

DE 10-195

Exhibit No. #5
Witness Panel 1
DO FILE

STATE OF NEW HAMPSHIRE
BEFORE THE
NEW HAMPSHIRE PUBLIC UTILITIES COMMISSION

Docket No. DE 10- ____

DIRECT TESTIMONY OF
RICHARD C. LABRECQUE

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

July 26, 2010

1 New Hampshire (the “Project”). Under the terms of the PPA, PSNH will purchase
2 100% of the output of the Project for a term of twenty (20) years. The PPA includes
3 separate pricing terms related to the purchase of: i) the energy output of the Project,
4 ii) the capacity of the Project, and iii) the Renewable Energy Certificates (RECs) and
5 other environmental attributes of the Project. The PPA also includes a “Right of
6 First Refusal” by which PSNH has a limited right to purchase the Project during the
7 twenty year term and a “Purchase Option Agreement” that provides PSNH, its
8 successors and assigns with the right, but not the obligation, to purchase the Project
9 at the conclusion of the PPA term.

10

11 **Q. Can you further describe the products that PSNH will purchase via the**
12 **PPA?**

13 A. Yes. The PPA includes specific definitions of the “Products” that will be purchased
14 by PSNH. To summarize, the products are any electrical products or services that
15 are created by the Project and earn compensation via the ISO-NE markets,
16 including but not limited to energy, capacity, and ancillary services. In addition, the
17 Products include any “Renewable Products”, but exclude any “Tax/Grant Benefits”
18 as each of these is defined in ARTICLE 1 of the PPA.

19

20 **Q. Please explain the meaning of “Renewable Products” in the PPA.**

21 A. Renewable Products are the New Hampshire Class I Renewable Energy Certificates
22 (RECs) for which the Project must qualify under the terms of the PPA. However,
23 the Buyer of the Renewable Products (PSNH) is also entitled to any other
24 environmental attribute, applicable now or in the future, related to the Project;
25 including certain credits, certificates, benefits, emission offsets, allowances, etc.

1 **Q. Why is it important for PSNH to be entitled to the other environmental**
2 **attributes?**

3 A. Programs designed to incent renewable forms of generation, or generation with
4 particular emission characteristics, are subject to change. Currently, PSNH is
5 obligated to comply with NH RSA Chapter 362-F, the New Hampshire Renewable
6 Portfolio Standard (“RPS”). The PPA terms include flexibility such that, should RSA
7 362-F be revised, replaced, or superseded by new legislation, including a Federal
8 RPS program, PSNH’s customers would continue to receive the benefits associated
9 with purchases from the Project. In addition, if a totally new program was enacted
10 that operates in concert with RSA 362-F, for example, a program designed to incent
11 zero carbon generation, the PPA would entitle PSNH’s customers to also receive
12 these benefits related to purchases from the Project.

13

14 **Q. What are the “Tax/Grants Benefits” that have been specifically excluded**
15 **from the products being purchased?**

16 A. These refer to any and all tax credits, investment tax credits, grants in lieu of tax
17 credits, fuel subsidies or other non-tax cash grants or subsidies, credits or benefits
18 that may be available to the owner of a facility.

19

20 **Q. Can you describe the pricing terms in the PPA?**

21 A. Yes. As described in ARTICLE 6, the PPA provides for three separate payments to
22 be made via each monthly invoice: an energy payment, a capacity payment, and a
23 REC payment. The energy and REC payments are determined each month by
24 multiplying a \$/MWH price by the actual Project production (MWH) during the

1 invoice period. The capacity payment is a \$/KW-month price multiplied by the
2 specific capacity of the Project (in KW) recognized by ISO-NE in that month.

