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July 9, 2010

Thomas S. Burack, Chairman  
Site Evaluation Committee  
N.H. Department of Environmental Services  
29 Hazen Drive  
Concord, NH 03302

Re: Laidlaw Berlin BioPower, LLC – SEC Docket No. 2009-02

Dear Chairman Burack:

Pursuant to Committee rules, I enclose an original and eighteen (18) copies of the following to be filed with the Committee:

- Supplemental Testimony of Louis T. Bravakis, Michael B. Bartoszek and Raymond S. Kusche on behalf of Laidlaw Berlin BioPower, LLC's; and
- Motion for Protective Order and Confidential Treatment for Power Purchase Agreement and Steady State System Impact Study.

If you have any questions, please contact Barry or me.

Sincerely,



Cathryn E. Vaughn

Enclosures

cc: Service List (w/enclosures)

**STATE OF NEW HAMPSHIRE  
BEFORE THE SITE EVALUATION COMMITTEE**

**Docket No. 2009-02**

**Application of Laidlaw Berlin BioPower, LLC**

**SUPPLEMENTAL TESTIMONY OF LOUIS T. BRAVAKIS ON  
BEHALF OF LAIDLAW BERLIN BIOPOWER, LLC**

1 **What is the purpose of your supplemental testimony?**

2 Since the time we filed the Application, some issues have been raised about our  
3 acquisition of wood to fuel the proposed plant. I will address those issues.

4 **Please describe your approach.**

5 There are two components to this analysis: fuel availability and fuel procurement. Fuel  
6 availability deals with the amount of wood available to provide fuel for the project. Fuel  
7 procurement deals with the actual wood harvesting, or the manner in which we will obtain the  
8 wood.

9 **Please summarize your points with respect to each issue.**

10 Regarding availability, we have consistently maintained that our project will require  
11 about 750,000 tons per year of fuel. We stand by that figure and we have no doubt that there is  
12 more than enough wood available to meet that requirement.

13 With respect to procurement, we are developing a proposed “sustainability” condition for  
14 attachment to the Certificate. Through this condition, we are committing to various procedures  
15 and practices to ensure that the fuel we procure is harvested in a sustainable manner.

16 **To what extent is availability a function of price?**

17 The two are very closely related. Ultimately, the ability to procure fuel is really a  
18 competitive issue because it is highly dependent on the price a plant can pay.

19 Even Mr. Liston readily acknowledges that availability is largely a function of price, as  
20 he stated at the June 25, 2010 Technical Session in Berlin, and as he also stated repeatedly in his  
21 pre-filed testimony (*see e.g.* pages 3-4 at line 37-38 and 1-2; page 4 at line 19-22; pages 4-6 with  
22 multiple examples of articles that tie availability to price, etc).

1 **Please describe for the Committee exactly what type of wood the plant will use.**

2 We will use what is commonly referred to as low grade wood. When I say low grade  
3 wood, I mean mostly the tops and branches that would be chipped up in the woods and delivered  
4 to the plant, as well as inferior grade trees or parts of trees that are unsuitable for higher value  
5 uses. Biomass plants play an important role in increasing revenues to landowners by providing  
6 markets for the lowest value products that might otherwise remain in the woods.

7 **Please elaborate on why Laidlaw believes there is more than enough wood to supply the**  
8 **plant.**

9 Today, wood brokers tell us there is more supply than demand for low grade wood. That  
10 makes perfect sense given recent experience. For example, just four years ago, there were three  
11 facilities utilizing low grade wood in the North Country: Fraser Pulp Mill in Berlin, Wausau  
12 Paper in Groveton, and Gilman Paper in Gilman, Vermont. In total, they consumed  
13 approximately 1.3 million tons of low grade wood per year. Based on this experience, we know  
14 for a fact there was substantial supply – far in excess of what we expect to use - just a few years  
15 ago. It is that type of real world experience that serves as one important, practical benchmark  
16 for us. There are other factors as well.

17 I think the parties who claim there is not enough wood fail to understand the complex  
18 nature of wood logistics in today's markets. For example, in his pre-filed testimony (at page 4),  
19 Mr. Liston suggested that there is a "maximum 50 mile radius" for biomass plants to obtain  
20 wood. That simply is not correct. Most facilities today rely on complicated supply systems that  
21 utilize both direct hauling of wood, where trucks may return empty, and "back hauls" where  
22 trucks carry one product in one direction and "back haul" another product in another direction.

1 Today, facilities in New Hampshire are receiving low grade wood by truck utilizing  
2 direct hauls from up to 80 miles and, with back hauls, from a distance of up to 200 miles.

3 Specific examples include the following:

- 4 • Indeck Energy Services, Alexandria, NH – receives wood from up to 80 miles by direct  
5 haul and up to 150 miles with back hauls;
- 6 • New England Wood Pellet, Jaffrey, NH - receives wood from up to 80 miles by direct  
7 haul and up to 200 miles with back hauls;
- 8 • Springfield Power, LLC, Springfield, NH - receives wood from up to 80 miles by direct  
9 haul and up to 150 miles with back hauls; and
- 10 • D.G Whitefield, LLC, Whitefield, NH receives wood from up to 80 miles by direct haul  
11 and up to 150 miles with back hauls.

