

ORIGINAL	
Case No.	DE 10-195
Exhibit No.	#1
Witness	Panel 1
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**STATE OF NEW HAMPSHIRE
BEFORE THE
NEW HAMPSHIRE PUBLIC UTILITIES COMMISSION**

DOCKET NO. DE 10-195

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

Janaury 18, 2011

REBUTTAL TESTIMONY OF

**GARY A. LONG,
TERRANCE J. LARGE
AND
RICHARD C. LABRECQUE**

REDLINED TO DELETE REBUTTAL TO TESTIMONY OF CONCORD STEAM CORPORATION

1 INTRODUCTION

2
3 **Q. Please state your names.**

4 A. My name is Gary A. Long. I am President and Chief Operating Officer of Public Service
5 Company of New Hampshire (PSNH).
6

7 My name is Terrance J. Large. I am the Director of Business Planning and Customer
8 Support Services for PSNH.
9

10 My name is Richard C. Labrecque. I am Supplemental Energy Sources Manager for
11 PSNH.
12

13 **Q. Have all of you previously submitted testimony in this proceeding?**

14 A. Yes, we submitted prefiled direct testimony on July 26, 2010
15

16 **Q. Mr. Long, do you have any corrections or clarifications regarding your previous**
17 **prefiled testimony?**

18 A. Yes I do. My clarification was previously communicated to the Commission and parties
19 in my affidavit dated October 19, 2010, attached to PSNH's October 22, 2010, "Motion
20 for Rehearing." In my July 26, 2010, prefiled testimony, at page 5, line 14, the question
21 "How does this compare with PSNH's own interest in entering into additional long term
22 power purchase agreement[s]?" was posed to me. My response, beginning at line 16 of
23 that same page was "At this time, PSNH's interest in entering into additional long term
24 power purchase agreements is highly limited." As noted in my affidavit, if asked that
25 same question today, (i.e., "How does this compare with PSNH's own interest in entering
26 into additional long term power purchase agreements?"), my response would be: "At this
27 time, and assuming the contract with LBB is approved, PSNH's interest in entering into
28 additional long term power purchase agreements to fulfill the Company's Class I
29 Renewable Portfolio Standard obligation is highly limited."
30

~~31 **Q. Do you have any other initial comments?**~~

~~32 A. Yes. It must be noted that this rebuttal testimony had to be written and submitted while~~
~~33 the discovery process is still underway. PSNH has a pending motion to compel responses~~
~~34 to discovery outstanding regarding Concord Steam Corporation's objections to myriad~~

~~PSNH questions based upon a case of “mistaken identity” (i.e., the party in interest with the information is apparently Concord Power and Steam, LLC, and not the party intervenor Concord Steam Corporation.) We respectfully request the ability to provide any additional rebuttal testimony necessary as a result of whatever discovery responses are obtained from Concord Steam Corporation, unless either PSNH’s Motion to Rescind their intervenor status or Motion to Strike their testimony are granted.~~

Q. What is the purpose of this testimony?

A. The purpose of this testimony is to rebut the prefiled direct testimony filed on December 17, 2010 on behalf of Commission Staff, the Office of Consumer Advocate (“OCA”) ~~and Concord Steam Corporation (“CSC”).~~

Q. Please describe the major subject areas that you will rebut.

A. PSNH disagrees with various analyses and conclusions that are made by Mr. McCluskey on behalf of Staff, Mr. Traum on behalf of OCA, ~~and Mr. Dalton on behalf of CSC~~ regarding the Laidlaw Power Purchase Agreement (the “PPA”). We therefore disagree with their recommendations.

We disagree with their market price projections and their comparison of contract prices to their projections. The PPA was consciously designed to avoid reliance on anyone’s projections – the fundamental lesson from past biomass plant rate orders. We also believe that their interpretation and conclusions regarding the Cumulative Reduction Factor (“CRF”) and the Wood Price Adjustment are misplaced. We also wish to rebut some of the observations and assumptions made regarding risks, Renewable Energy Certificate obligations and prices, financing by the developer as it relates to the PPA , the use of alternative solicitations for a PPA, the capacity level under contract and the satisfaction of the public interest standard.

Q. To be clear, does PSNH continue to believe that the Power Purchase Agreement is in the public interest and compliant with New Hampshire statutes and policy?

A. Absolutely.

1 **MARKET PRICE PROJECTIONS**

2
3 **Q. In his testimony, Mr. McCluskey refers to a “forecast” of energy prices and**
4 **concludes that the prices in the PPA are above market (page 26 lines 1-14 and**
5 **Exhibit GRM-11). Mr. Traum uses a similar reference to a “forecast” and**
6 **concludes that the PPA energy prices are above market (page 3, lines 23-25). Are**
7 **their forecasts and conclusions accurate?**

8 A. No. Neither Mr. McCluskey nor Mr. Traum, PSNH or anyone else, really knows what
9 the future day-ahead or real-time energy market prices will be. Mr. McCluskey and Mr.
10 Traum have made the mistake of basing their conclusions on a hypothetical financial
11 analysis. In that financial analysis, prepared by PSNH, the company made a series of
12 assumptions to assess the PPA economics. However, PSNH does not “forecast” future
13 energy prices.

14
15 PSNH readily admits that it does not know what the future energy prices will be over the
16 next twenty years, or even the next month for that matter. Mr. McCluskey also admits
17 this fact in his response to PSNH discovery request #44. In that response, he states his
18 belief that:

19 All price forecasts, whether generated from models or inferred from
20 forward curves, are uncertain because a lot of the determinants of price
21 are not known in advance. Nonetheless, because PSNH needs to know
22 where market prices might go in the future in order for it to meet its
23 obligation to minimize costs for customers, Mr. McCluskey believes
24 price forecasts must be developed, particularly for long-term, large scale
25 transactions.

26
27 Mr. Traum on page 3 line 25 refers to the numbers that he relies upon for his conclusion
28 as “PSNH’s base case forecast”. On page 25 lines 18-20, Mr. McCluskey refers to the
29 numbers as PSNH’s “market price projections” and he goes on to copy those figures in to
30 his Exhibit GRM-11.

31
32 The information supplied by PSNH are neither “projections” nor “forecasts.” They are
33 only scenarios in a spreadsheet. If different hypothetical assumptions were used, the
34 results might be radically different -- but not necessarily more accurate. If PSNH had
35 prepared a spreadsheet with much higher numbers under another scenario, would Mr.
36 McCluskey and Mr. Traum then conclude that the contract prices were below market?

1 Attachment PSNH Rebuttal 1 was prepared to illustrate the significant economic impact
2 that can result from a modest change in market price scenario. The average energy
3 market price increase assumed by Mr. McCluskey on Exhibit GRM-11, and that used by
4 Mr. Traum on Exhibit KET-4 is 2.39% increase per year. Attachment PSNH Rebuttal 1
5 quantifies the impact of revising the annual increase from 2.39% to 3.0%. ~~The choice of~~
6 ~~3.0%, while primarily illustrative, was based on the following excerpt from page 18 of~~
7 ~~Mr. Dalton's testimony:~~

8
9 ~~Over the long term ICE Henry Hub futures natural gas prices (as of~~
10 ~~December 8, 2010) escalate by an average of about 2.7% per year from~~
11 ~~2014 to 2019. The escalation in power prices is likely to be greater than~~
12 ~~this as higher electricity demand results in increasing reliance on less~~
13 ~~efficient generating units which would result in increases in market heat~~
14 ~~rates (power price divided by natural gas price).~~

15
16
17 If, ~~consistent with Mr. Dalton's view,~~ one assumed an average energy market price
18 increase of 3% per year, then an incremental "savings" of almost \$60 million nominal,
19 and over \$23 million present value (using Mr. McCluskey's discount factor) would be
20 realized as compared with Mr. McCluskey's or Mr. Traum's assumptions.

