

**STATE OF NEW HAMPSHIRE  
PUBLIC UTILITIES COMMISSION**

**DG 07-098**

**CONCORD STEAM CORPORATION**

**2007-2008 Cost of Energy Adjustment**

**Order Regarding Cost of Energy Rate**

**ORDER NO. 24,800**

**October 31, 2007**

**APPEARANCES:** Sarah B. Knowlton, Esq., of McLane, Graf, Raulerson and Middleton, P.A., for Concord Steam Corporation; and F. Anne Ross, Esq. for the Staff of the New Hampshire Public Utilities Commission.

**I. PROCEDURAL HISTORY**

On September 10, 2007, Concord Steam Corporation, a public utility supplying steam service to approximately 109 commercial and institutional customers and one residential customer in Concord, filed a petition for authority to change its cost of energy (COE) rate for the period November 1, 2007 through October 31, 2008. Accompanying the petition was the pre-filed testimony of Peter G. Bloomfield, president of the Company. The proposed COE rate is \$15.78 per Mlb (1,000 pounds of steam), which is an 11.9 percent decrease compared to the projected weighted average COE rate of \$17.92 per Mlb in effect for the year ending October 31, 2007. The Commission issued an order of notice on September 19, 2007. There were no intervenors and the hearing was held as scheduled on October 16, 2007.

**II. POSITIONS OF THE PARTIES AND STAFF**

**A. Concord Steam Corporation**

At the hearing, Mr. Bloomfield addressed the following issues: (1) the proposed COE rate, reasons for the changes from the previously approved COE rate, and bill impacts, (2) fuel

purchase strategy, (3) sales forecast and unaccounted-for steam, (4) cogeneration operations, and (5) status of the lease with the State of New Hampshire, which owns the Company's steam plant.

Overall, the Company contends that it has presented sufficient evidence of the prudence of its purchasing decisions for fuel costs for the upcoming heating season and asks that the Commission approve the updated COE rate of \$14.38 per Mlb. Also, Mr. Bloomfield stated that the Company has been doing a benefit-cost analysis of its electric cogeneration for three or four years and that the analysis has consistently demonstrated that it is cost effective to cogenerate electricity. The Company contends that the analysis need not be performed every year and asked that it be relieved of the obligation of performing the cost-benefit analysis in the future.

### **1. Proposed COE Rate, Reasons for the Changes from Previously Approved COE Rate and Bill Impacts**

Mr. Bloomfield indicated that the original filing incorporated a proposed COE rate of \$15.78 per Mlb. However, after reviewing the filing with Staff, the proposed COE rate was reduced by \$1.40 per Mlb to \$14.38 per Mlb. The total amount of fuel cost was reduced from approximately \$2.9 million in the original filing to approximately \$2.7 million in the updated filing.

The updated COE rate of \$14.83 per Mlb is \$3.45 per Mlb, or approximately 20 percent, lower than the COE rate of \$17.83 per Mlb that was approved by the Commission for the 2006-2007 heating season. Mr. Bloomfield indicated that the projected 2007-2008 COE rate of \$14.38 per Mlb would be approximately 12 percent lower than the prior 2006/2007 year weighted average COE rates. The rate reduction is due primarily to the changes in the beginning balances of each respective COE year. That is, the beginning balance for the projected 2007-2008 COE year is estimated to be an over-collection of \$249,000, whereas the beginning balance of the prior 2006-2007 COE year was estimated to be an under-collection of approximately \$300,000.

Therefore, the year to year change in the beginning balances caused a \$549,000 reduction in the COE rate for the upcoming heating season. According to Concord Steam, the reduction associated with beginning balances is partially offset by a projected increase in fuel costs. Another factor that accounts for the increase in projected fuel costs is attributed to projected volumes. Concord Steam is projecting fuel sales based on a 30-year degree-day average, which yields higher projected steam sales.

## **2. Fuel Purchase Strategy**

With respect to Concord Steam's fuel purchase strategy, Mr. Bloomfield noted that most of its fuel supply is wood chips and shredded wood. A ton of wood is approximately equivalent to a barrel of oil in net steam energy out of the boiler. At the time of hearing, oil futures were approximately \$65 per barrel,<sup>1</sup> making wood at \$30 per ton attractive and economical, according to Concord Steam. The annual estimated energy savings to the Company's customers, including the allowance for additional direct costs associated with burning wood, is over \$1.3 million.