12 As I will discuss shortly, we remain completely confident in the LandVest analysis and  
13 the conclusion that there is more than enough wood to supply the plant within a 100 mile radius  
14 of Berlin. However, as a practical matter, that analysis was never intended to draw a hard line as  
15 to the distance from which we will obtain wood.

16 **Why didn't the LandVest report include this type of analysis?**

17 It wasn't necessary. As LandVest said in its March 10, 2010 Addendum (at page 1), the  
18 purpose of the report "was to provide a broad overview and estimate" of the biomass available  
19 within 100 miles. As we have said repeatedly, and as LandVest noted, it was always our  
20 intention to conduct more detailed analyses at a later date. The LandVest report was always  
21 intended to be an initial, high level planning tool.

22 As a practical matter, no biomass plant actually draws a circle on a map and limits its fuel  
23 acquisition to within that circle. People familiar with how wood moves in today's markets

1 recognize that, and it is clearly illustrated by the above examples. LandVest used that  
2 mechanism – a circle- as a practical method to estimate how much productive forest land and  
3 potential supply were within that area.

4 However, the reality is that a given plant’s supply area does not look like a circle but, for  
5 lack of a better description, it looks more like an octopus or an amoeba. It may be that some  
6 forests close to the plant may not provide any biomass (wilderness areas, for example) while  
7 areas at the tips of the arms of the octopus may provide substantial supply (as in the back-haul  
8 example cited above).

9 So, for example, in his pre-filed testimony (at page 21), Mr. Liston criticizes LandVest  
10 for “inappropriately” including Cheshire County in its study area because “none of Cheshire  
11 County is within a 100 mile radius of Berlin.” As noted, that criticism entirely misses the point  
12 about the reality of wood movement and further illustrates why trying to base refined criticisms  
13 of the LandVest report on what is inside and outside the 100 mile circle really adds nothing of  
14 value to this analysis.

15 Biomass is a byproduct of a timber harvest which means that without an integrated  
16 harvest focused on the highest value logs, the biomass would not be gathered. Landowners and  
17 logging contractors do not conduct timber harvests for biomass alone unless the land is being  
18 cleared for a change of use in which case they get paid for services rendered or land sold. To  
19 illustrate this point and the complexities of the wood movement in the Northeast one can look at  
20 the movement of finished lumber from Canada to metro New York with a back haul of high  
21 quality logs from forests in southern New York or Connecticut. The timber sales that generate  
22 the high quality logs also have biomass for sale which can be back hauled from trucks bringing

1 bark from Maine to New York. This example illustrates the complex reality of how the efficient  
2 use of trucking ties forest commodities to regional markets.

3 **It has been suggested the LandVest Report contained several errors. Please comment on**  
4 **that.**

5 We disagree. But before I speak to a few of those criticisms, I think it is again important  
6 to place them in context. For the most part, those criticisms are based on a fundamental  
7 misunderstanding of the reality of how wood moves today and ignores the concept I discussed  
8 above that a plant's supply area is not a neatly defined circle, but a much more complex, and  
9 shifting shape. Again, the Cheshire County example referenced above illustrates that point.

10 The same can be said for how PSNH's Schiller Station in Portsmouth procures a large  
11 quantity of its material. For years the wood generated through economic activity (land clearing,  
12 electrical line maintenance, etc.) in southeastern Massachusetts was trucked up I-95 to biomass  
13 plants in Maine. But when the Schiller Station began buying wood, their location south of the  
14 Maine plants allowed them to intercept much of this wood: a new market closer to the source of  
15 supply.

16 At page 14 of his pre-filed testimony, Mr. Liston claims there are "significant math  
17 errors" in Table 1 of the LandVest study that alter the total amount of wood assigned to facilities  
18 in the study area. I understand why he would reach that conclusion, although he is not correct.  
19 The chart is somewhat confusing because LandVest adjusted the numbers based on interviews  
20 with various biomass suppliers. LandVest should have clarified that point. Notwithstanding that  
21 issue, there are no math errors in the chart and LandVest stands by its ultimate conclusions.

22 On page 16 of his pre-filed testimony, Mr. Liston criticizes LandVest for supposedly  
23 failing to account for large biomass users outside the 100 mile radius who draw some of their

1 supply from within that 100 mile radius. He lists various entities that he believes should have  
2 been included, among them, Canadian companies. In fact, LandVest did account for Canadian  
3 users and adjust accordingly, so this criticism is unfounded. *See* LandVest Addendum at 3. As  
4 for the remaining companies Mr. Liston lists, when the Canadian companies are subtracted from  
5 Mr. Liston's total, the new total is 2.39 million tons. Using Mr. Liston's figure of 10% being  
6 within the LandVest basket, this amounts to a supposed discrepancy of only 239,000 tons, not  
7 the 549,000 tons he calculated. This exercise simply further illustrates the point that reasonable  
8 people can argue about such subtleties but ultimately, they have negligible impacts on the final  
9 conclusions and entirely sidestep both the complex realities of wood movement, referenced  
10 earlier, and the fact that the LandVest report was intended to be a broad estimate.