21
22 PSNH understands the temptation and the somewhat desperate need the industry and
23 regulators have to make long-term price projections, but if energy industry history has
24 taught us anything, it is that these projections will ultimately be wrong. Our point is that
25 *no one* can predict the future with any degree of certainty

26
27 What we do know is the past. As we all hear from investment ads, "past performance is
28 no guarantee of future results" - - but historic information applying the PPA's pricing
29 mechanism demonstrates how that pricing mechanism would have worked using actual
30 data. Attached hereto as Attachment PSNH Rebuttal 2 is a chart showing energy pricing
31 from 2003 to present, comparing the ISO-NE wholesale energy market price to the
32 energy price that would have been calculated using the PPA's pricing mechanism. This
33 chart depicts a pricing result under the PPA's pricing mechanism that is more stable and
34 less volatile than the wholesale market. Furthermore based on actual wholesale market

1 prices, the PPA pricing mechanism produced prices that on average would have been
2 essentially at the wholesale market.

3
4 **Q. Do you have any other remarks regarding long-term market forecasts?**

5 A. Yes. Contrary to Mr. McCluskey's belief that "price forecasts must be developed,
6 particularly for long-term, large scale transactions," PSNH believes that long-term market
7 price forecasts are largely irrelevant in this docket. Such price forecasts typically suffer
8 from tunnel vision and short-sightedness, i.e. during periods of rising fuel and power
9 prices, most all market forecasts show that trend to continue into the future. Similarly,
10 during periods of declining power prices, the market prognosticators tend to highlight all
11 the fundamental reasons why prices are currently depressed and why they will stay that
12 way for some time. Also, long-term forecasts rarely contain any cycles or inflection
13 points, i.e. they typically show a straight line trend up or down. Real life and real
14 markets experience volatility. Messrs. McCluskey and Traum devote a significant
15 portion of their testimonies to numerical comparisons of the projected PPA prices to a
16 static long-term market forecast. This PPA evaluation should instead focus on the extent
17 to which the PPA (i) avoids past mistakes and limits potential negative outcomes to
18 customers while preserving potential positive outcomes; (ii) fairly balances risks between
19 the developer and customers; (iii) is consistent with State energy policy; and (iv) provides
20 portfolio risk management benefits to PSNH customers by adding fuel diversity and
21 renewable power at a known discount to the ACP.

22
~~23 Q. On page 4 of his testimony, CSC witness Mr. Dalton claims that the Laidlaw PPA is~~
~~24 "\$453 million above anticipated future market prices." He goes on to claim that~~
~~25 "the pricing offered by the Laidlaw PPA is 13% higher on a net present value basis~~
~~26 than reflected in Concord Steam and Power's term sheet." On page 7 in response to~~
~~27 the question, "Do you believe that PPA pricing should be below expected market~~
~~28 prices?", Mr. Dalton responds "Not always." Please comment on Mr. Dalton's~~
~~29 conclusions and the comparison he makes between the CSC term sheet and the~~
~~30 Laidlaw PPA.~~

~~31 A. Mr. Dalton's conclusions are driven by his assumptions which are incomplete.~~
~~32 Additionally, if Mr. Dalton had placed the CSC term sheet prices into his Exhibit JCD-2,~~
~~33 he would come to the conclusion that the CSC term sheet is priced above market. As~~
~~34 noted, Mr. Dalton on page 7 does not suggest that long term PPA prices should always be~~

1 ~~priced at or below market. In fact, the CSC term sheet could not pass an at or below~~
2 ~~market price test using Mr. Dalton's projections of future market prices.~~

3
4 ~~I would also point out that Mr. Dalton has taken his low market price scenario to claim~~
5 ~~that the Laidlaw PPA is "\$453 million above anticipated market prices." On the very~~
6 ~~same Exhibit, JCD 2, Mr. Dalton's "Base Case Market Prices" show the Laidlaw PPA to~~
7 ~~be far less over that presumed market scenario - \$149 million over the 20 years. This~~
8 ~~difference of \$304 million from two pricing forecast scenarios from the same witness~~
9 ~~simply confirms the point PSNH makes with respect to the conclusions made by the~~
10 ~~various opponents of the project; that is, their conclusions are driven entirely by~~
11 ~~unproven, and unprovable, assumptions.~~

12
13 PSNH does not make such assumptions but instead, has designed the Laidlaw PPA to be
14 adjusted over the term of the PPA provisions, through the operation of the Cumulative
15 Reduction Factor, to cause the energy prices to be at the actual energy market prices. ~~Mr.~~
16 ~~Dalton does not take this into account in his analysis and conclusions.~~

17
18 **Q. Please describe the prices under the CSC term sheet.**

19 A. The CSC pricing term sheet (response to Q-Staff-01-017, Attachment 5) is essentially a
20 fixed price term sheet with overall prices that increase each and every year over a 20 year
21 term in relation to the Gross Implicit Price Deflator. In addition, the term sheet provides
22 CSC with full recovery of its actual fuel costs, regardless of the amount paid or the
23 method of procurement. There is no stated relationship between the Term Sheet prices
24 and actual market prices.

25
26 **Q. Did you compare the prices in the term sheet to the prices and provisions contained**
27 **in the Laidlaw PPA?**

28 A. Yes, ~~in order to rebut the claims of Mr. Dalton and~~ to demonstrate the importance of the
29 unique terms in the Laidlaw PPA, we prepared Attachment PSNH Rebuttal 3. ~~The most~~
30 ~~significant difference between this attachment and Mr. Dalton's Exhibit JCD 3 is that we~~
31 ~~take into consideration the Laidlaw PPA provision to price energy at market prices over~~
32 ~~the term of the PPA provisions.~~ As can be seen from this attachment, without recognition
33 of the market price adjustment, the Laidlaw PPA prices are more constant over time and
34 tend to decrease in later years while the CSC term sheet prices continue to escalate in

1 each and every year and are highest in the later years. This spreadsheet does not attempt
2 to measure the added value that could accrue to PSNH's customers after the Cumulative
3 Reduction Factor is exercised through other long term economics obtained from life of
4 unit output from the Laidlaw facility.

5
6 Since both the Laidlaw PPA and the CSC term sheet provide for some form of wood
7 price adjustment, we simply used the CSC term sheet prices for their wood prices, and
8 Schiller's current \$27/ton wood prices, for the Laidlaw PPA. The CSC term sheet does
9 not provide detail as to the basis for the CSC fuel price offered in the term sheet.
10 However, I would point out that the CSC/Laidlaw price comparison can tip badly against
11 the CSC term sheet under high wood price escalation scenarios.

12
13 The comparison shows that the energy market price adjustment alone favors the Laidlaw
14 PPA prices over the CSC term sheet prices. Attachment PSNH Rebuttal 3 shows the
15 average price difference under both a 10% and a 20% market versus contract price
16 variation. As the market price variation increases, the Laidlaw PPA is increasingly more
17 favorable for customers than the CSC term sheet.

