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May 26, 2010

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

Application of Laidlaw Berlin BioPower, LLC for a Certificate of Site and Facility
for a Renewable Energy Facility in Berlin, New Hampshire
SEC Docket No. 2009-02

Dear Chairman Burack:

On behalf of Clean Power Development, LLC, I am filing the pre-filed direct testimony of Melvin E. Liston and William W. Gabler.

Mr. Liston's testimony documents that there is not enough biomass fuel available to supply existing biomass users as well as the proposed 70 Mw Laidlaw Facility. The only way that the Laidlaw Facility will be able to obtain enough biomass fuel will be to outbid the existing biomass users and recover the increased cost from PSNH's ratepayers.

Mr. Gabler's testimony explains why there is not enough transmission capacity on the 115 Kv Coos Loop to allow existing and permitted generating facilities to interconnect and simultaneously operate at full output. Some of the existing users will have their output curtailed.

Sincerely,

/s/James T. Rodier

James T. Rodier/csp

STATE OF NEW HAMPSHIRE
BEFORE THE ENERGY FACILITY SITE EVALUATION COMMITTEE
Docket No. 2009-02

Application of Laidlaw Berlin BioPower, LLC

TESTIMONY OF WILLIAM W. GABLER ON
BEHALF OF CLEAN POWER DEVELOPMENT, LLC

1 **Q: Please state your name, title and business address for the record.**

2 A: My name is William W. Gabler and I am the Project Manager for Clean Power
3 Development (CPD), which is located at 130 Pembroke Rd. Suite 100, Concord, NH 03301

4 **Q. How would you summarize your testimony?**

5 A. The Coos Loop is an old regional transmission system of a very limited capacity. While
6 the exact amount of that capacity may be the subject of technical debate, it is generally
7 recognized that with the minor upgrades anticipated to be done by Granite Reliable wind the
8 system may be able to carry in excess of 100 MW, and possibly as high as 140 MW. This
9 limitation on the ability to transmit power has hindered the development of renewable energy in
10 northern New Hampshire. Because of that, this situation has resulted in extensive involvement
11 by the state's legislative body, the PUC and ISO-NE, all of whom recognize the need to expand
12 the current capacity in order to accommodate the development of additional renewable
13 generation.

14 It should be noted at the outset that in the absence of expanded capacity, interconnection of
15 new projects beyond those already operating and/or permitted to build will result in the
16 imposition of Minimum Interconnection Standards (MIS) by ISO-NE. Under this protocol,
17 existing contracts and purchase power agreements may be cast aside, as ISO-NE dispatches
18 purely on bid price.

19 Thus, issuing a permit to the Laidlaw Berlin Biopower project, whose output we know for a
20 fact will exceed the available transmission capacity, will have significant consequences
21 throughout the north country of New Hampshire. Existing generation facilities on the Coos
22 Loop will not know from one day to the next if they will be allowed to operate. Fuel suppliers
23 for those plants will not know from one day to the next if they will have work. Projects that are

1 fully permitted and ready to be built may well be brought to a standstill by the economic
2 uncertainty brought on by MIS. The possible economic impact of layoffs and lost employment
3 in the plants as well as the forestry and trucking communities could be staggering.

4 A thorough review of all factors related to the transmission system in northern New
5 Hampshire clearly reveals that issuance of a permit for the construction of the Laidlaw Berlin
6 Biopower project will likely have a significant negative impact on the orderly development of
7 the region.

8 **Q: Please briefly summarize your educational background, relevant background and**
9 **employment experience.**

10 A. I have a BA in History from New York State University. I served 23 years in the U.S.
11 Navy as a nuclear power plant operator, supervisor, and engineering officer, and was the senior
12 nuclear operator for the Navy's nuclear power program when I retired. Following that, I worked
13 for 5 years as the Energy Services Supervisor at New Hampshire Electric Cooperative, during
14 which time I joined the U.S. Association of Energy Engineers (AEE). As a member of AEE, I
15 obtained national certification as an Energy Manager and a Distributed Generation Professional
16 and served as the President of the Maine/New Hampshire chapter of the association.