11 On page 22 of his pre-filed testimony Mr. Liston suggests that the LandVest study  
12 "identifies or implies that Federal land is available as a significant source for its supply".  
13 We do not understand how Mr. Liston could have reached such a conclusion but the short answer  
14 is that LandVest is not making that assumption. *See e.g.* LandVest Report, Table 3. The federal  
15 contribution in the wood basket is comparatively minor.

16 In sum, we stand by the LandVest Report and the Addendum. They accomplish their  
17 goal: showing that based on a "broad overview and estimate," there is more than enough  
18 biomass within a 100 mile radius to supply the plant. Reasonable people can argue about details  
19 that may affect the margins, but such a debate does nothing to alter the general conclusion of the  
20 report and still entirely misses two critical points: (1) very recently this area supplied over 1.3  
21 million tons of low grade wood to plants that are now out of business; and (2) low grade wood  
22 readily flows in today's markets at distances well beyond the boundaries of LandVest's broad  
23 study area.



1 **Mr. Liston included in his pre-filed testimony reference to a newspaper article reporting**  
2 **about the supposed decline in forest cover across the northeast United States. Please**  
3 **comment on that article.**

4 The article made reference to a report which suggested there has been a decline in forest  
5 cover. *See* Liston pre-filed testimony at 27-28. According to the article, at least one of the  
6 report's suggestions was to focus long-term conservation efforts on keeping "forest land  
7 permanently free of development." *Id.* In that respect, our project will help support that effort  
8 because by providing a market for low grade material, we help encourage healthy forest  
9 management and, we hope, provide some disincentive for landowners to clear their land and  
10 develop it.

11 The article also stated that the report's authors believe significant land "should be  
12 deemed 'managed woodlands' that can be used for nature tourism and recreation, while  
13 providing critical habitats for plants and animals." *Id.* In fact, before this article was published,  
14 we addressed this same point in our responses to the New Hampshire Sierra Club's data requests:

15 Further, according to the New Hampshire Wildlife Action Plan "*The greatest*  
16 *current and future danger for New Hampshire's wildlife is conversion of wildlife*  
17 *habitat into surfaces and structures – in a word, development.*" [Emphasis added].  
18 The Project will, in part, replace the market lost when various large end-users shut  
19 down in recent years. In turn, that will allow landowners to manage their  
20 timberlands in a manner that keeps them as a working forest. A healthy working  
21 forest managed in a sustainable manner is the best defense against the loss of  
22 wildlife habitat through land clearing and development.

23  
24 *See* Laidlaw Response to NHSC Data Request No. 5,

25 **Do you have any comment on the June 10, 2010 "Biomass Sustainability and Carbon Policy**  
26 **Study" prepared by the Manomet Center for Conservation Sciences?**

27 This is a Massachusetts study that attracted some attention when it was released. The  
28 study questioned the carbon neutrality of biomass power generation. It was criticized almost

1 immediately. For example, Bob Cleaves, President and CEO of the Biomass Power Association,  
2 stated that

3 on initial review the Biomass Power Association finds the Manomet report is  
4 based on assumptions that do not accurately reflect real world practices... The  
5 report's authors appear to focus primarily on growing and harvesting trees for use  
6 in the generation of energy. For decades, the biomass industry has taken forest  
7 and agricultural by-products—everything from rice hulls, to sugar cane wastes, to  
8 wood residues from the forest products industry—to generate electricity. These  
9 materials, which are collected sustainably, would otherwise be dumped in  
10 landfills, openly burned, or left as fodder for forest fires. When you do the  
11 “math,” the carbon equation for this form of biomass is dramatically favorable.

12  
13 See Exhibit 1. Manomet released a June 21, 2010 clarification. See Exhibit 2. Among other  
14 things, the clarification stated that the “carbon debt” can be turned in to a “carbon benefit” when  
15 burning biomass depending on several factors. In turn, Manomet stated that unless the factors  
16 have been evaluated, “it is difficult to draw conclusions about GHG [greenhouse gas]  
17 implications of using wood.”

18 Furthermore the Pinchot Institute for Conservation, a contributor to the Manomet Study  
19 issued a Press Release that stated the following:

20 Bioenergy technologies, even biomass electric power compared to natural gas  
21 electric, look favorable when biomass waste-wood is compared to fossil fuel  
22 alternatives.

23  
24 See Exhibit 3. We agree with the criticisms of the study. As Mr. Cleaves noted,

25 respected scientific and environmental groups like the Union of Concerned  
26 Scientists and The Forest Guild have expressed strong support for converting  
27 sustainable biomass to electricity. ... Time again, virtually every federal agency  
28 that has looked at the carbon issue—the Department of Energy, USDA, EPA—  
29 has recognized the benefits of biomass.

30  
31 Exhibit 1. The Manomet Study also conflicts with the study performed by The National  
32 Renewable Energy Law (NREL). NREL is connected with the United States Department of  
33 Energy. That study has been included in the record of this proceeding.

