

STATE OF NEW HAMPSHIRE
BEFORE THE
PUBLIC UTILITIES COMMISSION

Re: Concord Steam Corporation
Cost of Energy

DG 13 - _____

DIRECT PRE-FILED TESTIMONY
OF
PETER G. BLOOMFIELD

September 12, 2013

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

4 A. The current cost of energy charge is \$21.08 per Mlb (thousand pounds). In Order No.
5 25,436, the Commission approved a charge of \$21.08 and permitted the Company to
6 adjust the charge upwards or downwards as necessary within 20% of the approved
7 charge. The current cost of energy charge reflects that there have been no adjustments
8 during the year.

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

12 A. The Company estimates that there will be an under collection of \$99,071 from the 2012-
13 2013 Cost of Energy period. This is a change from the 2011-2012 under collection of
14 \$209,845. Due to this under collection, as well as anticipated fuel costs and the
15 production expenses that the Company proposes to include in the cost of energy, the
16 Company is requesting no change in its cost of energy charge of \$21.08/Mlb, as set forth
17 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 forecasts it will sell
20 during the period of November 2013 through October 2014, on a weather normalized
21 basis. Also listed is the amount of fuel and the cost of the fuel that the Company expects
22 to consume for the same 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 actual energy cost
3 versus revenue for the 2011-2012 season. This shows an expected \$99,071 under
4 collection for the 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, the Company estimates that its customers
7 will experience no increase in their total bill. The increase from the recovery of last years
8 under collection and the increase in the cost of gas was offset by the replacement of oil
9 with gas. The detail is as set forth on Schedule-1.

10 **Q. Aside from the need to reconcile the under recovery from the prior period cost of**
11 **energy, what are the other principal changes in the cost of energy for the upcoming**
12 **heating season?**

13 A. There is an increase in cost primarily due to the under recovery, however, the Company
14 expects to eliminate oil use this year and will replace it with additional gas purchases.
15 Natural gas prices have increased over last year, however, replacing expensive oil with
16 gas has offset this increase as well as the under collection amount

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

18 A. A change in the cost of diesel fuel will cause a corresponding increase or decrease in the
19 cost of wood. The loggers use diesel fuel to operate the logging equipment as well as the
20 delivery tractor trailer trucks. For every \$1.00/gal increase in diesel, the cost of wood
21 increases \$2.00/ton. Wet weather can also cause an increase in the cost of wood fuel, due
22 to production problems with working in wet forest lots. We are expecting wood prices to
23 remain the same as last year, although it is uncertain as to what the effect of the Berlin

1 wood fired plant coming on line is going to be.

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

3 A. We are planning on eliminating #6 oil from our fuel use this year. The Company has
4 been burning wood since January 1, 2004. Wood has replaced oil and gas as the primary
5 fuel, although the Company still uses some oil and gas. The Company has been burning
6 natural gas and will eliminate oil burned with recent boiler modifications. The Company
7 procures natural gas through a competitive bid process. This year the Company has
8 contracted with Hess. Approximately 80% of the steam is generated by burning wood in
9 two of the four boilers used by the Company. The Company's other two boilers are used
10 as peaking units, and can burn natural gas and oil.

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

12 A. The Company has entered into contracts for its wood supply that will result in an average
13 delivered cost of approximately \$28/ton. Of this cost, approximately \$1.00 is for the
14 actual cost of the wood, \$14.00 is for labor and chipping and \$13.00 for transport. A ton
15 of wood is approximately equivalent to a barrel of oil in net steam energy output from the
16 boiler. At the present cost of oil at \$100/bbl and gas at \$9.17/MMBtu (\$57/bbl
17 equivalent), wood at total combined cost of \$35/ton is attractive and economical. The
18 annual estimated savings to the Company's customers, including the allowance for
19 additional direct costs associated with burning wood, is over \$300,000.

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

21 A. No. The Company has been successfully operating the wood storage yard, and it has
22 gone very well. The yard gives the Company better control over its wood supply and has
23 allowed for some creative uses that have enabled the Company to keep the cost of wood

1 fuel low. The yard also allows for better timing of deliveries of wood to the plant. In
2 addition, by directly operating the wood yard, the Company has been able to use its
3 employees more efficiently. Personnel work at the yard in the winter and are able to
4 work at the plant in the summer for maintenance.