17 In 2000 I was elected to the New Hampshire legislature, where I served on the House
18 Science, Technology and Energy committee. During that term, I was chairman of the Biomass
19 Energy Study Committee and led the effort to develop a long range energy plan for the state that
20 integrated generation, transmission and related issues into a coherent energy policy. As a result, I
21 was asked to serve on the Executive Committee for the development of the New Hampshire
22 Energy Plan in 2002. Later, while serving as policy advisor to the governor, one of my areas of
23 responsibility was energy-related issues.

1 In 2008 I joined Clean Power Development where I serve as Project Manager and am
2 currently involved in developing projects in Berlin and Winchester, New Hampshire, as well as
3 investigating additional development opportunities in the region.

4 **Q: What is the purpose of your testimony?**

5 A: To discuss various aspects of the regional transmission system, interconnection to the
6 transmission grid and the impact that development of excess generation in the region might have
7 on the orderly development of the region.

8 **Q: Please describe some of the history of the existing regional transmission system.**

9 A: The transmission system in northern New Hampshire is a 115-KV system, owned by
10 Public Service Company of New Hampshire (PSNH) and has been built in stages since the
11 1940s. This system is generally referred to as the Coos County Loop, the Coos Loop, or simply
12 the Loop.

13 Michael Bartoszek, CEO of Laidlaw Berlin Biopower, summed up his view of the condition
14 of the Coos Loop in his January 8, 2008 letter to Michael Harrington at the New Hampshire PUC
15 where he stated that:

16 *“It’s no secret that the loop is very old and has suffered decades of undercapitalization”*

17 In my opinion, his statement is correct, and as a result, the Coos Loop has, over the years,
18 been the subject of much scrutiny, discussion and several legislative actions.

19 **Q. Please discuss the findings of the PUC and legislative studies of the Coos Loop.**

20 A. Recognizing the limited ability of the Coos Loop to support additional renewable
21 generation beyond an estimated 130 MW, the New Hampshire legislature in 2007 passed Senate
22 Bill 140, which in its statement of findings said that:

1 *“In order to develop substantial electric generation from renewable energy,*
2 *existing transmission infrastructure, particularly in the northern part of the state,*
3 *will need to be upgraded or replaced or new transmission facilities will need to*
4 *be built.”*

5
6 In passing Senate Bill 140, the legislature went on to order that:

7 *“The public utilities commission shall file a report with the general court by*
8 *December 1, 2007 that describes: the existing electricity transmission system in*
9 *New Hampshire; the current process for siting, constructing, and financing*
10 *transmission upgrades and expansion; the approximate costs of potentially*
11 *appropriate transmission upgrades; approaches pursued by other states to*
12 *encourage transmission expansion related to renewable generation; and actions*
13 *the public utilities commission has taken to advance New Hampshire interests*
14 *with respect to transmission.”*

15
16 Thus, it was that on December 1, 2007, the Public Utilities Commission issued the
17 “Background Report on New Hampshire Transmission Infrastructure”
18 (<http://www.puc.state.nh.us/Transmission%20Commission/Transmission%20Infrastructure/NHP>
19 [UC%20SB140%20Report%2012-1-07%20REDACTED.pdf](http://www.puc.state.nh.us/Transmission%20Commission/Transmission%20Infrastructure/NHP)).

20 As previously identified, that report evaluates the currently limited capacity and then goes on
21 to lay out three options for upgrading the capacity of the Coos Loop to a level sufficient for the
22 proposed projects to interconnect. Those three options ranged in cost from \$160 million to \$210
23 million.