1 **Turning to fuel procurement, or “sustainability” issue, how is Laidlaw addressing that?**

2 As I mentioned, we intend to propose a Certificate Condition that will address this issue.

3 Our goal is to strike a balance between being a leader in advocating for good forestry practices  
4 while also ensuring that we do not preclude our ability to secure the necessary wood supplies we  
5 will need and risk jeopardizing our project financing.

6 To create this proposal, we began with the recognition that there is already a well  
7 developed set of laws that govern timber harvesting in New Hampshire. Those laws regulate  
8 landowners and harvesters, not the end users of timber products. For example, RSA 227-J deals  
9 generally with timber harvesting. It governs how timber may be cut and cross references to  
10 various other New Hampshire laws, all designed to protect the environment. *See e.g.* RSA 227-  
11 J:6 (governing timber cutting in and around wetlands and cross-referencing to RSA 482-A); RSA  
12 227-J:7 (governing alteration of terrain issues associated with timber cutting and cross  
13 referencing to RSA 485-A). State law also regulates timber cutting near certain waters and  
14 public highways. RSA 227-J:9. Slash and mill residue are regulated. RSA 227-J:10. Forestry  
15 activities around shore lands are heavily regulated. RSA 483-B.

16 There are also numerous voluntary programs in place that address timber management.

17 For example,

- 18 • The American Tree Farm System (ATFS) has operated in New Hampshire for many  
19 years. Private landowners operating ATFS-certified tree farms must meet standards and  
20 guidelines that include having foresters developing management plans that meet strict  
21 environmental standards and pass inspections on a periodic basis.

- 1 • The New Hampshire Current Use (and its equivalents in neighboring states) system  
2 permits owners of forest land to enroll that land in the program in return for certain tax  
3 benefits.
- 4 • In excess of 230,000 acres in the study area is sustainably managed timber land certified  
5 by the Forest Sustainability Council.
- 6 • In excess of 1 million acres in the study area is timber land certified by the Sustainable  
7 Forestry Initiative.
- 8 • Conservation easements govern timber management in many parts of the study area and  
9 often mandate the use of specific forestry practices.
- 10 • Both the Vermont Forest Practices Act and the Maine Forest Practices Act heavily  
11 regulate timber harvesting in those jurisdictions.

12 We developed our proposal by trying to draw heavily on this existing regulatory and voluntary  
13 framework.

14 **Mr. Liston asserted in his pre-filed testimony (at page 35, lines 10-11) that “It is an illusion**  
15 **to think that the local area will not be overharvested in the 70 MW Laidlaw scenario.”**

16 **Please comment on that.**

17 We strongly disagree for many reasons. Again, I start with real world experience. As I  
18 noted, in the recent past, several facilities drew almost twice as much wood from this area as we  
19 intend to use. They did so for an extended period of time and the area did not experience the  
20 type of adverse impacts suggested here.

21 This assertion also no doubt continues to assume that we will have to obtain all our wood  
22 from a 50 mile radius since, according to Mr. Liston’s testimony, that is the maximum supply  
23 radius. See Liston at 4. I have already addressed that issue and demonstrated it is simply not

1 correct because it fails to recognize the reality of how wood moves and the fact that supply areas  
2 today are irregularly shaped and draw from much greater distances than 50 miles.

3 Our discussions with wood suppliers also suggest that there is a glut of low grade wood  
4 available today and significant pent up demand.

5 Finally, the biomass that supplies the power plants generates the least return for the  
6 landowner and, as stated previously, is a component of an integrated timber harvest. Put another  
7 way, timber sales are not conducted for biomass alone. This is because there are no economic  
8 incentives for a landowner to sell higher value material, pulp logs, pallet logs and high grade logs  
9 into a biomass market at a significant loss. If this were true the lands surrounding the 16  
10 biomass power plants in New Hampshire would all have been overcut years ago, and that has not  
11 occurred.

12 **Does that conclude your supplemental testimony?**

13 Yes, it does.

**EXHIBIT 1**



**For Immediate Release:** June 10, 2010

**Media Contact:** Carrie Annand at (202) 470-5367; [CarrieAnnand@rational360.com](mailto:CarrieAnnand@rational360.com)

## **Biomass Power Association CEO: Massachusetts Biomass Study Badly Misrepresents Biomass Industry Practices**

**WASHINGTON, DC** – Following is a statement by Bob Cleaves, President and CEO of the Biomass Power Association, in response to a study released today by the Manomet Center for Conservation Sciences on biomass sustainability in the state of Massachusetts:

“We continue to review the findings of the study, but on initial review the Biomass Power Association finds the Manomet report is based on assumptions that do not accurately reflect real world practices.

“The report’s authors appear to focus primarily on growing and harvesting trees for use in the generation of energy. For decades, the biomass industry has taken forest and agricultural by-products—everything from rice hulls, to sugar cane wastes, to wood residues from the forest products industry—to generate electricity. These materials, which are collected sustainably, would otherwise be dumped in landfills, openly burned, or left as fodder for forest fires. When you do the “math,” the carbon equation for this form of biomass is dramatically favorable.

