STATE OF NEW HAMPSHIRE

BEFORE THE

PUBLIC UTILITIES COMMISSION

Docket No. DE 10-195

DIRECT TESTIMONY OF

ROBERT J. BERTI and JAMES C. DAMMANN
of
NORTH COUNTRY PROCUREMENT, INC.

ON BEHALF OF CONCORD STEAM CORPORATION

Petition for Approval of a Power Purchase Agreement
Between Public Service Company of New Hampshire and
Laidlaw Berlin BioPower, LLC

December 17, 2010

Q. Please state your names and your backgrounds.

A . My name is Robert J. Berti. I am a New Hampshire licensed professional forester. I am president and co-owner of North Country Procurement, Inc (NCP). I have an AD in forestry from the University of Massachusetts and a BA in forestry from the University of New Hampshire. I have 45 years of experience in forestry in NH, with 25 years of experience in wood procurement. I am a former president of the New Hampshire Timberland Owners Association. I also own a forest management company that manages over 40,000 acres of timberland in New Hampshire and Vermont.

My name is James C. Dammann. I am a New Hampshire licensed professional forester. I am Treasurer and co-owner of NCP, which I formed in 1986 with Mr. Berti. I have a BS in Biology from Dartmouth College and a MS in Forest Economics from the University of New Hampshire. I have over 30 years experience in the procurement of wood for both the pulp & paper industry and the biomass power industry.

Q. Please explain NCP's business.

A. NCP is a wood procurement service company which has been in business for 25 years. We arrange for the purchase of wood fuel for major steam and/or power plants around New England which use wood as their primary fuel. We act as an agent for these plants, as opposed to a broker, as the individual plants pay the suppliers directly for wood fuel. NCP is responsible for maintaining an adequate inventory, monitoring the quality of the wood fuel, and maintaining relations with the suppliers we utilize at these various plants. We currently have nine different clients for which we are responsible for arranging delivery of some 1.3 million tons of wood fuel annually from about 200 different wood fuel suppliers. NCP also provides consulting services with regard to wood

fuel availability, procurement strategy, and other aspects of the wood fuel market. NCP has been responsible for several proposed wood fired power plant studies, mostly in New Hampshire--four of these plants are now operating successfully.

Q. Are any of your clients involved in this docket?

A. Yes. We have four clients involved in this docket, all as intervenors: Pinetree Power-Bethlehem, Pinetree Power-Tamworth, Bridgewater Power, and Concord Steam Corporation. However, we are providing testimony only on behalf of Concord Steam.

Q. Can you briefly explain the economics of producing wood fuel, particularly as it relates to cost.

A. There are many factors which influence the cost of producing wood fuel, including the following: size of the woodlot, size of the trees being harvested, the percentage of the trees being removed, topography, the markets for other more valuable products, the trucking distance from the market, and the price of diesel fuel. There are several variables that affect the "average" cost of production. NCP uses $25-26/ton price point as a benchmark for the average cost of producing wood fuel when the trucking distance is approximately 30-40 miles and a diesel fuel price of $3.00/gallon.

Q. Please briefly explain some of the dynamics of the wood fuel market, particularly with regard to the availability and price of the fuel.

A. There are three particularly strong forces which affect the availability and price of wood fuel in New Hampshire. The first is the market for pulpwood. The pulp industry remains a major force in Maine and its effect in New Hampshire is substantial. Despite the fact that New Hampshire no longer has any operating pulp mills, there remains a reasonably strong market for pulpwood, particularly in the northern half of the State.

There are four major satellite concentration yards in the State which supply pulpwood to the Maine/NY pulp mills. These yards are in Henniker, Rumney, Ossipee, and Shelbourne, NH. When markets for pulp wood are strong, the logging industry tends to produce pulp wood from an increasingly smaller part of the stem of a tree, decreasing the amount of wood fuel produced from that tree. So when pulp wood markets are strong, wood fuel production tends to decrease, and the effect on price and availability of wood fuel can be substantial.

Q. What is the second major factor which affects the availability and price of wood fuel?

A. The price of diesel fuel has a strong influence on the price paid for wood fuel. It is important since it takes an average of 2-2.5 gallons of diesel fuel to produce a ton of wood fuel. This is a cost which wood suppliers cannot avoid. In addition to increasing the cost of production, high diesel fuel prices also means high heating oil prices, and heating oil is a major source of home heat in New England. Consequently, when diesel fuel prices are high, demand for firewood and wood pellets increases putting added pressure on the availability of wood fuel for the wood fired power plants. Again, the effect of high diesel fuel prices on the availability and price of wood fuel can be substantial.

Q. What is the third major factor which affects the price and availability of wood fuel?

A. The third major factor affecting the price and availability of wood fuel is the weather. When ground conditions are favorable, such as in the middle of winter when the ground is frozen or in the summer when there has not been much rain, logging conditions are

favorable and logging operators can make wood products at a high level of production. When ground conditions are poor as a result of extensive rain, or worse when roads are closed due to the spring thaw, production of wood products can be slowed substantially. The effect of the weather on logging production and thus the availability of wood fuel affects all logging operators and as a result can be quite dramatic.

