

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

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

**DG 12 - \_\_\_\_\_**

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

**September 12, 2012**

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 9 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, New Hampshire, and is the only steam utility in the state. It has 102 customers,  
20 all of which are located in the City of Concord and all of which are commercial or  
21 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. Does the Company's proposed cost of energy charge include any costs that were**  
4 **previously included in base rates?**

5 A. Yes. The Company is requesting that certain steam production costs that have historically  
6 been recovered through the Company's base usage rates be included in the Company's  
7 cost of energy charge. Specifically, the Company believes it is appropriate to recover  
8 costs related to water and sewer, water treatment chemicals, ash disposal, and the State of  
9 New Hampshire emissions fee through the cost of energy charge. All of these expenses  
10 are directly related to the production of the steam. When the new steam production plant  
11 comes on line, Concord Steam will become solely a distribution company, and will  
12 purchase a finished product from Concord Power and Steam, LLC. When this happens,  
13 all production costs will be included in the cost of energy charge. Thus, recovery of the  
14 above-described expenses through the cost of energy charge will more accurately reflect  
15 the true cost of steam production.

16 **Q. What is the current cost of energy charge?**

17 A. The current cost of energy charge is \$18.50 per Mlb (thousand pounds). In Order No.  
18 25,285, the Commission approved a charge of \$15.63 and permitted the Company to  
19 adjust the charge upwards or downwards as necessary within 20% of the approved  
20 charge. The current cost of energy charge reflects an upwards adjustment within the  
21 approved range during the year.

22 **Q. What was the amount of the over or under collection during the past year that the**  
23 **Company proposes to reconcile through the Cost of Energy charge for the upcoming**

1           **year?**

2    **A.**    The Company estimates that there will be an under collection of \$123,176 from the 2011-  
3           2012 Cost of Energy period. This is a change from the 2010-2011 over collection of  
4           \$53,911. Due to this under collection, as well as anticipated fuel costs and the production  
5           expenses that the Company proposes to include in the cost of energy, the Company is  
6           requesting an increase in its cost of energy charge to \$20.90/Mlb, as set forth in  
7           Schedule-1 to my testimony. This increase includes the above-described costs that the  
8           Company proposes to shift from the base usage rate to the cost of energy charge. The  
9           COE would only be \$18.66/Mlb if the additional production costs were not included.

10 **Q.    Please explain Schedule -1.**

11 **A.**    Schedule-1 is a table that lists the amount of steam that the Company forecasts it will sell  
12           during the period of November 2012 through October 2013, on a weather normalized  
13           basis. Also listed is the amount of fuel and the cost of the fuel that the Company expects  
14           to consume for the same period. Schedule-2 is the backup detail for Schedule-1.

15 **Q.    Please explain Schedules-3 and -4.**

16 **A.**    Schedule-3 is the worksheet showing how the steam sales figures were proformed based  
17           on the 30-year degree day average. Schedule-4 is the reconciliation of actual energy cost  
18           versus revenue for the 2011-2012 season. This shows an expected \$123,176 under  
19           collection for the year.

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

21 **A.**    As set forth in Schedule-6 to my testimony, the Company estimates that its customers  
22           will experience an approximate 3.5%% overall increase in their total bill. This increase is  
23           related to the recovery of last years under collection and anticipated fuel costs for the

1 upcoming year as set forth on Schedule-1.

2 **Q. Aside from the need to reconcile the under recovery from the prior period cost of**  
3 **energy, what are the other principal causes of the increase being proposed in the**  
4 **cost of energy for the upcoming heating season?**

5 A. The increase in cost is due to increases in the cost of wood and oil, plus the production  
6 costs that the Company proposes to add to the cost of energy. There has been a decrease  
7 in the cost of gas, but not enough to offset the other increases.

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

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

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

15 A. There have been no significant changes from the prior year. The Company has been  
16 burning wood since January 1, 2004. Wood has replaced oil and gas as the primary fuel,  
17 although the Company still uses some oil and gas. The Company has been burning  
18 natural gas and has reduced the amount of oil burned due to the lower price of natural  
19 gas. The Company plans to continue this through the coming year. The Company  
20 procures natural gas through a competitive bid process. This year the Company has  
21 contracted with Santa Buckley Energy. The small amount of oil is purchased on the spot  
22 market as needed. Approximately 70% of the steam is generated by burning wood in two  
23 of the four boilers used by the Company. The Company's other two boilers are used as

1 peaking units, and can burn natural gas, waste oil and oil.

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

3 A. The Company has entered into contracts for its wood supply that will result in an average  
4 delivered cost of approximately \$28/ton. Of this cost, approximately \$1.00 is for the  
5 actual cost of the wood, \$14.00 is for labor and chipping and \$13.00 for transport. A ton  
6 of wood is approximately equivalent to a barrel of oil in net steam energy output from the  
7 boiler. At the present cost of oil at \$100/bbl and gas at \$7.76/MMBtu (\$48/bbl  
8 equivalent), wood at total combined cost of \$35/ton is attractive and economical. The  
9 annual estimated savings to the Company's customers, including the allowance for  
10 additional direct costs associated with burning wood, is over \$300,000.