“Biomass power is utilized and recognized for its sustainability across the country. Virtually every state in the country that mandates using renewable energy has endorsed the use of biomass power as a clean, carbon-neutral, renewable energy source. In fact, the California Air Resources Board – known across the country for its tough environmental standards – recently deemed biomass to be exempt from California’s cap and trade program, supporting the biomass industry’s status as an important renewable energy source.

“Additionally, respected scientific and environmental groups like the Union of Concerned Scientists and The Forest Guild have expressed strong support for converting sustainable biomass to electricity.

“Time again, virtually every federal agency that has looked at the carbon issue—the Department of Energy, USDA, EPA—has recognized the benefits of biomass.”

Biomass power is a \$1 billion industry with 80 facilities in 20 states and provides over 18,000 jobs nationwide. Power plants are predominately located in rural communities, creating thousands of jobs and producing millions in revenue for small towns. Biomass power is a clean and abundant source of electricity that will allow states to pursue even more aggressive goals for increasing their use of renewable energy in the future.

**Contact Carrie Annand at (202) 470-5367 or  
[CarrieAnnand@rational360.com](mailto:CarrieAnnand@rational360.com).**

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*The Biomass Power Association is a member-driven organization with the goal of increasing the use of biomass power and creating new jobs and opportunities in the biomass industry. As policymakers at every level explore ways to lower greenhouse gases and reduce America's dependence on foreign oil, BPA is the leading advocate at the state and federal level for a strong commitment to clean, renewable biomass energy. Members include local owners and operators of existing biomass facilities, suppliers, plant developers and others all across the U.S. For more information please visit [www.BiomassPowerAssociation.org](http://www.BiomassPowerAssociation.org).*

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**EXHIBIT 2**

## STATEMENT FROM MANOMET ON THE BIOMASS STUDY

21 June 2010

There has been much press coverage of our study about using forest biomass for energy in Massachusetts. This study was commissioned and funded by the Massachusetts Department of Energy Resources (DOER). Many of the resulting press articles have oversimplified the results. Indeed, a key lesson of the study is that understanding the greenhouse gas (GHG) impacts and benefits of using wood for energy is more complex than most people have assumed, and that a lifecycle assessment is needed in order to assess these GHG costs and benefits. Here Manomet seeks to provide some additional clarifying comments about the study given the substantial press coverage that followed the release of our report on June 10, 2010. The study can be downloaded from [www.manomet.org](http://www.manomet.org). Manomet encourages interested parties to read the report, or at least the Executive Summary, to understand first-hand what the study concludes.

One commonly used press headline has been ‘wood worse than coal’ for GHG emissions or for ‘the environment.’ This is an inaccurate interpretation of our findings, which paint a much more complex picture. While burning wood does emit more GHGs initially than fossil fuels, these emissions are removed from the atmosphere as harvested forests re-grow. As discussed in more detail below, the timing and magnitude of the recovery is a function of forest productivity, land management choices, and technology and fuel characteristics.

To help stakeholders and policy makers gain a more accurate and complete understanding of the study results, some of the key points found in the report are listed below.

- First, the study addresses only the carbon cycle implications of biomass harvested from actively managed, natural forests. The study did not analyze woody biomass from other sources, for example biomass plantations, land clearing, tree work and landscaping wastes, or construction waste. These materials can be important potential sources of biomass—ones that likely have very different carbon cycle implications than biomass from natural forests—and merit careful and separate consideration in biomass policy development.
- Second, the study did not analyze the impacts of non-GHG pollutants emitted from energy generation facilities (e.g., particulate matter, NO<sub>x</sub>, SO<sub>2</sub>, or other hazardous air pollutants such as mercury). Emissions of these pollutants vary considerably between wood and fossil fuel energy systems, and are an important consideration in determining the relative merits of biomass and fossil fuels.
- Third, the study clearly states that it focuses on the forest and energy situation in Massachusetts. While the study methodology is transferable to other regions of the country, the specific results of our analyses, particularly the carbon cycle implications, cannot be readily applied to states where the biophysical characteristics of forests, forest management practices and energy sector differ significantly from Massachusetts.
- Fourth, based on the results of our economic analysis of potentially available wood supplies, the report concluded that, overall, biomass harvests in the state would include a mix of logging residues (tops and limbs) and low-quality whole trees or logs (pulpwood and low-grade sawlogs). The relative proportions of these materials in the biomass feedstock have an important effect on the timing of GHG impacts and benefits to the atmosphere. The report further stated that these proportions will be different in other situations or states, and that conclusions about the impacts on the atmosphere will necessarily be different. Each state or situation (or even specific biomass facility) would need to do its own analysis to properly evaluate the GHG costs or benefits.
- Fifth, there has been some confusion about whether our assessments of GHG implications are based on a ‘lifecycle’ analysis of biomass and fossil fuel carbon emissions. In fact, the study considers the

21 June 2010

'upstream' costs of producing and transporting both biomass and fossil fuels, and the stack emissions from burning these fuels. Capture of carbon in growing forests is also part of our lifecycle framework.