3

4 **Q. Please describe the energy pricing.**

5 A. The energy base price is \$83 per MWH and applies to the first calendar quarter of
6 commercial operation. In each subsequent calendar quarter, the energy base price
7 will be revised to incorporate a “Wood Price Adjustment” (“WPA”) which is described
8 in ARTICLE 6.1.2(a)(ii). The WPA will reflect the difference between the actual
9 average price per ton that PSNH paid for biomass fuel at the Northern Wood Power
10 Plant (Schiller Station) in the immediately preceding quarter and the base wood
11 price of \$34 per ton. The difference (in \$/ton), whether positive or negative, will be
12 converted into a \$/MWH adjustment using a multiplier of 1.8 tons per MWH. The
13 final energy price payable in the invoice period will be the base price, as adjusted by
14 the WPA.

15

16 **Q. What is the purpose of the WPA?**

17 A. The parties to the PPA were concerned that the cost of biomass fuel delivered to the
18 Project could vary over the twenty year term of the PPA. Without the WPA, LBB
19 could be faced with increasing fuel costs and declining operating margins or even
20 losses, perhaps to the extent that production would have to cease. This risk could
21 pose an insurmountable barrier to LBB obtaining financing for the Project. PSNH
22 was also concerned that biomass fuel prices could decline during the twenty year
23 term of the deal. This would result in PSNH’s customers being asked to pay higher
24 prices for purchases from the Project and thus contributing to a higher profit margin

1 for LBB. By negotiating the WPA, a solution was obtained to protect both parties
2 from undue risk during the term of the PPA.

3

4 **Q. Why is the WPA indexed to the cost of biomass fuel at Schiller Station**
5 **rather than the LBB site?**

6 A. PSNH negotiated this condition to provide assurance that the WPA would be linked
7 to an index under the full procurement control of PSNH and regulated by the New
8 Hampshire Public Utilities Commission. In this way, PSNH's customers will not be
9 adversely affected by sub-optimal wood procurement conditions or procedures at the
10 LBB site. This is an important price protection feature of this PPA.

11

12 **Q. How was the 1.8 tons per MWH conversion factor determined?**

13 A. This conversion factor, which is fixed for the term of the PPA, is considered
14 indicative of the fuel conversion efficiency of the LBB Project. The actual conversion
15 efficiency may be slightly higher or lower and can fluctuate over time based on plant
16 conditions and fuel characteristics. The conversion factor gives LBB the incentive to
17 operate as efficiently as possible while protecting PSNH's customers from inefficient
18 operation.

Q. Please describe the capacity pricing.

2 A. During the first five years of commercial operation the capacity price is \$4.25 per
3 KW-month of “Capacity” (as defined in ARTICLE 6.1.2(b) of the PPA). That price is
4 increased by \$0.15 per KW-month in each of the final fifteen years of the term.

5

6 Q. How is “Capacity” defined in the PPA?

7 A. Capacity is the output of the Project as measured in megawatts for which the Project
8 has obtained a capacity supply obligation as a result of participation and clearing in
9 an ISO-NE administered Forward Capacity Market (“FCM”) auction and is receiving
10 compensation pursuant to that obligation via the ISO-NE market settlement
11 process.

12

13 Q. Why is the definition of Capacity an important protection for PSNH’s

14 customers?

15 A. ISO-NE has established a FCM to obtain the generation capacity required to reliably
16 operate the New England electric system. The FCM is a relatively new and complex
17 market that has very specific methods of qualifying capacity for participation.
18 Simply put, just building a generating Project does not necessarily mean that the
19 Project will earn capacity compensation. PSNH included this definition of capacity
20 as a way to protect PSNH’s customers from paying for non-qualified capacity with no
21 real value within the FCM structure.

22

23 Q. What price will PSNH pay for RECs?

24 A. The price for RECs is indexed to amounts defined in RSA Section 362-F:10
25 (Renewable Energy Fund) for Class I which may be paid into the fund by electricity

1 providers in “lieu of meeting the portfolio requirements of RSA 362-F:3 for a given
2 year if, and to the extent sufficient certificates are not otherwise available at a price
3 below the amounts specified” in Section 10 (hereinafter referred to as “Alternative
4 Compliance Payments” or “ACP”).