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

7 A. Yes. The lease of the yard and the direct cost of running the yard are included in the cost
8 of wood fuel. The monthly lease payment for the wood yard is \$11,816. The direct costs
9 are the maintenance of the equipment, diesel fuel for the front end loader and the delivery
10 truck, and utilities for the yard. These estimated costs are itemized on Schedule-8. The
11 cost of labor has not been included in the cost of wood fuel which is consistent with how
12 the costs of operating the wood yard have been treated in prior cost of energy
13 proceedings.

14 **Q. What other operating costs are included in the COE?**

15 A. The other operating costs are detailed in Schedule 9. These costs are ash disposal, State
16 of NH air permit fees, water and sewer costs, and boiler water treatment chemicals. The
17 inclusion of these costs were approved in 12-242, Order #25,499.

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

19 A. The Company presently pre-purchases 25% of its wood fuel requirements and locks in
20 the price of 100% of its fossil fuel requirements for the upcoming heating season. The
21 remainder of the fuel is priced according to the estimated cost of fuel as of the time of
22 this filing. As the great majority of the Company's consumption occurs during the
23 heating season, any fuel cost changes later in the COE year will have a small effect on the

1 annual charge. The Company is pre-buying market wood now for use later in the heating
2 season. The wood the Company is buying now is being stored off site for reclamation
3 during the heating season. The Company is expecting wood to be over 80% of total fuel
4 consumed.

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

7 A. If the Company sells less steam in a year than forecasted, the amount of energy consumed
8 is reduced as well. The reverse is also true, in that if sales increase, energy use would
9 increase. This means that variations in steam sales will have a limited effect on energy
10 recovery charges. However, line losses do remain constant and are not significantly
11 affected by steam sales or weather. Therefore, a significant reduction in sales results in
12 an under collection of the cost of energy. A change in steam sales can also result in a
13 different mix of gas vs. wood fuel, which can change our cost forecasts.

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

15 A. The Company weather normalizes its Company's actual steam sales from September 1,
16 2012 through August 31, 2013 to a 30-year degree-day average. See Schedule-3.

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

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

1 **Q. What was the amount of over or under collection, if any, for the 2012-2013 cost of**
2 **energy year?**

3 A. As I noted earlier, the Company projects it will under collect \$99,071 for the period from
4 November 1, 2012 to October 31, 2013, which is approximately 3.7% of its total energy
5 charges for the year. This is itemized on Schedule-4, with the detail shown on Schedule-
6 5.

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

8 A. The Company has not lost or added any customers this year.

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

10 A. The Company assumes a normal heating season, and will try to minimize the amount of
11 over or under collection by adjusting its energy rates during the year as allowed by the
12 Commission. In past years, the Commission has authorized the Company to adjust its
13 energy rates upwards or downwards by 20%.

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

15 A. The Company is requesting that the rate be implemented on a service rendered basis as of
16 November 1, 2013.

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

18 A. Yes. The Company has continued to repair and upgrade underground steam lines. This
19 is an ongoing process that is part of the Company's standard maintenance procedures.
20 The Company has been using a thermal camera to document the conditions of its lines,
21 and has used it to pinpoint the locations of leaks that showed up as hot spots, all of which
22 have been repaired. The Company has also completed a system survey, and this process
23 will continue to be a important part of maintaining the system.

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

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

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

10 A. Yes, from July 1, 2012 to June 30, 2013 the cogeneration system has saved the Company
11 (and ultimately its ratepayers) over \$126,000, from sales of excess electricity to ISO-NE
12 and from avoiding buying power from Unitil. This savings is after all costs, including
13 fuel, are taken into account.

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

15 A. Yes. The project has all of its city permits and the State and federal permits. The power
16 sales agreements with the State and the City have been canceled. We are working on
17 building a smaller project and are in discussions with equity partners and banks. The
18 project is in the process of arranging financing, with the intent to start construction this
19 year. The Company anticipates that the new plant will be in service by December of
20 2015. Once the financing plans have been finalized, the Company intends to submit its
21 Steam Purchase Agreement to the Commission for final approval, as contemplated by the
22 Commission's order in Docket DG 08-107.

23 **Q. What plans are there for future system work?**
24

1 A. During the summer of 2015, a connection steam line will be installed along South State
2 Street connecting the existing distribution system to the new steam plant on South Main
3 Street. There are also some other portions of the system that are scheduled for repair in
4 the summer of 2014, most notably sections of the main Pleasant St line. The thermal
5 imaging study is being updated and reviewed, so that these plans could change as
6 additional leaks occur.

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

8 A. Yes, it does.

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