- Sixth, the study makes no recommendations regarding the development of specific policies to address GHG emissions from biomass. The intent of the study is simply to provide the best possible information and analysis of the carbon cycle implications to Massachusetts decision makers as they develop biomass energy policies for the state. These decision makers will need to carefully weigh the relative importance of nearer term increases in GHG emissions against longer-term benefits.

The study did show that using wood for energy generally results in greater emissions of GHGs per unit of energy than using fossil fuel. These differences are a function of the lower embedded energy content of wood relative to fossil fuels, inclusion of emissions from upstream production and transportation of fuels, as well as differences in the efficiency of the various energy generation technologies. The report called the excess emissions from burning biomass for energy the *carbon debt*. But because trees can grow back, this debt can be paid off and a *carbon dividend* can be achieved as GHG levels are reduced to levels lower than they would have been had only fossil fuels been burned.

The length of time it takes to pay down the debt and realize dividends depends on four factors:

1. The lifecycle of the wood (e.g., logging debris, whole trees, trees vulnerable to catastrophic events) in the absence of the biomass energy opportunity.
2. The type of energy that will be generated (heat, electricity, combined heat and electricity), because different types have different efficiencies and thus different CO<sub>2</sub> emissions profiles.
3. The type of fossil fuel being displaced (coal, oil, or natural gas), because different fuels have different emissions profiles.
4. The management of the forest—management can either slow or accelerate forest growth, and therefore recovery of carbon from the atmosphere.

**Unless these factors have been assessed, as they have in our report for Massachusetts, it is not possible to estimate the time it would take to pay off the debt or the magnitude of the carbon dividends—making it difficult to draw conclusions about GHG implications of using wood.** For example, when the wood used to fuel an energy facility is all, or nearly all, logging debris that would have decomposed in the forest anyway, the debt period can be relatively short, even for large-scale electricity generation where biomass replaces coal. Conversely, fueling an electricity generating facility with mostly whole (live) trees will likely incur a longer carbon debt period (up to several decades) before GHG benefits are realized. Thermal uses of wood generally have a shorter debt period than electricity generation with wood. Renewable energy policy makers who seek to reduce GHG emissions by using wood for energy will be well served by assessing these four factors for the specific energy and forestry contexts of their state or region.

Finally, there are many other considerations besides GHG emissions when making energy policy—these include energy security, air quality, forest recreation values, local economics, other environmental impacts besides just GHG emissions, and quality of place, among others.

Manomet hopes these comments help to more accurately present the major findings of this study and to better inform policy makers and stakeholders. Manomet welcomes and invites feedback on the study, as well as improvements or corrections to our approach.

[end]

**EXHIBIT 3**



**Pinchot focus areas:**

Jun 10, 2010

Contact Information:

Star Dodd, sdodd@pinchot.org, 202.797.6582

**FOR IMMEDIATE RELEASE**

**Massachusetts Releases Study of Environmental Effects of Wood Biomass Electricity Proposals**

Washington DC, June 11, 2010 – “Bioenergy technologies, even biomass electric power compared to natural gas electric, look favorable when biomass waste-wood is compared to fossil fuel alternatives.” Thus concludes a study released this week by the Manomet Center for Conservation Sciences, and by the Massachusetts Department of Energy Resources, which funded the study.

The 6-month study, entitled “Biomass Sustainability and Carbon Policy Study,” addresses a wide array of social, scientific, economic and technical issues related to the use of forest biomass for generating energy in Massachusetts. Key components of the study include a full analysis of existing domestic and international biomass policies; a supply analysis of forest biomass availability based on competitive pricing for energy generation; and the atmospheric greenhouse gas implications of combusting forest biomass instead of fossil fuels for energy. The Pinchot Institute provided a review of regulations and standards needed to ensure the sustainability of forest resources in light of potential increases in wood consumption for bioenergy.

Determining the sustainability of forest-based bioenergy is complex and requires evaluating a number of interrelated social, economic, and environmental values that people expect from forests. The analysis and recommendations within the study are specific to current policy issues in Massachusetts, particularly whether expanded use of wood biomass in place of fossil fuels in electricity generation is an effective means to reduce the Commonwealth’s carbon emissions. In 1997, Massachusetts adopted a Renewable Portfolio Standard requiring electric utilities to generate at least 15 percent of their electricity from renewable sources by 2020.

In addressing the specific question of whether wood biomass electricity can reduce carbon emissions relative to fossil fuels, the study concluded that carbon emissions per unit of electricity generated can be higher with wood, based on the more concentrated energy content of fossil fuels such as coal or natural gas. However, this conclusion is not meant to address the additional significant environmental, economic, and social effects of fossil fuel use, nor does it reflect that electric power generation from forest residuals and waste wood results in minimal if any net carbon emissions. Both of these factors are important to consider in policymaking relating to opportunities to substitute renewable energy sources for fossil fuels.