5

6 During the first five years of the PPA, the REC price is 80% of the ACP. During the
7 second five years the REC price is 75% of the ACP. The price decreases to 70%
8 during the next five years and to 50% of the ACP during the final five years of the
9 PPA. This declining price is designed to produce increasing value to PSNH’s
10 customers over time while providing the developer with a predictable revenue
11 stream.

12

13 **Q. Has PSNH prepared an exhibit that projects the prices payable during the**
14 **term of the PPA?**

15 A. Yes. Attachment RCL-1 is a table that shows the projected prices to be paid for
16 energy, capacity, and RECs during the twenty year term.

17

18 **Q. Does the PPA contain any provisions designed to protect PSNH’s**
19 **customers from paying contract prices that exceed the market price?**

20 A. Yes. The PPA includes a mechanism referred to as the “Cumulative Reduction” as
21 described in ARTICLE 6.1.3 which is designed to calculate and track any energy
22 payments made that exceed the ISO-NE spot market energy price.

1 **Q. Please describe the Cumulative Reduction.**

2 A. For each MWH of Energy delivered under this Agreement, a negative or positive
3 adjustment shall be determined. When the contract energy payment rate set forth
4 above (\$/MWH) exceeds the ISO-NE Day-Ahead hourly Locational Marginal Price
5 (LMP) at the delivery point, the hourly negative adjustment shall equal the
6 delivered MWH multiplied by the difference between the LMP and the contract
7 energy rate. When the contract energy payment rate (\$/MWH) is less than the LMP,
8 the hourly positive adjustment shall equal the delivered MWH multiplied by the
9 difference between the LMP minus the contract Energy rate. These negative and
10 positive adjustments shall be continuously aggregated over the twenty year term of
11 the PPA. If, at the termination of the PPA, the aggregate balance is negative, that
12 quantity shall be the "Cumulative Reduction" for the purposes of reducing the
13 purchase price of the Project as provided in the Purchase Option Agreement (and
14 described below). If the aggregate balance is positive (that is, over the term of the
15 PPA customers did not pay over-market prices), it shall have no further bearing on
16 the administration of the PPA.

17

18 **Q. What is the ultimate purpose of the Cumulative Reduction?**

19 A. The Cumulative Reduction is a unique and important feature of this PPA that was
20 essential to PSNH in order to protect customers from unknown future market
21 energy prices. PSNH included this feature to protect PSNH's customers from the
22 potential of paying over-market energy prices over the term of the PPA. In the event
23 actual hourly ISO-NE energy prices during the term of the PPA are, on average, less
24 than the contract energy prices, a fund of dollars will accrue (the Cumulative
25 Reduction) that can be used as a credit to reduce the purchase price of the Project.

1 This will provide PSNH's customers with the opportunity to recapture the over
2 market payments, if any, made during the PPA term over a subsequent time frame.

3

4 **Q. In what way does the Cumulative Reduction make the LBB PPA different**
5 **from the dozens of 1980's and 1990's era PURPA-mandated contracts and**
6 **Rate Orders that PSNH was subject to?**

7 A. PURPA required PSNH to purchase the output of "qualifying facilities" from
8 developers at a price known as "avoided cost". Many developers elected to use a
9 long-term *forecasted* avoided cost as the basis for their payments under rate orders
10 issued by the Commission. In most all instances, these forecasted avoided costs far
11 exceeded PSNH's actual avoided costs. Thus, most PURPA rate orders resulted in
12 significant over-market payments to the developers. At the termination of the
13 PURPA rate orders, there was no opportunity for PSNH's customers to recapture
14 those over-market payments; i.e., the over-market payments went solely to the
15 benefit of the QF owner. In the LBB PPA, any cumulative over-market energy
16 payment will result in a dollar-for-dollar price reduction in a Project purchase option
17 right that PSNH has negotiated (described below). This provides PSNH's customers
18 with the opportunity to receive value to offset any over-market payments following
19 the termination of the PPA.

