

STATE OF NEW HAMPSHIRE
BEFORE THE
PUBLIC UTILITIES COMMISSION

Re: Concord Steam Corporation
Cost of Energy

DG 14 - _____

DIRECT PRE-FILED TESTIMONY
OF
PETER G. BLOOMFIELD

September 12, 2014

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 \$21.83 per Mlb (thousand pounds). In Order No.
5 25,589, the Commission approved a charge of \$20.83 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 was one adjustment during
8 the year. In March, the COE was raised by \$1.00 to \$21.83.

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 \$24,963 from the 2013-
13 2014 Cost of Energy period. This is a change from the 2011-2012 under collection of
14 \$38,425. Due to this under collection, as well as anticipated fuel costs and the production
15 expenses that the Company proposes to include in the cost of energy, the Company is
16 requesting no change in its cost of energy charge from \$21.83/Mlb to \$25.10/Mlb, as set
17 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 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 \$24,963 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. The increase in cost is due to the slightly higher wood price, a significantly higher natural
14 gas price and the under recovery.

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

16 A. A change in the cost of diesel fuel will cause a corresponding increase or decrease in the
17 cost of wood. The loggers use diesel fuel to operate the logging equipment as well as the
18 delivery tractor trailer trucks. For every \$1.00/gal increase in diesel, the cost of wood
19 increases \$2.00/ton. Wet weather can also cause an increase in the cost of wood fuel, due
20 to production problems with working in wet forest lots. We are expecting wood prices to
21 remain the same as last year, although it is uncertain as to what the effect of the Berlin
22 wood fired plant coming on line is going to be. There has been no noticeable effect from
23 Berlin yet, but they have had operational problems and are not running at full load.

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

2 A. We eliminated #6 oil from our fuel use this past year. The Company has been burning
3 wood since January 1, 2004. Wood has replaced oil and gas as the primary fuel, although
4 the Company still uses some natural gas.. The Company procures natural gas through a
5 competitive bid process. This year the Company has not decided on a supplier as of the
6 filing, the company is reviewing the bidding and performing bid analysis of the gas
7 pricing. Approximately 80% of the steam is generated by burning wood in two of the
8 three active boilers used by the Company. The Company's other boiler is used as a
9 peaking unit, and can burn natural gas.

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

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

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

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

1 addition, by directly operating the wood yard, the Company has been able to use its
2 employees more efficiently. Personnel work at the yard in the winter and are able to
3 work at the plant in the summer for maintenance.

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

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

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

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

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

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

1 season. The wood the Company is buying now is being stored off site for reclamation
2 during the heating season. The Company is expecting wood to be over 80% of total fuel
3 consumed.

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

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

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

14 A. The Company weather normalizes its Company's actual steam sales from September 1,
15 2013 through August 31, 2014 to a 30-year degree-day average. See Schedule-3.

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

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

23 **Q. What was the amount of over or under collection, if any, for the 2013-2014 cost of**

1 **energy year?**

2 A. As I noted earlier, the Company projects it will under collect \$24,963 for the period from
3 November 1, 2013 to October 31, 2014, which is approximately 0.8% of its total energy
4 charges for the year. This is itemized on Schedule-4, with the detail shown on Schedule-
5 5.

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

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

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

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

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

14 A. The Company is requesting that the rate be implemented on a service rendered basis as of
15 November 1, 2014.

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

17 A. Yes. The Company has continued to repair and upgrade underground steam lines. This
18 is an ongoing process that is part of the Company's standard maintenance procedures.
19 The Company has been using a thermal camera to document the conditions of its lines,
20 and has used it to pinpoint the locations of leaks that showed up as hot spots, all of which
21 have been repaired. The Company has also completed a system survey, and this process
22 will continue to be a important part of maintaining the system. 2 - 12" leaking
23 expansion joints were replaced this past year, and over 200 feet of underground pipe were

1 replaced and reinsulated as part of normal maintenance. We have re-insulated 4
2 manholes this year with a new insulation product that looks promising.

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

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

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

12 A. Yes, from July 1, 2013 to June 30, 2014 the cogeneration system has saved the Company
13 (and ultimately its ratepayers) over \$245,000, 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 development of the new steam plant project?**

17 A. Yes. The project has been revised to repower the existing facility on Pleasant St. The
18 environmental permits and the electrical interconnection study is underway. We are in
19 discussions with possible equity partners and banks, but serious discussions will not be
20 possible until the permitting is in hand. Once the financing plans have been finalized, the
21 Company intends to submit a filing to the Commission for final approval, as
22 contemplated by the Commission's order in Docket DG 08-107.

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

1 A. There are some portions of the system that are scheduled for repair in the summer of
2 2015, most notably some 12 “ expansion joints on the main Pleasant St line. The thermal
3 imaging study is being updated and reviewed, so that these plans could change as
4 additional leaks occur.

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

6 A. Yes, it does.

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