18
~~19 Contrary to Mr. Dalton's testimony, the CSC Term Sheet is not more economic for~~
~~20 customers than the Laidlaw PPA and the CSC Term Sheet does not protect customers~~
~~21 against above market energy prices.~~

22 23 24 **CAPACITY MARKET EVALUATION**

25
26 **Q. What comments do you have regarding Mr. McCluskey's evaluation of the capacity**
27 **pricing in the PPA?**

28 A. Mr. McCluskey, on Exhibit GRM-14, has calculated that the PPA capacity prices are less
29 than the projected capacity prices developed by Levitan and Associates. Over the term of
30 the PPA, GRM-14 indicates customer savings for capacity of over \$40 million. Despite
31 this calculation of material savings, nowhere in his testimony does Mr. McCluskey
32 reference this \$40 million capacity savings. In contrast, Mr. McCluskey devotes
33 considerable effort to detailing various over-market analyses of the energy and REC
34 pricing. Indeed, on page 28 he states that he had insufficient time to review the Levitan

1 price projection and cannot further comment. On page 29 he declares the GRM-14
2 analysis is “not conclusive.” None of his other analyses are characterized as “not
3 conclusive.”
4

5 **Q. Can you comment on how certain portions of Mr. McCluskey’s ~~and Mr. Dalton’s~~**
6 **testimony may suggest high capacity market prices?**

7 A. Yes. In his testimony (p. 20 line 18 and p. 26 line 9), Mr. McCluskey notes that natural
8 gas-fired units are the marginal units in New England. ~~Similarly, Mr. Dalton testifies~~
9 ~~that, “Natural gas fired generators are the marginal resources for the majority of time in~~
10 ~~the ISO-NE market and are likely to continue to represent the marginal generating~~
11 ~~resource for the foreseeable future.” (p. 19).~~ A high-level consideration of the
12 interrelationship of the energy and capacity markets suggest the following: A gas-fired
13 unit that only recovers its variable fuel and operating costs via the ISO-NE energy market
14 will obviously require a capacity market compensation that is sufficient to support the
15 recovery of the capital costs to construct the unit. If not, this gas-fired unit would not get
16 built. Thus, in a world in which gas-fired units are always on the margin, and hence are
17 not recovering any capital costs through energy market prices, the capacity markets must
18 rise to levels that fully support new unit construction costs. In such a scenario, the PPA
19 capacity prices will indeed result in considerable savings for PSNH’s customers.
20
21

22 **THE WOOD PRICE ADJUSTMENT PROVISION**

23

24 **Q. Another component of the PPA’s energy price is the Wood Price Adjustment**
25 **(“WPA”) provision. On page 16 line 22 through page 17 line 2, Mr. McCluskey**
26 **claims that PSNH expects wood prices to increase at an annual rate of 2.5% per**
27 **year. Is this claim correct?**

28 A. No. Again Mr. McCluskey mistakes numbers in a hypothetical scenario as a forecast.
29 PSNH does not have a firm forecast of future wood prices over the next 20 years.
30 Nonetheless, on Exhibit GRM-11, Mr. McCluskey uses a wood price projection that
31 starts at \$34/ton escalating at 2.5% per year to compute his contract energy prices which
32 serve as the basis for his conclusion that the PPA energy prices are priced above market
33 for each and every year of the 20 year term. Attachment PSNH Rebuttal 4 displays the

1 historic stability of wood prices from 2006 to present, using data supplied by CSC in
2 response to PSNH Data Request #38. annual Commission cost of energy proceedings.

3
4 **Q. Are wood prices currently at \$34/ton as Mr. McCluskey uses as his starting price?**

5 A. No. Wood prices for Schiller 5 are approximately \$27/ton. Generally wood prices are
6 stable compared to other fuels, as depicted in Attachment PSNH Rebuttal 4. Prices were
7 around \$30 per ton in December 2006, and were also \$30 per ton in December 2010,
8 which suggests a large degree of stability. PSNH has no evidence that wood prices will
9 increase 2.5% each and every year for the next 20 years. Anecdotally, the Society for the
10 Protection of New Hampshire Forests recently noted in a January 9, 2010, Concord
11 Monitor op-ed (Attachment PSNH Rebuttal 5) that:

12 In the most recent year for which data is available, the total timber harvest in
13 New Hampshire was 1.3 million cords, or just a bit more than 50 percent of total
14 growth. Our current forest products economy is consuming less than annual
15 growth and natural regeneration each year consistently exceeds consumption.
16 Managed sustainably, New Hampshire's forests have a capacity to provide more
17 fuel for energy tomorrow than they do today.

18
19 Such an abundant supply of wood resources would certainly have downward pressure on
20 the cost of wood, especially as more foresters enter the market in response to market
21 demand.

22
23 **Q. What is the impact of Mr. McCluskey's wood price assumption on the cost**
24 **differential shown on his Exhibit GRM-11?**

25 A. As shown on Attachment PSNH Rebuttal 1, using current wood prices (\$27/ton) with 1%
26 annual escalation in cost and Mr. McCluskey's assumption of annual megawatthours
27 produced by the facility, the nominal reduction in annual cost over the 20 year term is
28 over \$238 million and the net present value reduction using Mr. McCluskey's 7.59%
29 discount factor, is over \$104 million. The point is that by changing key assumptions, the
30 results of the analysis can be dramatically different.

31
32 **Q. On page 14 lines 18-19 Mr. Traum states that the PPA "could result in more than**
33 **\$400 million in over market payments." Does Mr. Traum use the same assumptions**
34 **as Mr. McCluskey?**

35 A. Yes, and both testimonies suffer from the same mistake as the original IPP rate orders –
36 they focus on long term market projections, rather than the PPA design features that keep

1 its pricing tied closely to reality over the long term. One could just as easily say “the
2 contract prices produce a net savings to customers over its 20-year term as compared to
3 market” because no one knows what the future market prices will be for energy, RECs or
4 wood. For instance, even without making any changes in the assumptions Mr. Traum
5 makes regarding Renewable Energy Certificates or Capacity Market Prices, using the two
6 alternate assumptions on wood prices and market energy prices (see Attachment PSNH
7 Rebuttal 1) shows a lower relative contract cost of almost \$298 million.
8

9 **Q. Does Mr. McCluskey seem to interpret the WPA as a dollar for dollar cost recovery**
10 **mechanism?**

11 A. Yes, but for “the conversion factor” as stated on page 16 lines 1-11 of his testimony.
12

13 **Q. Is Mr. McCluskey correct?**

14 A. No. Even if the conversion factor was the number that Mr. McCluskey computes, the
15 WPA is not a one-for-one cost recovery mechanism. The WPA provides no assurance
16 that Laidlaw will recover its fuel costs. This matter is discussed further in the “risks”
17 section of our rebuttal. The WPA is simply a mechanism to hold Laidlaw to a benchmark
18 standard so that they have an opportunity to recover their fuel costs and PSNH’s
19 customers have assurance that the energy charge will track real changes in biomass
20 feedstock prices. The degree to which Laidlaw recovers its fuel cost will depend on its
21 own wood procurement outcome and plant operation.
22

23 On page 44, lines 17 through 19, Mr. McCluskey states “[A]ny increase in fuel costs is
24 covered by an increase in revenues through the WPA mechanism... .” This is simply not
25 true. The Laidlaw project is held to a benchmark wood fuel cost measurement but that
26 doesn’t mean that every increase in the fuel cost by the project is accompanied by a
27 revenue increase. This benchmarking of wood fuel costs is really no different than the
28 benchmarking of energy and capacity costs that Mr. McCluskey recommends at the
29 conclusion of his testimony.
30

31 **Q. Mr. McCluskey claims on page 17 of his testimony that the “conversion factor” is**
32 **1.55 rather than the contract figure of 1.8. Do you agree?**

33 A. As Mr. McCluskey notes from a PSNH data response, the 1.8 figure was a negotiated
34 figure. Neither Mr. McCluskey nor PSNH know what an actual “conversion factor”