20

21 **Q. Please describe the Purchase Option Agreement (POA)?**

22 A. For a period of one-hundred and twenty (120) days following the conclusion of the
23 twenty year term of the PPA, the POA grants PSNH, and its successors and assigns,
24 an exclusive, irrevocable option to purchase the Project and the Project Site
25 (together the "Project Assets"). The purchase price for the Project Assets shall equal

1 i) the fair market value of the assets (as if sold free of all financing liens and
2 encumbrances) minus ii) the Cumulative Reduction value, provided the purchase
3 price shall not be less than zero.

4

5 **Q. Are the purchase rights granted by the POA transferrable to another**
6 **entity?**

7 A. Yes. PSNH may transfer its purchase option rights to any PSNH affiliate or
8 unaffiliated third party.

9

10 **Q. How will the fair market value of the Project Assets be determined?**

11 A. If the parties are unable to mutually agree on the fair market value, then each party
12 shall select two qualified independent commercial appraisers to provide a fair
13 market value estimation of the Project. The highest and lowest valuation shall be
14 removed and the remaining two shall be averaged to determine the fair market
15 value.

16

17 **Q. Under what conditions might PSNH consider exercising the option to**
18 **purchase the Project?**

19 A. The Project, assuming normal operating and maintenance practices, should have a
20 useful life well in excess of the twenty year term of the PPA. At the conclusion of the
21 twenty years, it is possible that the status of the ISO-NE power and fuel markets
22 will be such that the Project has significant projected value as a provider of
23 economic, renewable, low-emission baseload energy and capacity. If that is the case,
24 the Project will be assessed with a commensurate fair market value that will be
25 based on the present value of expected future cash flows obtained by selling the

1 Project products (energy, capacity, RECs, etc.) into the applicable power and
2 environmental markets. The POA provides PSNH with the ability to purchase the
3 Project Assets either at the assessed fair market value or at a discount when
4 considering the Cumulative Reduction. The value obtained through exercising this
5 option could then be passed on to PSNH's customers. PSNH's ability to transfer this
6 right to an assignee ensures that this benefit will be available regardless of PSNH's
7 own ability to purchase the Project at that time.

8

9 **Q. How might the Purchase Option Agreement provide value to PSNH's**
10 **customers?**

11 A. PSNH could either operate the Project as part of a portfolio of regulated generation
12 assets (similar to today) in order to provide Energy Service to its customers, or it
13 could market the output of the Project into the ISO-NE power and environmental
14 markets (i.e. operate as a merchant plant) with the net value going to PSNH's
15 customers. The choice would likely depend on the future regulatory structure of the
16 New Hampshire electric utility industry as it relates to PSNH. One other way to
17 create value from the option would be to transfer the option, for a price, to an
18 affiliate or third party. In any scenario, PSNH envisions some form of regulatory
19 settlement proceeding would be required to ensure that the net economic benefits
20 associated with the POA would be provided to customers.

1 **Q. I** s it typical for PPAs to include a Purchase Option Agreement at the
2 **conclusion of the PPA term?**

3 A. No. PSNH believes the POA, in concert with the Cumulative Reduction value, to be
4 a first of a kind structure. As noted earlier, PURPA-mandated contracts and rate
5 orders did not provide for any such customer benefits at their conclusion.

6

7 **Q. What is the “Right of First Refusal” in the PPA?**

8 A. If at any time LBB desires to sell the Project to a third party pursuant to a bona fide
9 purchase offer, the Right of First Refusal provides PSNH the ability to match that
10 offer and, thus, to purchase the Project on similar terms. The right is also
11 transferrable to a PSNH affiliate. This right is another example of the creative and
12 non-standard elements that PSNH negotiated into the final PPA to provide value to
13 PSNH’s customers.