For more information or to download the full report, please go to [www.manomet.org](http://www.manomet.org) or [www.pinchot.org/gp/Massachusetts\\_Biomass](http://www.pinchot.org/gp/Massachusetts_Biomass)

**Pinchot Quick Links**

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**STATE OF NEW HAMPSHIRE**  
**BEFORE THE ENERGY FACILITY SITE EVALUATION COMMITTEE**

**Docket No. 2009-02**

**Application of Laidlaw Berlin BioPower, LLC**

**SUPPLEMENTAL TESTIMONY OF MICHAEL B. BARTOSZEK ON  
BEHALF OF LAIDLAW BERLIN BIOPOWER, LLC**

1 **What is the purpose of your supplemental testimony?**

2 Laidlaw Berlin BioPower, LLC (“LBB”) is able to provide additional information that  
3 was unavailable at the time the Application was filed regarding its financial capability to  
4 construct and operate the project in compliance with the terms and conditions of the Certificate  
5 we are asking the Committee to issue to LBB.

6 **Please describe the information.**

7 Additional documents include the development agreement between PJPD and the  
8 Applicant and related documents, two comfort letters from potential lenders, a financial pro  
9 forma and the executed Power Purchase Agreement with PSNH. I also provided additional  
10 information on LBB’s financial capability to construct and operate the project in LBB’s  
11 responses to data requests, at the public hearing on the project that was held on March 16, 2010.  
12 These documents are subject to an existing protective order and/or a requested protective order  
13 that limit their availability only to Public Counsel and the Committee.

14 **How do these documents demonstrate that LBB is financially capable to construct and**  
15 **operate the facility?**

16 The confidential business documents further demonstrate that LBB is financially capable  
17 of constructing and operating the facility.

18 First, the development agreement between PJPD and the Applicant sets forth the funding  
19 plan for the development phase of the project. As set forth in the Applicant’s responses to  
20 Counsel for the Public’s data requests, PJPD has committed to providing \$14.1 Million in  
21 financing to cover the costs of the project through receipt of final permits. LBB has also  
22 provided a copy of its financial pro forma showing the plant’s projected performance.

1           Once LBB receives a Certificate for the project and all of the necessary permitting, PJP, D,  
2 in close cooperation with LBB, will seek a combination of debt and equity financing for the  
3 construction of the facility. Preliminary discussions have been held with investors and lenders  
4 and LBB has provided copies of two comfort letters from potential lenders. Investors will not,  
5 however, commit to actual financing until LBB receives its Certificate and permits.

6           The executed Power Purchase Agreement (“PPA”) with Public Service Company of New  
7 Hampshire (“PSNH”) was an essential element of ensuring that the project will be financially  
8 viable during the operational phase. Finalizing the PPA with PSNH therefore was a milestone  
9 for the project. The PPA provides that LBB has a credit worthy purchaser for the power it  
10 generates at the facility for a period of 20 years, thus providing a certain stream of revenue to  
11 ensure the facility is financially viable.

12 **Does this conclude your supplemental pre-filed testimony?**

13           Yes, it does.



**STATE OF NEW HAMPSHIRE**  
**BEFORE THE ENERGY FACILITY SITE EVALUATION COMMITTEE**

**Docket No. 2009-02**

**Application of Laidlaw Berlin BioPower, LLC**

**SUPPLEMENTAL TESTIMONY OF RAYMOND S. KUSCHE ON  
BEHALF OF LAIDLAW BERLIN BIOPOWER, LLC**

1 **What is the purpose of your supplemental testimony?**

2 Certain issues pertaining to interconnection to the grid have been raised since Laidlaw  
3 Berlin BioPower, LLC (“LBB”) filed its Application. I will address those issues.

4 **Are you submitting any new documents?**

5 Yes. We received our Steady State System Impact Study for the Proposed Biomass  
6 Project Queue #251 Interconnecting to the Berlin 115kV Substation in New Hampshire,  
7 Revision 4 dated May 21, 2010 prepared for ISO-New England, Inc by Siemens Energy, Inc.  
8 We have submitted that under separate cover to the Committee as a confidential document.

9 **Will Laidlaw’s PPA with PSNH give it any superior rights as an MIS project over another**  
10 **project that might be selling to a buyer besides PSNH or into the spot markets?**

11 I am not aware of anything in the NEPOOL market rules that defines this specifically, but  
12 I don’t believe that our PPA with PSNH gives us any dispatch priority over other MIS projects.

13 **Will your project cause the hydroelectric projects interconnected to the Coos Loop to be**  
14 **shut down during periods when the line is unable to take all of the generation being**  
15 **delivered?**

16 No. With regard to the idea that existing hydroelectric projects owned by PSNH or  
17 anyone else would be dispatched off if the Coos Loop is overloaded, the NEPOOL Market Rules  
18 quite clearly define these run-of-river projects as “must run” units that are not subject to  
19 economic dispatch orders.