24 The fourth option in the report was to utilize Minimum Interconnection Standards as a
25 potential interim measure that would allow additional generation to start construction and begin
26 interconnection while the necessary transmission upgrades were being made. Under that
27 scenario, additional generation beyond the current capacity of the system could be allowed to
28 interconnect, but the report clearly notes that use of the MIS:

29 *“ . . . does, however, limit the output of these units based on system and*
30 *generation conditions as well as reduce or eliminate the unit’s capacity value (in*

1 *the FCM). Therefore, while this option is theoretically feasible, it may not be*
2 *acceptable to generators, or, more to the point, their investors or lenders.”*

3
4 As a result of the need identified in the PUC report and other efforts, the legislature took
5 action in 2008 to form the North Country Transmission Commission (SB 383) and charged the
6 commission to provide input with regard to achieving the necessary transmission capacity
7 expansion in a timely manner and to provide a report of its findings and recommendations on or
8 before December 1, 2008.

9 In its December 2008 progress report
10 (<http://www.puc.state.nh.us/Transmission%20Commission/120108%20Progress%20Report/Progress%20Report.pdf>), the transmission commission confirmed the position that an upgrade of the
11 existing transmission system or construct new transmission was absolutely necessary in order to
12 facilitate the development of renewables in the North Country.
13

14 In appendix Q of the North Country Transmission Commission report, Michael Bartoszek,
15 CEO of Laidlaw Berlin Biopower, speaking of the need to identify creative ways to expand the
16 capacity of the Coos Loop and to release the renewable energy capacity of the North Country
17 states that:

18 *“However, as we all know, none of this will become a reality without adequate*
19 *capacity to export that power to the ever increasing demand of New Hampshire’s*
20 *southern tier.”*

21
22 Mr. Bartoszek cautioned however, that:

23 *“ . . . the process of bringing it up to 21st century standards will need to be*
24 *structured in a manner that encourages, not discourages the “build out” of new*
25 *plants.” Because “Any plan that places an excessive capital burden on potential*
26 *projects to the point of unacceptable risk to investors will not achieve the ultimate*
27 *goal of the PUC or provide much needed economic opportunities to the citizens of*
28 *the North Country.”*

1 In a more direct manner, Mr. Bartoszek addressed his specific concerns regarding the
2 financial impact of plans to upgrade the Coos Loop on the economic viability of Laidlaw Berlin
3 Biopower in his January 8, 2009 letter to Michael Harrington at the NH PUC.

4 *“Renewable energy projects are capital intensive and entail significant risk under*
5 *the best of circumstances. The scenario outlined in the report, whereby new*
6 *generators would shoulder the entire cost of upgrading the loop, would*
7 *significantly impact Laidlaw’s capital budget. To be fair, we would be willing to*
8 *assume some of the burden of the necessary transmission upgrades, but not at the*
9 *expense of developing a project that is ineligible for financing.”*

10
11 In the above comment, Mr. Bartoszek was addressing section 3.2 of the PUC’s December
12 2007 Coos Loop report which lays out a process whereby the state would take the lead on a
13 major upgrade of the loop, with each developer then paying for the portion of capacity that they
14 utilized which was beyond that provided by the Noble Wind project upgrade. Thus, Mr.
15 Bartoszek makes it clear that Laidlaw Berlin Biopower anticipates using capacity well beyond
16 that provided by the Noble Wind upgrade, to the point where the extra cost of the necessary
17 upgrades could well jeopardize the economic viability of the Laidlaw project.

18 **Q. What is the currently available transmission capacity of the Coos Loop?**

19 A. The previously noted, New Hampshire Public Utilities Commission “Background Report
20 on New Hampshire Transmission Infrastructure” concludes on page 25 of that report, that:

21 *“To reliably transfer additional power over these lines, equipment must be*
22 *replaced or upgraded, although it is possible that up to 60 MW of generation*
23 *could be accommodated under existing condition.”*

24
25 On page 11 of its report, the commission noted that:

26 *“According to PSNH, the Coos County Loop could support approximately 100*
27 *MW of new generation in the area without significant transmission upgrades.”*

1 Later in the document, it is clarified that the extra 40 MW of capacity could be obtained by
2 re-sagging the existing lines at a cost of approximately \$10 million, and that:

3 *“Interconnecting new generation in excess of 100 MWs to the loop, will require*
4 *more costly upgrades to both PSNH and NGrid transmission systems.”*

5

6 Mr. Michael Bartoszek quantified his view of the capacity of the Coos Loop in an October
7 31, 2008 letter to PUC Chairman Tom Getz where he said that:

8 *“The current system can accommodate additional generation with a minimal*
9 *amount of upgrades. Depending on generation location and type, we have been*
10 *advised that between 100-160 megawatts of capacity is available.”*

11

12 The engineering analysis included in the system impact study completed by Siemens Energy
13 for ISO NE on April 24, 2009, regarding the Granite Reliable Wind project, confirms that with
14 minor upgrades the Coos Loop will have an available capacity of between 120 and 140 MW.