Mr. Bloomfield explained that the increases in fuel costs are driven in part by unit cost changes and in part by changes in sales volumes. Also, fuel costs change because of the ratio of oil to wood. That is, when it is colder, as it is forecast to be in the 2007-2008 heating season, the ratio of oil to wood changes in favor of more oil. That is because Concord Steam has two boilers that burn wood and two boilers that burn only oil or gas. When the Company gets to maximum capacity on the two wood boilers, any additional steam that needs to be generated is generated by using the two oil and gas boilers. When the weather gets colder, Concord Steam burns more oil and, since oil is more expensive than wood, the fuel costs increase. In the process of reviewing these wood and oil calculations, Mr. Bloomfield found that the original proposal needed to be

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<sup>1</sup> At the time of the filing in early September, the cost of crude was \$65 per barrel and had increased to approximately \$85 per barrel by the time of the hearing. Mr. Bloomfield noted that Concord Steam uses No. 6 residual oil and waste oil, which is less expensive than crude oil but which has also increased in cost.

updated. In the updated proposal provided at the hearing, Mr. Bloomfield reduced his estimated oil costs by approximately \$235,900, from \$1,520,015 to \$1,284, 115.

Concord Steam indicated that it was expecting that the fuel mix for the upcoming season would be approximately 70 to 75 percent wood chips and shredded wood and approximately 25 to 30 percent oil. Mr. Bloomfield stated that Concord Steam had pre-purchased approximately one-third of its expected wood requirements at prices ranging from \$18 to \$26 per ton with prices depending on the type of wood and quality of wood, and when and how it is delivered. In addition, the cost of wood is affected by the cost of diesel fuel since diesel fuel is not just used by truckers to transport the wood chips but is also used to operate all the equipment in the woods. According to Concord Steam, its cost of wood is also affected by PSNH's purchase of wood for the Schiller plant. Mr. Bloomfield asserts that PSNH is currently paying \$30 per ton, more than anyone else in New Hampshire is paying, and that such prices have caused Concord Steam's wood costs to increase by two to three dollars a ton on average. With respect to oil supplies, Concord Steam has pre-purchased an estimated two-thirds of its projected requirements at approximately \$62 per barrel.

### **3. Sales Forecast and Unaccounted-for Steam**

Mr. Bloomfield indicated that he initially develops a forecast of steam sales based on the 30-year average degree method. However, he believes that this method sometimes produces skewed results. In such instances, Concord Steam uses actual steam sales from recent years, plus judgment, to modify the steam sales. The sales forecast also takes into account the loss of approximately ten customers over the past few years, including the Pleasant View Nursing Home. The loss of these customers has resulted in an approximate 10 percent decrease in annual steam sales.

Unaccounted-for steam, meaning the difference between the steam produced and metered sales, was approximately 34 percent in 2006. By comparison, the unaccounted-for steam in 2005 was 25 percent. Mr. Bloomfield indicated that Concord Steam's unaccounted-for losses have to do with the heat losses in the distribution system, pointing out that whether Concord Steam is selling a lot of steam or a little steam, it still has to keep the pipes hot. The loss through those pipes is a relatively consistent number. In addition, Concord Steam found a leak and repaired it over the past summer.

#### **4. Cogeneration Operations**

Mr. Bloomfield indicated that the Company is required to submit a benefit-cost analysis pertaining to its cogeneration operations. This analysis indicates that the Company generated approximately 4 million kilowatt-hours of electricity last year. Of that total, the Company used approximately half for steam plant operations and sold the other half to the regional wholesale electricity market operated by ISO New England. Further, the analysis shows that Concord Steam achieved benefits of \$383,133 from two components: sale of power through ISO New England amounting to \$165,041 and avoided costs of electric purchases from Unitil amounting to \$218,092. The cost of self generation was \$238,356, resulting in a net benefit of \$228,164. According to Concord Steam, the benefit-cost analysis demonstrates that the cogeneration operation is cost effective, with a benefit-cost ratio of 1.61.

#### **5. Status of the Lease with the State of New Hampshire**

Mr. Bloomfield indicated that the State of New Hampshire contracted with Waldron Engineering (Waldron) about a year ago. Waldron recently issued a draft report recommending that the State continue to buy steam from Concord Steam, expand its use of steam and consider

expanding its use of steam. It also recommended that Concord Steam install newer, more efficient boilers and pollution control equipment.