1 might be because the plant is not yet built or operating. After the fact, we may be able to
2 compute an actual relationship between wood tons and MWH which could be more or
3 less than either Mr. McCluskey's computations or the contract amount - - but the
4 ultimate, actual, operational conversion factor was not known at the time of negotiations,
5 and will not be known until the plant achieves operation. Regarding Mr. McCluskey's
6 conclusion that the WPA is "potentially another source of income for Laidlaw", this
7 statement relies on the misguided belief that the assumptions he used are accurate.
8

9 **Q. You testified earlier that wood prices for Schiller Unit 5 are presently decreasing to**
10 **\$27 per ton. How is pricing under the PPA impacted by this fuel cost decrease?**

11 A. As stated earlier, wood prices are now decreasing to \$27 per ton. If, as Mr. McCluskey
12 suggests, the PPA's 1.8 conversion factor is too high, then customers will leverage their
13 benefit under the "high" WPA conversion factor in the PPA as biomass prices fall – and
14 Laidlaw will earn less than under a reduced conversion factor. Conversely, Laidlaw will
15 suffer financially if wood prices actually turn out to be lower. With a wood price of
16 \$27/ton, the price of energy drops to \$70.40/MWh, evidencing the benefit of the WPA to
17 consumers. This present day example stands in sharp contrast to any assertion that the
18 WPA serves as a "money maker" for Laidlaw. The WPA works in both directions, and
19 we deem it to be a reasonable benchmark that is transparent and over which the
20 Commission has review authority to ensure fair treatment for both the developer and our
21 customers. Indeed, PSNH is unaware of any other existing index that could be used to
22 benchmark wood fuel prices other than the cost of wood at Schiller 5.
23
24

25 **THE CUMULATIVE REDUCTION FACTOR**

26

27 **Q. How does a company like PSNH meet the state's renewable energy goals and statute**
28 **which provides for long term PPAs with in-state renewable resources when the**
29 **developer needs some form of price assurance but when future market prices are**
30 **not known?**

31 A. For this PPA, the creative solution was PSNH's insistence on a provision which is tied to
32 actual market based energy pricing over the term of the contract and beyond. This unique
33 feature is called the "Cumulative Reduction" factor ("CRF") in the PPA and is described
34 in our prefiled direct testimony. This is a feature that has not been included in any

1 previous PPA or Commission rate order and is critical, in PSNH's determination, to this
2 PPA.

3
4 **Q. If the goal is to protect customers from potential above-market pricing, why does**
5 **the PPA use the CRF mechanism and not just set the price of energy to track the**
6 **market over the term of the PPA?**

7 A. As Mr. McCluskey noted in his testimony, the perfect solution for customers to ensure
8 that they pay only the actual costs of energy, capacity and RECs with a minimal return to
9 investors on a prudent investment, is to have generating facilities owned by a utility and
10 subject to traditional cost-of-service regulation. But, as a result of industry restructuring -
11 - a process that Mr. McCluskey himself testified in favor of - that is not a possibility
12 today. Instead, we must rely on unregulated merchant developers to build new renewable
13 facilities to implement the RPS mandates.

14
15 The number one concern of such a merchant developer is whether their project can obtain
16 financing. No financing = No project. PSNH understands that in order to obtain
17 financing, the investment banking community needs some certainty regarding revenues
18 over a period of years. The Commission has historically accepted the notion that 20
19 years is an appropriate and necessary duration to obtain the necessary long-term
20 financing - and such a term allows capital cost to be amortized in manner that typically
21 reduces the overall capital cost structure and the purchase rates required to provide that
22 return opportunity.

23
24 Pricing mechanisms that merely track future, unknown, and volatile pricing during the
25 term of the necessary financing do not provide the revenue stream certainty necessary to
26 finance a project. We found it necessary to develop a contract where there was enough
27 certainty in the revenue stream during the 20-year financing term to allow the project to
28 be financed and built, but that protects customers from enriching the developer via
29 excessively high energy payments, while simultaneously providing the possibility for
30 those customers to benefit from potential below-market energy pricing under the PPA.
31 This was a tough nut to crack, but the CRF mechanism was the solution.

32
33 During the term of the PPA, if the energy cost turns out to be below market for some or
34 all of that term, customers receive the benefit of that below market pricing. If the energy

1 costs are above market, they similarly have to pay that above market cost. This is the
2 certainty needed by the investment bankers to finance the project. But, during the term of
3 the PPA, these above- and/or below-market prices are tracked. When the PPA term, and
4 more importantly, the financing term, is over, if customers cumulatively paid above-
5 market pricing for energy, that cumulative amount, the CRF value, can be considered an
6 insurance fund to be used as a credit toward the purchase of the plant. That insurance
7 fund need not be used by PSNH - - PSNH can sell both the Purchase Option Agreement
8 and the insurance fund value to someone else, and pass the sales proceeds back to
9 customers.

10
11 **Q. How do we know that the CRF “insurance fund” you just described can be used at**
12 **the end of the PPA term?**

13 A. We have ensured that any such CRF “insurance fund” can be used by insisting that PSNH
14 have a Purchase Option Agreement for the facility that provides PSNH, an affiliate of
15 PSNH, or any third-party transferee of PSNH the exclusive right to purchase the Facility
16 and all other real, personal, and intangible property associated with the Facility and its
17 operations, in section 7.2 of the PPA. Moreover, to protect the value of the CRF
18 “insurance fund” and the Purchase Option Agreement, PSNH demanded, and obtained
19 agreement that PSNH’s Purchase Option Agreement will be the superior property right
20 on all such real, personal and intangible property. The Purchase Option Agreement
21 requires that, “All secured lending arrangements, mortgages, leaseholds and other liens
22 and encumbrances upon the Facility Site and other Facility Assets as of the Effective
23 Date shall be discharged or fully subordinated to PSNH's rights under this Option
24 Agreement.” That Purchase Option Agreement will be filed at the Coös County Registry
25 of Deeds.

26
27 Further, PSNH also demanded an actual insurance policy to protect the Purchase Option
28 Agreement and hence, the CRF value. The PPA requires Laidlaw to obtain a title
29 insurance policy protecting the Purchase Option Agreement. Under the PPA, “The
30 amount of such title insurance shall be Forty Seven Million Dollars (\$47,000,000), and
31 shall include an endorsement to coverage affirmatively insuring the Option Agreement
32 and PSNH's interest thereunder against unenforceability or other loss due to or resulting
33 from violation of the New Hampshire Rule Against Perpetuities.”