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

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

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

21 A. Yes. The lease of the yard and the direct cost of running the yard are included in the cost  
22 of wood fuel. The monthly lease payment for the wood yard is \$11,816. The direct costs  
23 are the maintenance of the equipment, diesel fuel for the front end loader and the delivery

1 truck, and utilities for the yard. These estimated costs are itemized on Schedule-8. The  
2 cost of labor has not been included in the cost of wood fuel which is consistent with how  
3 the costs of operating the wood yard have been treated in prior cost of energy  
4 proceedings.

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

6 A. The Company presently pre-purchases 25% of its wood fuel requirements and 90% of its  
7 fossil fuel requirements for the upcoming heating season. The remainder of the fuel is  
8 priced according to the estimated cost of fuel as of the time of this filing. As the great  
9 majority of the Company's consumption occurs during the heating season, any fuel cost  
10 changes later in the COE year will have a small effect on the annual charge. The  
11 Company is pre-buying market wood now for use later in the heating season. The wood  
12 the Company is buying now is being stored off site for reclamation during the heating  
13 season. The Company is expecting wood to be over 70% of total fuel consumed.

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

16 A. If the Company sells less steam in a year than forecasted, the amount of energy consumed  
17 is reduced as well. The reverse is also true, in that if sales increase, energy use would  
18 increase. This means that variations in steam sales will have a limited effect on energy  
19 recovery charges. However, line losses do remain constant and are not significantly  
20 affected by steam sales or weather. Therefore, a significant reduction in sales (such as  
21 that experienced by the Company last year), results in an under collection of the cost of  
22 energy. A change in steam sales can also result in a different mix of gas vs. wood fuel,  
23 which can change our cost forecasts.

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

2 A. The Company weather normalizes its Company's actual steam sales from August 1, 2011  
3 through July 31, 2012 to a 30-year degree-day average. See Schedule-3.

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

5 A. The Company tracks costs all year, and if the cost of energy changes significantly from  
6 the forecast, the Company will apply a cost of energy adjustment part way through the  
7 year within the adjustment band authorized by the Commission. At the end of the cost of  
8 energy year, the Company reconciles revenues collected versus the actual cost of energy  
9 and will carry forward a positive or negative balance as an adjustment to the energy cost  
10 calculation for the next year accordingly.

11 **Q. What was the amount of over or under collection, if any, for the 2011-2012 cost of  
12 energy year?**

13 A. As I noted earlier, the Company projects it will under collect \$123,176 for the period  
14 from November 1, 2011 to October 31, 2012, which is approximately 5% of its total  
15 energy charges for the year. This is itemized on Schedule-4, with the detail shown on  
16 Schedule-5. This under collection is primarily due to a very warm heating season  
17 (heating degree days were 84.3% of the 30 year average) and the resultant lower steam  
18 sales.

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

20 A. The Company lost three customers, including the New Hampshire Bindery, and did not  
21 add any customers.

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

23 A. The Company assumes a normal heating season, and will try to minimize the amount of

1 over or under collection by adjusting its energy rates during the year as allowed by the  
2 Commission. In past years, the Commission has authorized the Company to adjust its  
3 energy rates upwards or downwards by 20%.

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

5 A. The Company is requesting that the rate be implemented on a service rendered basis as of  
6 November 1, 2011.

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

8 A. Yes. The Company has continued to repair and upgrade underground steam lines. This  
9 is an ongoing process that is part of the Company's standard maintenance procedures.  
10 Last year the Company began using a thermal camera to document the conditions of its  
11 lines, and over the year has used it to pinpoint the locations of leaks that showed up as  
12 hot spots, all of which have been repaired. The Company has also completed a system  
13 survey, and this process will continue to be a important part of maintaining the system.

14 **Q. In its Order 24,147, the Commission required the Company to submit a cost benefit  
15 analysis of its steam turbine cogeneration operations. Has the Company performed  
16 such an analysis?**

17 A. Yes. As of January of 2005, the "Cogen" division of the Company was made part of the  
18 utility, and all of the costs and revenues from that operation became part of the regulated  
19 company. Order 24,147 requires the Company to justify that this combination makes  
20 economic sense. Schedules CB-1 through CB-5 provide the cost/benefit analysis with  
21 back up data.

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

23 A. Yes, from August 1, 2011 to July 31, 2012 the cogeneration system has saved the

1 Company (and ultimately its ratepayers) over \$39,000, from sales of excess electricity to  
2 ISO-NE and from avoiding buying power from Unitil. This savings is after all costs,  
3 including fuel, are taken into account.

4 **Q. Has any progress been made on development of the new steam plant project?**

5 A. Yes. The project has all of its city permits and the State and federal permits. As the  
6 Commission is aware, Concord Power and Steam, LLC now has contracts with parties  
7 who in the aggregate have committed to take 100% of the output of the facility. The  
8 project is in the process of arranging financing, with the intent to start construction this  
9 year. The Company anticipates that the new plant will be in service by December of  
10 2013. Once the financing plans have been finalized, the Company intends to submit its  
11 Steam Purchase Agreement to the Commission for final approval, as contemplated by the  
12 Commission's order in Docket DG 08-107.

13 **Q. What plans are there for future system work?**

14  
15 A. During the summer of 2013, a connection steam line will be installed along South State  
16 Street connecting the existing distribution system to the new steam plant on South Main  
17 Street. There are also some other portions of the system that are scheduled for repair in  
18 the summer of 2013. A thermal imaging study has been completed; however these plans  
19 could change as additional leaks occur.

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

21 A. Yes, it does.

22