The State did not ask Waldron to study the option of constructing a new plant. However, Concord Steam contends the new plant option is more attractive and indicated that it does not intend to stay at its current Pleasant Street location that it leases from the State. Concord Steam reports that its ultimate plan is to move to another location in Concord and expand its operations at this new location. The new plant would be a combined steam heat and power cogeneration plant, allowing the Company to sell steam heat in the winter and electricity in the summer, and more efficiently utilize the plant year round. Also, Concord Steam contends that it can increase its revenue by selling renewable energy credits with the generation of electricity from renewable power. Further, the new plant would also be able to burn significantly more wood than oil. By burning more wood than oil, Concord Steam contends that it can save on fuel costs since oil is more than twice the cost of wood. Currently, Concord Steam's fuel mix is approximately 70 to 75 percent wood chips and shredded wood. The new plant would be able to burn as much as 98 percent wood. Finally, according to the utility, the new plant option is much more attractive since it would allow Concord Steam to avoid working with old equipment in a very cramped site.

#### **B. Staff**

Staff expressed its support for the proposed 2007-2008 COE rate of \$14.38 Mlb and stated that it prefers to continue receiving status reports quarterly on the lease renewal discussions between Concord Steam and the State of New Hampshire.

### **III. COMMISSION ANALYSIS**

Based on our review of the record in this docket, we approve the proposed COE rate of \$14.38 per Mlb. as being just, reasonable and lawful as required by RSA 378:7. We note,

moreover, that Concord Steam's operations are consistent with the goal of encouraging the use of wood, a renewable fuel, as an energy source when economical. The Company estimated that the wood fuel is approximately 70 to 75 percent of its total fuel use. Further, we observe that the burning of wood, as compared to the burning of oil, is expected to produce an estimated savings of approximately \$1.3 million during the 2007-2008 COE period.

We do not approve Concord Steam's request at this time to be relieved of its obligation to file an annual cost-benefit analysis summarizing the prior year actual and projected cost effectiveness of running the turbines in the cogeneration of electricity. The cost-benefit analysis is an effective means by which the Commission can monitor Concord Steam's co-generation operations and determine if those operations continue to be cost-effective and in the public interest. Although the cost-benefit analysis has been positive over the past several years, that may not always be the case given the volatility of the energy markets. Furthermore, the circumstances under which we permitted Concord Steam to cogenerate electricity as part of its utility operations have not changed since that time. A fundamental change in operations, such as building a new plant, may make that reporting requirement moot, but until then the cost-benefit analysis shall be filed as required under, *Concord Steam Corp.*, 90 NH PUC 222 (2005).

**Based upon the foregoing, it is hereby**

**ORDERED**, that Concord Steam's proposed 2007-2008 COE rate of \$14.38 per Mlb effective November 1, 2007 on a service-rendered basis, is APPROVED; and it is

**FURTHER ORDERED**, that Concord Steam may adjust the approved COE rate of \$14.38 per Mlb upward or downward monthly based on Concord Steam's calculation of the projected over or under-collection for the period, but the cumulative adjustments shall not exceed 20 percent of the approved COE rate; and it is

**FURTHER ORDERED**, that Concord Steam shall provide the Commission with its monthly calculation of the projected over or under-calculation, along with the resulting revised COE rate for the subsequent month, not less than five business days prior to the first day of the subsequent month, and shall include a revised tariff if Concord Steam elects to adjust the COE rate; and it is

**FURTHER ORDERED**, that interest not be charged on the monthly over-collection or under-collection; and it is

**FURTHER ORDERED**, that Concord Steam file properly annotated tariff pages in compliance with this order no later than 15 days from the issuance date of this order, as required by N.H. Code Admin. Rules Puc 1603; and it is

**FURTHER ORDERED**, that Concord Steam continue to include a benefit-cost analysis for its co-generation operations annually in Company's COE filing.

By order of the Public Utilities Commission of New Hampshire this thirty-first day of October, 2007.

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Thomas B. Getz  
Chairman

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Graham J. Morrison  
Commissioner

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Clifton C. Below  
Commissioner

Attested by:

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Lori A. Normand  
Assistant Secretary