1 To sum up, the CRF protects customers over the term of the agreement from excessively
2 enriching the developer; the Purchase Option Agreement protects the CRF; the recording
3 of the Purchase Option Agreement in the land records at the Coös County Registry
4 protects the Purchase Option Agreement; the subordination of all other financings, liens,
5 mortgages, etc. to the Purchase Option Agreement protects the underlying assets; and the
6 title insurance provides ultimate protection of the Purchase Option Agreement property
7 right, even against the New Hampshire Rule Against Perpetuities (a concept our lawyers
8 tell us is important, but that they cannot explain.)
9

10 This “belt-and suspenders” approach provides an unprecedented level of security and
11 protection for customers, ensuring that this PPA will not result in the excessive windfalls
12 to the developer that resulted from the past PURPA rate orders issued by the
13 Commission.
14

15 **Q. Despite all the protections you just described, Mr. McCluskey testifies that the CRF**
16 **does not provide added protection to customers from above-market energy pricing.**
17 **Do you agree with Mr. McCluskey’s opinion?**

18 A. Absolutely not. The CRF may not be a real-time tracking mechanism, but due to the
19 financing concerns described above, we did not feel that a real-time energy pricing
20 tracking provision would allow the plant to be built. It is our testimony that what Mr.
21 McCluskey wants may prohibit the very financing that is required. As a result, in Mr.
22 McCluskey’s world, compliance with the RPS law and that law’s desire for the
23 development of new, renewable generation facilities would be frustrated. In Mr.
24 McCluskey’s world, it is apparent that the cost to customers is number one - - and we
25 understand and appreciate that. In constrast, PSNH has attempted to balance myriad
26 public interests in the creation of the PPA to protect customers from the problems of the
27 original IPP rate orders, but allow a financeable project to be developed that would both
28 produce renewable energy and provide extensive economic benefits to the state.
29

30 **Q. ~~Mr. McCluskey and Mr. Dalton~~ challenge that the CRF does not accumulate**
31 **interest. Do you have any comment on that issue?**

32 A. They are correct that the CRF does not accumulate interest -- in either direction. Interest
33 is a secondary effect factor to the principal protection provided by the CRF. We consider

1 these complaints about the lack of interest as relatively insignificant given the overall
2 protections that the CRF brings to the PPA.

3
4 PSNH was seeking, and received, a contract term which provides significant, but perhaps
5 not total, protection on energy prices over time. PSNH believes it is unrealistic and likely
6 unfinanceable to expect absolute actual hourly pricing under a long term PPA such as
7 this. If such actual pricing was sufficient, then there would be no need for a PPA since
8 the developer could simply receive those prices without a PPA, either directly from the
9 market, or via a mandated purchase by a utility pursuant to PURPA. Since there are no
10 developers using those available market options to build any significant source of new
11 renewable generation, it is apparent that a different pricing strategy is necessary.

12
13 ~~Q. Mr. Dalton testified that there is no security for the CRF if the project defaults. Do~~
14 ~~you agree?~~

15 ~~A. No. PSNH will have a recorded real property option, and an insured priority claim on the~~
16 ~~assets superior to all other entities. Even if there was a default by the project, PSNH's~~
17 ~~real property option rights will be available to protect customers.~~

18
19 **Q. If a PPA based on market pricing alone is insufficient to support new renewable**
20 **development, it is clearly conceivable that the ultimate cost to customers of an**
21 **acceptable PPA might be over- or under-market. Why should the Commission**
22 **approve any agreement brought before it for review and approval under the RPS**
23 **that includes those risks?**

24 A. The answer to this question is simple - - because in the RPS law, the Legislature clearly
25 expressed its finding that one of the main purposes of that law is to establish “a
26 renewable portfolio standard to support indigenous renewable energy sources such as
27 wood and hydroelectric, to encourage investments in new renewable power generation in
28 the state, and to allow New Hampshire to benefit from the diversity, reliability, and
29 economic benefits that come from clean power.” (2007 N.H. Laws, 26:1, III). The
30 testimonies filed by Mssrs. McCluskey, Traum, ~~and Dalton~~ would frustrate this
31 Legislative goal by creating a sort of “Catch-22” requirement. In a nutshell, those
32 testimonies “over-constrain” the solution space by imposing so many requirements and
33 conditions, that they eliminate any solution at all!

1 Let us explain. There is little, if any, dispute that a long-term PPA is necessary before
2 any developer could move forward with any significant new renewable generating
3 facility. The Commission has historically accepted the notion that 20 years is an
4 appropriate and necessary duration for such a long-term arrangement. But, the opposing
5 testimonies first complain that the required minimum purchase standards for renewable
6 generation in the present RPS law only run through the year 2025. Hence, they complain
7 that any purchase obligation that runs beyond that year is too risky for consumers. Thus,
8 road block number one - - how can there be a 20-year long-term PPA if it may only run
9 until 2025, fourteen years from now, and even fewer years from the date that a new
10 development would be constructed and on-line?

11
12 Second, the other testimonies all insist that any such PPA should strictly follow actual
13 market prices, with little or no deviation therefrom. As we noted earlier, since the
14 enactment of PURPA and LEEPA decades ago, qualifying facilities have had the
15 opportunity to unilaterally “put” their output to utilities at avoided cost pricing. Since
16 restructuring, PSNH has made many such PURPA purchases from existing QFs at the
17 market price included in its restructuring settlement agreement. However, in recent times
18 not one new developer has been ready, willing, nor able to accept such market pricing as
19 a basis for obtaining financing and moving forward with a significant new renewable
20 generating facility. Why? - - Because without pricing certainty, no investment capital is
21 available to finance the project.

22
23 Third, the other testimonies assert that there are myriad legal constraints that prohibit
24 creative solutions to the road-blocks that they have imposed. In the present case, those
25 constraints include assertions that New Hampshire laws may be amended or repealed;
26 Massachusetts’ RPS requirements might change; the restructuring law prohibits
27 innovations such as the assignable and transferable plant purchase option contained in the
28 Laidlaw PPA; the PPA is clearly inconsistent with the restructuring law’s requirement
29 that generation services be subject to market competition and minimal economic
30 regulation; it violates the restructuring law because the energy is not procured from the
31 competitive market; it violates PSNH’s least cost plan; and violations of the “used and
32 useful” standard.

1 Finally, when an acceptable PPA is reached, the resulting agreement is then picked-apart
2 to guess at what the developer's return on that agreement might be. The others suggest
3 that developers of an acceptable PPA should only receive a return that is minimally
4 greater than the return allowed by this Commission to PSNH for its cost-of-service
5 regulated generating assets. Mr. McCluskey went so far as stating that utility ownership
6 and traditional cost-of-service regulation of the proposed Laidlaw facility would be
7 beneficial to customers (p. 35, lines 6-9) - - but, of course, that would be prohibited, too.

8
9 We truly believe that this interminable "Catch-22" is not what the Legislature intended
10 when the RPS law was enacted. In light of the opposition to the Laidlaw PPA exhibited
11 by Commission Staff and OCA, we find it quite unlikely that there will be any new
12 development of significant biomass-fired renewable generation in New Hampshire for the
13 foreseeable future unless the Commissioners themselves "see the forest-for-the-trees" and
14 recognize that the Laidlaw PPA we have negotiated and presented for approval does,
15 indeed, meet the public interest standard of the RPS law.

16
17 **Q. On page 20 of his testimony, Mr. McCluskey hypothesizes that the facility may not**
18 **have value after 20 years and therefore the value of the CRF cannot be realized. Do**
19 **you agree?**

20 **A.** With respect to the lack of value of the facility after 20 years and thus the lack of
21 opportunity to realize the value of the CRF, PSNH simply disagrees with this assumption.
22 Neither Mr. McCluskey nor Mr. Traum provide any justification or facts to support the
23 assumption that the plant will have little value after 20 years. History of the industry and
24 power plants in New England show just the opposite. In fact, one of Mr. Traum's
25 suggestions in the migration docket (DE 10-160) is for divestiture of PSNH's owned
26 generation. If plants have little or no value after 20 years, then Mr. Traum's suggestion is
27 nonsensical, since divestiture wouldn't produce any value.