14

15 **Q. How might the Right of First Refusal provide value to PSNH’s customers?**

16 A. The right allows PSNH to review the terms and conditions of any potential purchase
17 and sale agreement between LBB and a third party. PSNH is granted a period of
18 one-hundred and eighty (180) days to consider the terms. This period provides
19 PSNH the opportunity to evaluate the terms and determine if the purchase would
20 likely create economic value for its customers. For example, if LBB and the third
21 party have agreed to transfer ownership of the Project at a purchase price that
22 PSNH believes is significantly below the fair market value of the assets, then PSNH,
23 with Commission approval, could decide to purchase the Project. At that point,
24 PSNH could elect to create value using methods similar to those discussed above
25 regarding the Purchase Option Agreement; i.e. PSNH could either operate the

1 Project as part of a portfolio of regulated generation assets (similar to today) in order
2 to provide Energy Service to its customers, or it could market the output of the
3 Project into the ISO-NE power and environmental markets (i.e. operate as a
4 merchant plant), or it could attempt to resell the entire Project for a price closer to
5 PSNH's estimate of the fair market value.

6

7 **Q. Can you comment on how the terms and conditions of this PPA compare to**
8 **other long-term contracts between electric utilities and renewable Project**
9 **developers?**

10 A. As mentioned above, this PPA includes a number of unique features to either protect
11 customers or to create potential future value for customers, including: the Wood
12 Price Adjustment mechanism, the strict definition of Capacity, the expanded
13 definition of Renewable Products, the Cumulative Reduction and Purchase Option
14 Agreement, and the Right of First Refusal.

15

16 Regarding the pricing terms of the PPA, PSNH has conducted research to discover
17 the pricing terms included in other, recently announced and publically available
18 long-term contracts for renewable generation facilities. PSNH has prepared a brief
19 summary of the readily available information in Attachment RCL-2.

20

21 **Q. Does this conclude your testimony?**

22 A. Yes.

Attachment RCL-1 Laidlaw Berlin Biopower PPA Price Forecast						
		Total Payment (\$/MWH)	Energy (\$/MWH)	Capacity (\$/kw-mo)	Capacity (\$/MWH)	REC (\$/MWH)
Year 1	2014	\$144.08	\$83.00	\$4.25	\$7.28	\$53.80
Year 2	2015	\$146.96	\$84.53	\$4.25	\$7.28	\$55.15
Year 3	2016	\$149.90	\$86.10	\$4.25	\$7.28	\$56.53
Year 4	2017	\$152.92	\$87.71	\$4.25	\$7.28	\$57.94
Year 5	2018	\$156.02	\$89.35	\$4.25	\$7.28	\$59.39
Year 6	2019	\$155.65	\$91.04	\$4.40	\$7.53	\$57.07
Year 7	2020	\$159.06	\$92.77	\$4.55	\$7.79	\$58.50
Year 8	2021	\$162.55	\$94.55	\$4.70	\$8.05	\$59.96
Year 9	2022	\$166.13	\$96.37	\$4.85	\$8.30	\$61.46
Year 10	2023	\$169.79	\$98.23	\$5.00	\$8.56	\$62.99
Year 11	2024	\$169.22	\$100.14	\$5.15	\$8.82	\$60.26
Year 12	2025	\$172.95	\$102.10	\$5.30	\$9.08	\$61.77
Year 13	2026	\$176.76	\$104.11	\$5.45	\$9.33	\$63.32
Year 14	2027	\$180.65	\$106.16	\$5.60	\$9.59	\$64.90
Year 15	2028	\$184.64	\$108.27	\$5.75	\$9.85	\$66.52
Year 16	2029	\$169.24	\$110.44	\$5.90	\$10.10	\$48.70
Year 17	2030	\$172.93	\$112.65	\$6.05	\$10.36	\$49.92
Year 18	2031	\$176.71	\$114.92	\$6.20	\$10.62	\$51.17
Year 19	2032	\$180.57	\$117.25	\$6.35	\$10.87	\$52.45
Year 20	2033	\$184.53	\$119.64	\$6.50	\$11.13	\$53.76
Notes:		1) Assumes biomass fuel price of \$34/ton in 2014, escalating at 2.5% annually				
		2) Capacity payment (\$/MWH) assumes a facility capacity factor of 80%				
		3) REC prices assume the 2010 ACP price escalates at 2.5% annually				
		4) Energy price is exclusive of the PPA "Cumulative Reduction" provision				