Q. Please explain what can happen due to the effect of a combination of these important factors on the wood fuel market.

A. The effect of a combination of these factors on the wood fuel markets can be very strong. In 2008, wood pulp markets were strong, diesel fuel prices were over $4/gallon, and there was a very wet summer and fall. Prices for wood fuel rose by about 20% in a short period of time due to these factors, and that price rise lasted well into 2009 as most plants struggled to maintain inventory. It is important to remember that these serious reductions in wood fuel inventories occurred after the closing of the pulp mills in Berlin and Groveton. Had they been open, the problem would have been exacerbated.

Q. Did all of the New Hampshire wood burning facilities experience the effect of these conditions?

A. Yes. The old adage "a rising tide lifts all ships" is appropriate to explain the effect when wood fuel prices are rising. All logging operators are affected by the weather, and the price of diesel fuel and the markets for pulp, firewood and pellets. They all compete for labor and stumpage (standing trees). When the demand for wood fuel exceeds supply, prices tend to rise as the wood fired power plants (and other wood using mills) try to attract additional supply.

Q. The PPA in this docket provides for a wood fuel adjustment for Laidlaw's

power price based upon the cost of wood fuel at Schiller. Is there any protection for ratepayers in tying Laidlaw's price for power to the price paid for wood at Schiller Station?

A. We do not believe there is any protection for ratepayers, as Schiller's wood price will be affected just as much as other plants by the factors we have identified. (See staff data request -01 Q-STAFF-022 – see 2008-2009) In fact, because of its size (50 MW) and the fact that Schiller is on the coast with some of its procurement radius in the ocean, Schiller almost always pays substantially more for its wood than the other existing wood burning facilities in NH.

Q. Please explain why Schiller pays more for wood than the other NH wood burning facilities.

A. Wood is a very dispersed resource. In the case of coal, concentrated points of supply allow for lower priced supply as the volume increases because large mines can take advantage of economies of scale. Wood fuel is directly the opposite. Everything else being equal, the more wood a plant requires, the more the wood will cost because the plant must draw from a longer distance, thereby increasing trucking costs. Over the years, we have used the following as a rule of thumb: A 15 MW plant will draw the vast majority of its wood from a distance of 30-40 miles; a 25 MW plant will draw the vast the majority of its wood from 50-60 miles; a 50 MW plant will draw the vast majority of its wood from 100+ miles. Because the ocean is part of its procurement radius, it is not uncommon for Schiller to draw wood from well over 100 miles away.

Q. What impact will Laidlaw have on the price of wood fuel at Schiller?

A. When a major new market for wood fuel comes online, the supply of wood must be

expanded to meet the new demand. In order to generate this new supply, prices tend to rise in order to attract new capacity to generate the supply. This is particularly true between plants where procurement areas overlap.

This effect can best be illustrated by the effect of Schiller on the existing IPP's back in 2006 when Schiller's wood boiler came online. The existing IPP's which shared their procurement areas with Schiller (those within about 125 miles) had to pay an additional 15%, on average, for their fuel in order to stay competitive in 2006 due to Schiller. Schiller is 118 miles from Laidlaw's proposed Berlin facility. Schiller commonly reaches 70-80 miles or more to the north for its wood fuel supply. Consequently, Schiller's procurement area overlaps with Laidlaw's even with Laidlaw's underestimated assumption of a 100 mile radius procurement area.(See below). The two facilities will compete for wood fuel and as the experience with Schiller itself illustrates, Laidlaw's entry in the marketplace will cause the price to rise at Schiller, in addition to all the other existing wood IPP's, above what it otherwise would in the absence of Laidlaw.

Q. Please describe Exhibit A attached to your testimony.

A. Exhibit A is a map of northern New England which shows the procurement radius for each of the six IPPs, Concord Steam, Schiller Station and Laidlaw. We have expanded Lailaw’s procurement radius to 125 miles. (See below).

Q. What is the purpose of Exhibit A?

A. Exhibit A demonstrates how Laidlaw, if constructed, will not only overlap but also consume the procurement radius of each of these entities with the exception of Schiller. The shaded area represents the White Mountain National Forest (WMNF) which does not permit chipping on logging operations and therefore is not available as a fuel source.

Because most of the WMNF is in close proximity to Berlin, Exhibit A shows why Laidlaw will have to reach further (especially south) for its fuel. It further demonstrates how Laidlaw will compete with the other entities for wood fuel within their own procurement areas and why prices will rise above what they would be in the absence of Laidlaw. In the case of Schiller, Exhibit A shows how Laidlaw will also compete directly with Schiller for wood fuel and cause the price at Schiller to rise also.

Q. Please describe Exhibit B.

A. Exhibit B is the same as Exhibit A but does not show the procurement areas of the IPPs and Concord Steam. We prepared Exhibit B to show just how much and where the Schiller and Laidlaw procurement areas intersect.