28
29 Power plants last much more than 20 years. It is difficult to identify any power plant of
30 size in New England that hasn't continued to operate many years beyond 20 years.
31 PSNH's own hydro and fossil fleet is evidence of typical lives of power plants. Our
32 hydroelectric facilities have operated for over 70 years. PSNH's Schiller 5 plant was
33 built in the 1950's, and continues with a new biomass boiler put into service in 2006. Of
34 course it is not a guarantee that the Berlin biomass facility will operate beyond 20 years,

1 but it is highly likely in PSNH's experience and historical fact. If anything, PSNH
2 expects that energy demand will grow in the future, the cost of such energy will increase,
3 and it will get increasingly difficult to build and site new power plants in the future. The
4 prospect of decreasing supply in an expanding market would make existing renewable
5 energy resources increase in value in the future.
6

7 **Q. On page 10 of Mr. Traum's testimony, he comments on the certainty, or lack**
8 **thereof, of realizing the future value of the CRF. He also claims that there is no**
9 **"matching" of those who pay the costs, and those who receive the benefits. Please**
10 **comment on these claims.**

11 A. With respect to Mr. Traum's "matching" argument, he fails to acknowledge that such
12 generational "matching" of capital investments that amortize over the long-term might be
13 ideal, but never occurs, and hence does not occur today, in a cost-based regulated electric
14 utility setting. As an example, customers today are receiving significant benefits from
15 PSNH's hydroelectric facilities that were built in the 1920's and were "paid for" through
16 rates charged to customers decades ago. Similarly, PSNH's (and any regulated utility's)
17 distribution system is made up of facilities that may have been installed over 40 to 50
18 years ago and are highly depreciated; certainly not priced on replacement value or current
19 value. Customers today simply are benefitting from facilities that were installed and
20 "paid for" years ago. It works both ways. Anytime a new facility is added, such facility
21 is typically more costly than the average embedded costs of a utility's system and current
22 customers "pay for" that facility.
23

24 **Q. On pages 17 through 22 of his testimony Mr. McCluskey rejects the innovative CRF**
25 **contained in the PPA. Do you agree with Mr. McCluskey's criticisms of the CRF?**

26 A. Absolutely not. Mr. McCluskey fails to recognize this unique contract feature for what it
27 is: a way to obtain potential future value for customers in the event that the PPA's energy
28 prices exceed the market price. The contract prices are what they are and if the PPA is
29 approved, the cost of the power and environmental attributes will be recovered as they
30 occur, just like every other PPA or rate order issued or approved by the Commission.
31 Given the possibility that the contract prices could be, but are not assured to be, over
32 market over the 20-year term, PSNH sought to create a mechanism to recapture any
33 potential over-market payments. PSNH's and the State's experience with long term rate
34 orders have demonstrated that some form of longer term customer protection should be

1 sought in a long term PPA or rate order. The CRF is just that – an insurance policy for
2 customers.

3
4 PSNH would not enter into a long term PPA without the CRF and is viewed by PSNH as
5 a unique way to add protection that doesn't, and didn't exist, in past PPAs or rate orders.

6
7 Mr. McCluskey's discussion of the CRF and the purchase option found in the PPA is
8 based on the erroneous assumption that PSNH will purchase the Laidlaw facility at the
9 end of the 20-year term. That assumption is just plain wrong. The purchase option
10 preserves for customers the right to control the value of the Laidlaw facility after the
11 PPA's 20-year term. The value of the facility might be achieved by selling the purchase
12 option right to a third party, with the proceeds credited back to customers; indeed, the
13 value of the plant could be achieved by PSNH purchasing the facility. Which, if either,
14 of these events will happen cannot be determined until the PPA's term comes to an end.
15 But, in either situation, not only can customers benefit from the fair market value of the
16 facility at that time, but they also potentially gain that value at a discount – the
17 accumulated CRF funds!

18
19 As noted earlier, Mr. McCluskey also complains that the CRF is insufficient because it
20 fails to include carrying costs on the balance. The CRF is intended as an innovative and
21 mutually agreed upon method to provide protection for customers. We view this
22 criticism of Mr. McCluskey as his letting the perfect be the enemy of the good. The CRF
23 is a good, and agreed upon, insurance policy for customers. It may not be perfect, but we
24 deem it to be perhaps the most significant item in the PPA.

25
26 Mssrs. McCluskey and Traum challenge the CRF by again throwing up supposed legal
27 roadblocks. Mr. McCluskey claims at p. 22 that the CRF violates the "used and useful"
28 standard for ratebasing of investments. Mr. Traum states at p. 10 that although he is not a
29 lawyer, it's his testimony that the state's electric restructuring law must be changed in
30 order for customers to get any of the hypothetical benefits from the CRF. Again, both
31 Mr. McCluskey and Mr. Traum are incorrect.

32
33 Mr. McCluskey cites to Commission Order No. 25,111 as the basis for his "used and
34 useful" argument. In that Order, concerning Until's petition for approval of investment

1 in and rate recovery of distributed energy resources, the Commission stated, “The
2 reconciling mechanism as proposed by UES would allow the Company to recover the
3 costs of DER projects before those projects are used and useful, which is contrary to
4 RSA 378:28 and RSA 378:30-a.” RSA 378:28 deals with permanent base rates; 378:30-a
5 deals with inclusion of CWIP in rate base. Neither of these statutes that form the basis of
6 the Commission’s decision in the Unifil Order is applicable to the Laidlaw PPA’s CRF.
7 The value accumulated via the CRF throughout the term of the PPA is not being
8 ratebased by PSNH. PSNH would not earn any return on that amount. The CRF
9 provides a means for customers to obtain the future value of the Laidlaw facility at a
10 discount. No more; no less. Mr. McCluskey’s “used and useful” argument is
11 incomprehensible.

12
13 Similarly, Mr. Traum’s testimony that the CRF violates the restructuring law is equally
14 puzzling. As we testified earlier, contrary to Mr. Traum’s testimony, the value of the
15 CRF can accrue to customers even if PSNH cannot and does not ultimately purchase the
16 facility. PSNH can sell the benefits of the purchase option and the CRF fund to a third-
17 party who desires to purchase the plant, with the sale proceeds accruing to the benefit of
18 customers.

19
20 In summary, in the PPA there is no conflict with law, the used and useful standard, or any
21 other regulatory principle, contrary to Mr. Traum’s or Mr. McCluskey’s speculations.
22 The CRF only adds value for customers; there is no scenario under which it will diminish
23 value for customers. Given that it will add value for customers, I would expect Mr.
24 McCluskey and the Consumer Advocate to favor this mechanism, not oppose it.

25
26 With respect to the speculation that the plant may not have significant value after 20
27 years, or that value would be less than the CRF (if the CRF is non zero), PSNH agrees
28 that such a scenario is theoretically possible but such a scenario is not supported by
29 industry history. If a fully depreciated, wood-fired power plant has no value in the ISO-
30 NE market, what type of plant does? Mr. McCluskey seems convinced that gas-fired
31 power plants are now and will always be the marginal price setter in New England. He
32 must also believe the natural gas-fired plants will always be less expensive than wood-
33 fired plants. His conclusions overlook the volatile history of the natural gas market
34 relative to the wood fuel market. He also discounts the value of fuel diversity in a

1 portfolio of power resources. To repeat, PSNH strongly disagrees with the contention
2 that the CRF has little value to customers.