15 This is an important value, because the Granite Reliable Wind project, Clean Power
16 Development and Laidlaw Berlin Biopower total 190 MW of net power output (99+27+64).
17 Thus, while the exact amount of available capacity may be the subject of further analysis,
18 everyone is in agreement that there is insufficient capacity available for Laidlaw Berlin
19 Biopower to operate in addition to those plants currently operating and/or permitted to construct
20 (i.e. Granite Reliable Wind and Clean Power Development).

21 **Q. Please explain the “Minimum Impact Standards” previously mentioned.**

22 A. First, it is important to note that MIS was only proposed as a potential interim measure to
23 allow additional generation to interconnect while transmission upgrades were made. It was
24 never intended as a solution to the situation or as a long term fix. Especially in light of the fact
25 that transmission upgrades are not even in the planning stages and may well be many years

1 away. This means that reliance on MIS severely jeopardizes the orderly development of
2 northern New Hampshire.

3 The issue of MIS was discussed in detail during the November 20, 2009 meeting of the North
4 Country Transmission Commission, where the minutes record the assessment of MIS by Mike
5 Harrington of the NH PUC.

6 *“It means that if there is a line that is capable of handling a 100 MW*
7 *transmission line, then anything up to 100 MW can connect on that line under the*
8 *minimum interconnection standard. There could be multiple plants all connected*
9 *under the same line because they could all produce up to their full amount of*
10 *electricity, assuming that none of the other plants were running. The problem*
11 *comes when you have multiple plants because they are all going to want to run to*
12 *the maximum extent possible. ISO-NE will dispatch the lowest bid resource*
13 *because that is what is economical. **When new plants are added, there is not a***
14 ***pecking order or hierarchy to existing plants, so if a new plant comes on and***
15 ***bids lower, the older plant could be displaced as to which gets dispatched. It is***
16 *whichever bids the lowest, with no seniority rights; there are not even any rights*
17 *if you spent the money to upgrade the transmission when you came in. If a new*
18 *company can bid their electricity lower, they will get dispatched even over the*
19 *facility that paid for the upgrade to the line, under the minimal interconnection*
20 *standard.”*

21 **Emphasis added**

22 A significant issue of concern regarding MIS was then further expounded on by Joe
23 Staszowski of PSNH who explained that under MIS;

24 *“ . . . a purchase power agreement has no impact on whether the plant is*
25 *dispatched. The plant will bid into the ISO-NE market, and ISO-NE will dispatch*
26 *generators from the lowest to the highest cost. **Whether a plant is dispatched is***
27 ***dependent on the bid price, not on any contractual price under a PPA.”***

28 **Emphasis added**

29 Thus, under MIS an operating power plant with a contractual obligation to provide power
30 may be blocked from doing so by a plant that bids lower.

31 **Q. Has ISO-NE recognized this issue, and if so, how is that reflected in their analysis?**

1 A. Yes, ISO-NE has recognized the reality of the limitations existent in the Coos Loop in the
2 study conducted for Queue # 251, filed as Appendix Q of the application under review. Section
3 4 of that study establishes the base cases and forecasts the generation dispatch lineup should
4 Laidlaw Berlin Biopower be built and operate. Table 4-2 reflects the dispatch lineup (under
5 MIS) that was considered in the feasibility study. That table identifies 59MW of existing
6 generation on the Coos Loop that ISO-NE anticipates would be called on to shutdown when
7 Laidlaw Berlin BioPower operates at full power.