuel per ton    \$ 32.20

	Nov	Dec	Jan	Feb	Mar	Apr	May
Wood	105,709	186,839	219,036	173,296	133,594	92,468	70,511
Misc. Yard Costs	11,463	11,177	8,593	8,856	11,998	11,586	8,316
Wood Brokers Fee	2,917	2,917	2,917	2,917	2,917	2,917	2,917
Woodyard Lease	11,816	11,816	11,816	11,816	11,816	11,816	11,816
Cost of Wood used for the Month	131,904	212,748	242,362	196,884	160,324	118,786	93,560
Oil	2,446	19,322	82,492	46,601	17,781	-	9,099
Fuel Additive	248	744	589	589	744	217	310
Cost of Oil used for the Month	2,694	20,066	83,081	47,190	18,525	217	9,409
Cost of Gas used for the Month	85,290	78,601	445	402	72,565	41,417	39,437
<b>Total Energy Cost for the Month</b>	<b>219,889</b>	<b>311,415</b>	<b>325,888</b>	<b>244,476</b>	<b>251,414</b>	<b>160,420</b>	<b>142,406</b>
<b>M lbs. Steam Delivered for the Month</b>	<b>12,298</b>	<b>22,692</b>	<b>24,708</b>	<b>23,431</b>	<b>14,034</b>	<b>7,863</b>	<b>3,575</b>

Contracts-Hauling	3,200	-	-	-	-	-	-
Utilities/fuel, lights etc.	543	2,074	739	1,592	1,029	465	196
Truck/Loader fuel	1,282	1,256	1,417	-	1,674	1,385	1,201
Misc. Exp./small tools	-	-	-	-	-	-	-
Taxes	2,138	2,138	2,138	2,138	2,138	2,138	2,619
Truck/Loader/Expense	-	1,293	-	739	1,189	3,190	-
Loader Rental	4,300	4,300	4,300	4,300	4,300	4,300	4,300
Mech. Repairs	-	117	-	72	146	108	-
Fee/Registrations/Use Tax	-	-	-	15	1,522	-	-

Jun	Jul	Total
37,535	40,716	1,059,703
9,452	7,332	88,772
2,917	2,917	26,250
11,816	11,816	106,344
61,719	62,781	1,281,068
535	1,427	179,703
744	465	4,650
1,279	1,892	184,353
13,260	9,834	341,253
		-
76,258	74,508	1,806,674
1,282	847	110,728

-	-	3,200
214	202	7,054
456	380	9,051
31	-	31
2,619	1,901	19,963
1,827	-	8,238
4,300	4,300	38,698
5	-	449
-	550	2,087

**Cogen Turbines - Benefit - Cost Analysis  
 Including Savings from Cogeneration of Electricity**

<i>Estimated cost to purchase all electricity from Unitil        (If there was no self generation)</i>	\$	193,123
<i>Cost of electricity with self generation</i>		
<i>Purchased power from Unitil</i>	\$	86,657
<i>Cost to generate electricity</i>	\$	119,850
<i>Subtotal all costs</i>	\$	<u>206,507</u>
<i>Revenue from sale of power</i>	\$	75,133
<i>Net cost of electricity for CSC</i>	\$	131,374

**Benefits:**

Sale of Electricity to ISO	\$	75,133
Savings from generating own electricity in lieu of purchasing from Unitil	\$	<u>106,466</u>
Total Benefits from continuing Cogen	\$	181,599

**Costs:**

Operating Expenses, Return and Fuel Costs for Self Generation	\$	<u>119,850</u>
	\$	119,850

**Benefits in Excess of Costs** \$ 61,749

**Benefit/Cost Ratio** 1.52