3
4
5 **RENEWABLE ENERGY CERTIFICATE PRICES**
6

7 **Q. The contract prices for Renewable Energy Certificates (“REC’s”) and renewable**
8 **attributes are based on a declining percentage of the State’s Alternative Compliance**
9 **Payment price as set forth in New Hampshire law. What did Messrs. McCluskey and**
10 **Traum have to say about the REC terms of the PPA?**

11 A. Similar to their approach toward the energy pricing, Messrs. McClusky and Traum
12 focused their testimony on an analysis of the proposed PPA pricing terms relative to a
13 forecast of the future market value for RECs.
14

15 **Q. Please comment on the REC projections used by Mr. McCluskey.**

16 A. Mr. McCluskey, on page 27 of his testimony, compares the pricing to a Synapse Energy
17 Economics, Inc. report that was prepared in 2007 and updated in August 2009. But the
18 projections in that report are already departing from reality. It is notable that on page 28
19 of his testimony, Mr. McCluskey admits that “the near term adjusted Synapse prices could
20 be reasonably described as being too high.” The Synapse Study could not even accurately
21 predict short term REC prices. It would therefore be complete folly to rely on this report
22 in any way to draw conclusions about what REC prices may look like longer-term. This
23 exercise also further demonstrates why PSNH’s approach here, of designing this PPA to
24 avoid notoriously unreliable predictions, is the right approach.
25

26 **Q. Please comment on the REC projections used by Mr. Traum.**

27 A. Mr. Traum, on page 6 of his testimony, summarizes his analysis of the PPA REC pricing
28 relative to a projected market scenario in which the future price of RECs is always equal
29 to 30% of the ACP. He supports this 30% figure since that is his estimate of the
30 relationship that exists today. He admits on page 6 that “it is very difficult to forecast the
31 future cost of RECs”.
32

1 **Q. Do you have any further rebuttal of these REC market price projections?**

2 A. Yes. As stated elsewhere in this rebuttal, PSNH does not believe long-term market
3 forecasts should play a significant role in evaluating the PPA. This is especially true in
4 the case of RECs. The various New England states have created laws and policies to
5 support new renewable resource development. The REC market is an attempt to force fit a
6 market solution to achieve a policy. In New Hampshire, the law has established an
7 Alternative Compliance Price (ACP) for each class of renewable requirement.
8 Presumably, the ACPs were created as an appropriate benchmark price that would create
9 the necessary incentive for renewable resource construction. The Laidlaw PPA includes
10 the purchase of RECs at a significant discount to those established ACPs. Recall that in
11 the PPA, the price paid for RECs is 80% of the ACP for the first five years; 75% of the
12 ACP for the subsequent five years; 70% of the ACP for the next five years; and 50% for
13 the remainder of the PPA's term.

14
15 Both Mr. McCluskey and Mr. Traum have fixated on the cost of the PPA relative to
16 flawed projections of the REC market, rather than considering the discount to the ACP or
17 the furthering of state policy. Also, neither witness has commented on the fact that the
18 PPA definition of "Renewable Product" encompasses more than just RECs. In exchange
19 for the Renewable Product payment, PSNH is entitled to any and all environmental
20 attributes associated with the production from the facility. Thus, regardless of future
21 changes in law that may revise or create renewable incentive programs, PSNH's customers
22 will be entitled to any incentive program for which the facility is eligible.

23
24 Also overlooked by the witnesses is a simple, high-level consideration of the supply
25 versus demand balance that will play out in the REC market in the coming years.
26 Attachment PSNH Rebuttal 6 is a chart prepared by ISO-NE (source: ISO-NE Regional
27 System Plan, October 28, 2010) that depicts the rapid growth in renewable portfolio
28 requirements (i.e. demand) relative to the current level of supply. Also shown on the chart
29 is the growth of REC supply given three different scenarios of new construction. Each
30 scenario represents the successful development of a different percentage of the renewable
31 projects currently in the ISO-NE project queue (note: ISO-NE reviewed all generation
32 projects entering the queue since June 1996 and determined that approximately 30% of the
33 projects are successfully developed, while 70% of the proposals are withdrawn). A quick
34 look at the chart indicates that demand growth will outpace supply growth even under the

1 most aggressive construction scenario. Such a supply and demand imbalance will quickly
2 result in REC market prices that approach the ACP. This is exactly the type of situation
3 that currently exists in the market for New Hampshire Class IV RECs.

4
5 Pursuant to New Hampshire's RPS law, when PSNH's application in this case was filed
6 the minimal requirement for Class I REC's was 1% of load. That requirement grows by
7 1% per year to a 16% requirement in 2025. Not only does the REC percentage
8 requirement grow, but there will be load growth as well. If energy load growth from 2010
9 through 2025 is taken into effect, the demand for Class I RECs in New Hampshire would
10 not rise by a "mere" 1600%, but over the next 15 years would grow by almost 1800%.
11 (PSNH response to OCA-1, Q-OCA-003). Under any reasonable scenario, given the lack
12 of development of new renewable resources, it is unreasonable to assume that the value of
13 renewable attributes will remain at a mere 30% of the ACP value.

14
15
16 **RENEWABLE ENERGY CERTIFICATE QUANTITY**

17
18 **Q. Does Mr. McCluskey comment on PSNH's need for additional Class I RECs?**

19 **A.** Yes. He concludes that PSNH does not need any additional RECs until 2016 and can not
20 fully utilize the Laidlaw RECs until 2023.

21
22 **Q. Do you have any comments regarding his conclusion?**

23 **A.** Yes. Mr. McCluskey makes two assumptions that are key to his conclusion. First, his
24 model assumes that PSNH will utilize the RECs produced by Schiller Unit 5 to meet its
25 RPS obligation. To date, PSNH has been successful in selling these RECs to other market
26 participants, a process that was envisioned by the Commission's Order approving the
27 modification of Schiller Unit 5. The sale of RECs produced by Schiller Unit 5 was
28 expressly set forth in the March 3, 2004, "Joint Motion for Reconsideration of Order No.
29 24,276 of PSNH, OCA, the Office of Energy and Planning, and the N.H. Timberland
30 Owners Association" in Docket No. DE 03-166. Part of the risk-sharing mechanism
31 agreed to by the parties joining in that motion was the "sale of Renewable Energy
32 Certificates and other renewable energy products." That Motion, including the sale of
33 Schiller 5's RECs, was accepted by the Commission in its Order No. 24,327. Mr.

1 McCluskey cannot unilaterally overturn that Commission Order and now assume that he
2 can dictate the use of the RECs produced by Schiller Unit 5.

3
4 Second, he assumes that the current customer migration level (approximately 31%) will
5 continue. Migration is heavily influenced by the price of PSNH's Energy Service relative
6 to the costs of full requirement service available via a competitive retail supplier. Over the
7 last few years, this relationship has experienced a number of cycles and migration could
8 go up, down, or remain the same into the future.

9
~~10 Q. Mr. Dalton testified that the revenues from the sales of Schiller 5's RECs are credited~~
~~11 back to PSNH's customers, and therefore, it is reasonable to include these RECs~~
~~12 when evaluating PSNH's needs. Is Mr. Dalton correct?~~

~~13 A. No. As discussed above, the RECs produced by Schiller 5 are handled pursuant to the~~
~~14 risk sharing mechanism approved by the Commission in Docket No. DE 03-166.~~

15
16 **Q. Is the development of new renewable generation that matches PSNH's needs and**
17 **timing for RECs possible?**

18 A. Yes – but not economically. Biomass plants tend to be more economic if they are properly
19 sized. Therefore, the combined costs of two 15 MW biomass plants is likely to be
20 considerably higher than one 30 MW facility. As a result, new generation does not
21 increase linearly over time; instead, it gets developed in larger batches. In order for an
22 economically sized biomass plant to be built, in the early years it may produce more RECs
23 than PSNH might need; but, the alternative is either not to have any new renewable
24 generation built, or to build more costly, inefficiently sized plants based on REC needs
25 alone. That would be a bad policymaking choice, one that would be inconsistent with the
26 RPS law's public interest factor of "efficient and cost-effective realization of the purposes
27 and goals of this chapter."