Q. Because the PPA uses Schiller's wood price as a benchmark for the price of power for Laidlaw, it is important that the price PSNH pays at Schiller be as low as possible. Do you feel that PSNH is aggressive in terms of paying the minimum price for its wood fuel at Schiller?

A. In addition to the added trucking expense compared to the existing wood fired plants, it is our opinion that Schiller has not been as aggressive as the existing plants in terms of paying wood suppliers the minimum necessary to fuel their plant. The first year of operation, Schiller paid suppliers $30/ton which was then more than 20% above the then market price for wood fuel. As further evidence of PSNH's lack of aggressiveness with regard to paying as little as possible for their wood fuel, PSNH did not participate in the federal biomass incentive program called BCAP (Biomass Crop Assistance Program) this past winter. All the other NH wood fired IPP's did participate. We estimate that PSNH could have saved ratepayers about $1,000,000 by participating in BCAP. Loggers would

also have benefited by at least $1,000,000+ if PSNH had participated in the BCAP program.

Q. According to testimony from Laidlaw at the NH SEC, the proposed Laidlaw facility would use approximately 750,000 tons annually. Please comment on Laidlaw's proposed wood consumption.

A. The 750,000 ton annual consumption estimate is inaccurate, and we believe it is a misrepresentation. PSNH's response to data request Staff- 033 is as follows: "assuming 65 MW net output and a capacity factor of 85%, the unit would output 484,000 MWh". At a net burn rate of 1.8 tons/MWh (see direct testimony of Richard C. Labrecque – page 5 ln 12-14) , annual consumption would be 871,200 tons. However, biomass IPP's including the existing NH Wood IPP's typically operate with a 90-95% capacity factor. Moreover, in PSNH's testimony before this Commission regarding the Schiller conversion to biomass, PSNH projected a 90-95% capacity factor for Schiller (DE 03-166 Order # 24276 pages 17-18). If Laidlaw achieves just a 90% capacity factor, its consumption would be approximately 922,428 tons per year. At a 95% capacity factor, Laidlaw would consume approximately 973,674 tons per year.

Q. Utilizing somewhere between 925,000 – 975,000 tons per year, from what distance do you believe Laidlaw will draw its wood supply?

A. Laidlaw's proposed plant will need to procure fuel from a distance of at least 125 miles in order to fuel the plant with 925,000-975,000 tons. Laidlaw is proposing to utilize the services of Cousineau Forest Products, a wood broker, to procure their wood fuel. Cousineau operates a concentration yard in Henniker NH, some 133 miles from Berlin. We have been advised by several of our current suppliers who operate 120-150

miles from Berlin that they have been approached by Laidlaw/Cousineau about potentially supplying wood fuel directly to the proposed Laidlaw plant in Berlin and to Cousineau's Henniker yard for the Laidlaw facility. We predict Laidlaw will reach into Massachusetts some 160 miles away to get the fuel it requires. Laidlaw testified at the NH SEC that it would extend its reach 100 miles for its wood fuel. We believe this was a misrepresentation of the distance Laidlaw will require to fuel the facility.

Q. If the Laidlaw PPA is approved as proposed and the plant is eventually built, what do you think will be the impact on the existing wood fired power plants in NH?

A. In short, if the Laidlaw plant is built with the support of the wood price adjustment in the PPA, we believe the existing biomass plants will be put at a significant competitive disadvantage. Much depends on the market for electricity and RECs. If the electricity and REC markets do not improve, the wood IPP's will have significant pressure on their operations. If the forces on the wood market described in our testimony combine to raise the price of wood fuel substantially, the existing wood plants will be at a distinct competitive disadvantage because Schiller is protected from wood fuel spikes by the ability to pass through fuel costs to ratepayers, and Laidlaw's power price tied to the price of wood fuel at Schiller, (cementing its ability to pay a higher price for wood).

Q. If the existence of Laidlaw caused one or more of the existing plants to cease operation, what would the impact on jobs be?

A. Each of these plants employs approximately 20 people directly, and their fuel purchases support approximately 100 direct and indirect jobs. Not only would these jobs be lost, but each town in which they are located would lose significant tax revenue.

Q. In your view, is it a bad idea to build a wood fired power plant in Berlin?

A. No. Berlin clearly needs the economic boost which would come from the construction of a wood fired power plant. We believe a smaller facility would be in the best interest of the State. Moreover, there are existing wood IPP's and proposed new wood IPP's which are smaller in scale that are ready and willing to enter into a PPA with the utility at significantly lower costs while not shifting the risk of fuel cost onto ratepayers. It is clearly in the interest of ratepayers if that happens. Finally, NCP has conducted a wood fuel analysis for a proposed wood fired power plant in The Berlin/Gorham area that considered available fuel and the impact on fuel price. Our report recommended a 25-30 MW plant.

Q. Does this conclude your testimony?

A. Yes it does