20 **Does that conclude your supplemental testimony?**

21 Yes.

STATE OF NEW HAMPSHIRE  
BEFORE THE  
ENERGY FACILITY SITE EVALUATION COMMITTEE

APPLICATION OF LAIDLAW BERLIN BIOPOWER, LLC FOR A CERTIFICATE OF SITE  
AND FACILITY

DOCKET NO. SEC 2009-02

**PARTIALLY ASSENTED-TO MOTION FOR PROTECTIVE ORDER AND  
CONFIDENTIAL TREATMENT FOR POWER PURCHASE AGREEMENT AND  
STEADY STATE SYSTEM IMPACT STUDY**

Applicant Laidlaw Berlin BioPower, LLC (“LBB”), respectfully requests that the Site Evaluation Committee (the "Committee") issue a protective order to maintain the confidentiality of the Power Purchase Agreement between Laidlaw and PSNH (“PPA”) and the draft State System Impact Study (“SIS”). In support of its motion, LBB states as follows:

1. LBB seeks confidential treatment pursuant to RSA 91-A for the PPA and SIS. The Committee has recognized the need to limit accessibility to certain commercial and financial documents in this matter and Laidlaw submits that the PPA and the SIS are similar in nature to the already protected documents. *See* June 9, 2010 Order on Motion for Protective Order and March 24, 2010 Order on Pending Motions. Specifically, LBB now seeks a protective order under which the PPA is treated confidentially and only the Committee and Counsel for the Public are permitted copies of the PPA and that the SIS is treated confidentially and only the Committee and all parties be permitted copies of the SIS.

2. The PPA contains confidential, commercial and financial information and therefore is exempt from public disclosure under the New Hampshire Right to Know Act. RSA 91-A:5, IV; *Union Leader Corp. v. New Hampshire Housing Finance Authority*, 142 N.H. 540 (1997). Anything more than the limited disclosure contemplated herein would likely cause

substantial harm to the Applicant's competitive position. *Id.* at 554. The Committee has the authority pursuant to RSA 91-A:5, IV to protect this information.

3. LBB understands that the PPA may be necessary for the Committee and Counsel for the Public to assess LBB's Application. Therefore, LBB seeks a protective order that balances these needs in such a manner that the PPA will be treated confidentially and only the Committee and Counsel for the Public shall be permitted to view it. Pursuant to the protective order, neither the Committee nor Counsel for the Public shall copy or disclose the contents of the confidential PPA.

4. LBB also seeks a protective order for the SIS. ISO-NE requests that this document be treated as confidential pursuant to ISO-NE procedural rules because the document contains confidential, commercial information and critical energy infrastructure information. Because the SIS contains confidential, commercial and financial information, it is exempt from public disclosure under the New Hampshire Right to Know Act. RSA 91-A:5, IV; *Union Leader Corp. v. New Hampshire Housing Finance Authority*, 142 N.H. 540 (1997). LBB seeks a protective order for the SIS pursuant to which the Committee and all parties shall be permitted to view it. Neither the Committee nor any party, however, shall copy or disclose the contents of the confidential SIS.

5. LBB sought assent from all parties. Counsel for the Public assents to the relief sought herein. Clean Power Development, LLC partially assents with respect to the protective order for the SIS. Wagner Forest Management, New Hampshire Sierra Club and the City of Berlin did not respond to Laidlaw's request for assent.

WHEREFORE, LBB respectfully requests that the Committee:

A. Issue an order protecting the PPA and SIS as described above;

- B. Allow for disclosure of the protected material in a closed hearing; and
- C. Grant such other and further relief as may be just and equitable.

Respectfully submitted,

LAIDLAW BERLIN BIOPOWER, LLC

By Its Attorneys,

McLANE, GRAF, RAULERSON & MIDDLETON,  
PROFESSIONAL ASSOCIATION

Date: July 9, 2010

By: \_\_\_\_\_

Barry Needleman  
Gregory H. Smith  
Cathryn E. Vaughn  
Eleven South Main Street  
Concord, NH 03301  
Telephone (603) 226-0400

**Certificate of Service**

A copy of this Motion for Protective Order and Confidential Treatment has been served by electronic mail this 9th day of July, 2010 to each of the parties on the attached service list and by first class mail to the New Hampshire Attorney General's Office.

\_\_\_\_\_  
Cathryn E. Vaughn



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Raulerson & Middleton  
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July 9, 2010

***Via Hand Delivery***

Thomas S. Burack, Chairman  
Site Evaluation Committee  
c/o Michael Iacopino, Esquire  
Brennan, Caron, Lenehan & Iacopino  
85 Brook Street  
Manchester, NH 03104

Dear Chairman Burack:

I have enclosed a binder of confidential information including the following:

1. Development Agreement and associated documents;
2. Power Purchase Agreement;
3. Comfort Letters from potential lenders;
4. Pro Forma; and
5. Steady State System Impact Study.

Items 1, 3 and 4 have been deemed confidential pursuant to the Committee's June 9, 2010 Order. Laidlaw is filing a Motion for Protective Order and Confidential Treatment for Power Purchase Agreement (item 2) and Steady State System Impact Study (item 5) today. I have provided only one copy to the Chair and ask that it be treated as confidential in accordance with the protective order and that only public counsel and members of the committee have access to it.

If you have any questions, please contact Barry or me.

Sincerely,

A handwritten signature in blue ink, appearing to read "C. Vaughn", written over a horizontal line.

Cathryn E. Vaughn

Thomas S. Burack, Chairman  
July 9, 2010  
Page 2

cc: Service List (w/o enclosures)