Attachment RCL-2 Summary of Long-Term Contracts with Renewable Energy Resources in New England							
Seller / Facility	Buyer	State	Size (MW)	Resource Type	Pricing (\$/MWH)	Source(s)	Note(s)
Plainfield Renewable Energy	CL&P / UI	CT	30	Biomass	\$130 - \$150	1	
Clearview Renewable Energy	CL&P / UI	CT	31	Biomass	\$123	1, 2	1
Watertown Renewable Power	CL&P / UI	CT	15	Biomass	ISO-NE Spot Energy price plus \$45 - \$55	3, 4	2, 3
Clearview East Canaan	CL&P / UI	CT	3	Anaerobic Digester	\$125	1	1
Various Fuel Cell facilities	CL&P / UI	CT		Fuel Cell	\$180 - \$200	1	
Rhode Island LFG Genco	NGRID	RI	20	Landfill Gas	\$120	5	4
Deepwater Wind Block Island, LLC	NGRID	RI	30	Offshore Wind	\$236	6	5
Evergreen Wind Power III, LLC (Rollins Wind)	CMP & BHE	ME	60	Wind	See notes	7	6
New England Wind, LLC (Hoosac)	NSTAR	MA	30	Wind	Not disclosed	8	
Pioneer Valley Wind, LLC	NSTAR	MA	22.5	Wind	Not disclosed	8	
American Pro Wind, LLC	NSTAR	MA	Not Avail	Wind	Not disclosed	8	
Cape Wind Associates, LLC	NGRID	MA	468	Offshore Wind	\$207	9	7
First Wind Holdings (Sheffield)	Various	VT	40	Wind	Not disclosed	10	
Sources							
1/ Docket No. 07-04-27 - DPUC Review of Long-Term Renewable Energy Contracts - Round 2 Results - August 21, 2007							
2/ Docket No. 03-07-17RE05 Pre-filed Testimony of James S. Potter - revised April 2, 2010							
3/ Docket No. 03-07-17RE03 - DPUC Review of Long-Term Renewable Energy Contracts - Round 1 Results - January 31, 2007							
4/ Docket No. 03-07-17RE05 Pre-filed Testimony of William C. Sheehan - revised April 5, 2010							
5/ Docket No. D-10-36 Purchase Power Agreement between National Grid and Rhosel Island LFG Genco, LLC - June 7, 2010							
6/ Docket No. 4185 - Review of Amended PPA Between NGRID and Deepwater Wind Block Island, LLC - June 30, 2010							
7/ Docket No. 2008-104 Order Directing Utilities to Enter Into Long-Term Contract - October 8, 2009							
8/ NSTAR Electric Co. DPU 10-71, 10-72, and 10-73 - July 7, 2010							
9/ DPU 10-54 Petition of NGRID for Approval of the DPU of Two Long-Term Contracts - June 4, 2010							
10/ SNL Interactive Article - "Vermont approves power contracts for 40 MW First Wind Project" - August 14, 2009							
Notes							
1/ Clearview has filed a request to modify the fixed-pricing terms of the previously executed contract to include certain pricing adjustment mechanisms.							
2/ Watertown pricing based on the ISO-NE spot market energy price plus a renewable premium of \$45 - \$55/MWH							
3/ Watertown has filed a request to modify the fixed-pricing terms of the previously executed contract to include certain pricing adjustment mechanisms.							
4/ Price escalates at 2.5% annually							
5/ Price escalates at 3.5% annually. Contract price may be reduced if final facility installation cost is less than budget.							
6/ PPA is for energy and capacity only (no renewable attributes included). Price is indexed to ISO-NE spot market with a floor and ceiling.							
7/ Price escalates at 3.5% annually.							