28
29 By insisting on a limitation that PSNH buy only the precise number of RECs it needs at
30 any point in time, Mr. McCluskey and Mr. Traum are creating a scenario where such
31 RECs will not be available and PSNH will have to pay to the Commission-controlled
32 renewable energy fund the alternative compliance price instead.

1 **PROJECT FINANCING**

2
3 **Q. On pages 29 through 40 of his testimony Mr. McCluskey describes various analyses**
4 **he performed against some cash flow and ROE analysis PSNH performed early in**
5 **the negotiation process. Are these analyses useful?**

6 A. The analysis that PSNH performed early in the negotiation process and the subsequent
7 review of the analysis by Mr. McCluskey have very limited usefulness. To be clear,
8 PSNH did not know then and does not know now what the financial performance of the
9 plant will be, nor do we know what Laidlaw's current estimates are for their projected
10 financial performance. Such information is typically not available to the buyer and is not
11 the basis for negotiation.

12
13 Early in the process, Laidlaw had agreed to provide some basic financial information to
14 PSNH to help us determine if the project was reasonably financially feasible. PSNH used
15 this to determine whether to continue discussions with Laidlaw. It is rare for a developer
16 to provide PSNH with such information.

17
18 Financing is the developer's responsibility, not PSNH's. Actual financial results accrue to
19 the owner, not PSNH. Thus, these financial analyses can be somewhat informative to a
20 buyer's understanding of the feasibility of a project but they are not very relevant to
21 detailed negotiations and, like any other analysis, may or may not be accurate over time.

22
23 **Q. On page 35 lines 14-16 Mr. McCluskey states "I do know, however, that PSNH**
24 **ultimately agreed to a set of product prices that produce about 10% less revenue for**
25 **Laidlaw than the initial set." Do you agree with his observation?**

26 A. Yes. We did leverage our limited financial review of the project for lower prices but that
27 was early in the process. This is one of the limited purposes for which we used the cash
28 flow and ROE spreadsheets. We would also like to point out that Mr. McCluskey uses an
29 incorrect capital cost when he makes his comparison of the cash flows resulting from the
30 project to the capital cost (page 30, line 8). Laidlaw's last published estimate of the direct
31 construction costs is \$167 million, not \$96 million, as shown on page 5, line 14 of his
32 testimony, and that price is likely to grow due to changes in design and escalation of the
33 cost of construction and materials. We imagine that there may be other capitalized costs,

1 such as interest during construction and certain transactional costs – but again, those are
2 Laidlaw’s figures and risks to manage.

3
4 **Q. On pages 32 and 33 of his testimony, Mr. McCluskey claims that the Laidlaw project**
5 **is less risky than other merchant plants. On page 34 lines 11-17, Mr. McCluskey**
6 **suggests that an ROE of 11% would be appropriate. Do you agree?**

7 A. No. Mr. McCluskey seems to view the Laidlaw project as being similar to regulated
8 utility ownership and suggests an ROE of 119 basis points above PSNH’s regulated ROE.
9 On page 35 of his testimony Mr. McCluskey does point out that project would have lower
10 costs if PSNH owned that plant under state utility regulation and PSNH generally agrees
11 with that observation.

12
13 However, the project has substantial risks that Mr. McCluskey does not mention that a
14 merchant plant like Laidlaw would need to be compensated for through a higher ROE.
15 The risks include:

- 16
17 • The risk of not recovering money already spent for development and approval
18 and numerous studies and property acquisition.
19
20 • Construction and cost overrun risks.
21
22 • The risk of operation. If the plant does not run for any reason for the 20 year
23 term, Laidlaw will receive no revenue.
24
25 • The risk of not recovering actual fuel costs if they cannot at least match the
26 benchmark fuel price in the contract.
27
28 • The risk of the fuel supply being adequate to maintain operations.
29
30 • The risk of additional capital expenditures whether for plant repair, upgrade or
31 new environmental requirements or other reasons.
32
33 • The risk that ISO-NE will not recognize the capacity from the plant in which
34 case, Laidlaw does not receive capacity revenue from PSNH.
35
36 • The risk of interconnection costs and transmission constraints.
37
38 • The risk of increased costs such as property taxes or labor costs.
39

40
41 PSNH does not take a position on the amount of ROE Laidlaw needs or deserves but we
42 do disagree with Mr. McCluskey’s view that the risks are minimal.

1 **ALTERNATIVE SOLICITATIONS**

2
3 **Q. On page 22 lines 6 through 9, Mr. McCluskey takes note that PSNH did not issue a**
4 **competitive solicitation for the products that it proposes to purchase from the**
5 **Laidlaw project. On page 24 lines 10 and 11 he suggests “cost minimization was not**
6 **high on the Company’s list of objectives for the PPA.” On line 11 through 21 he**
7 **compares the Laidlaw PPA with the approved PPA for purchases from the Lempster**
8 **wind project. On page 25 lines 1-15 he refers to “unsolicited long-term offers from**
9 **proposed biomass projects ...four existing biomass facilities” and claims “all four**
10 **submitted prices that.... undercut the Laidlaw bundled prices” but “the discounts do**
11 **not come close to bridging the gap between the PPA prices and today’s market**
12 **projections.” On page 12 lines 5 through 10 Mr. Traum also refers to the Lempster**
13 **wind project PPA as a comparison. Please comment on these assertions and**
14 **comparisons.**

15 **A.** First of all, Mr. McCluskey’s comment that “cost minimization was not high on the
16 Company’s list of objectives” is disparaging, speculative and wrong. Of course cost
17 minimization is high on PSNII’s list of objectives for this PPA and for everything it does,
18 and to suggest anything to the contrary is absurd. However, the State, regional and
19 national goals for environmental improvements and economic benefits from state-sited
20 renewable resources and compliance with existing laws are also high on PSNH’s
21 objectives. The requirements of the RPS law list cost as only one criterion for a long-term
22 PPA for renewable resources. PSNH would point out that costs are not the only criterion
23 established by the State.

24
25 The PPA for Lempster, like the Laidlaw PPA, was developed through a bilateral
26 negotiation. However the Lempster PPA is favored in the testimony of these two
27 witnesses, yet the Laidlaw PPA, which was developed through a similar process, is not.
28 The Lempster PPA, which is held up as a desirable PPA by both witnesses, is a very
29 unique and creative PPA. PSNH could not have developed such a PPA through a
30 “competitive” bidding process. Each project has unique characteristic and one is not
31 directly comparable to others or have the same likelihood of success.

32
33 One drawback of an RFP process is that the timing of an RFP may not coincide with the
34 business plans of a developer. An RFP could be issued “too early”, i.e., at a point in time

1 in which no developers have advanced their business plans to the point at which PPA
2 negotiations are appropriate. Such a poorly timed RFP could yield proposals from
3 developers who have not sufficiently planned their project to the point where feasibility is
4 certain. That is inefficient and can lead to months or years of effort on a project (or
5 projects) that never get built. Similarly, an RFP can be issued “too late” such that a viable
6 project, in need only of a PPA to start construction, is delayed or cancelled. PSNH
7 supports direct negotiation when the timing is appropriate for both the buyer and the seller.
8 Such a condition occurred in the Lempster negotiation and again with Laidlaw.

9

10 PSNH does not believe that the Lempster PPA or the Laidlaw PPA can be duplicated with
11 any other developer. Each PPA was based on a set of circumstances and past conditions
12 which do not exist today. Each is a unique PPA with attractive pricing, desirable
13 environmental attributes, tax provisions that provide substantial benefits to the State and
14 unparalleled protections for customers. Each of these PPA’s is proof of successful
15 bilateral negotiations.

16

17 It should be pointed out that the unsolicited long-term PPA offers from the two proposed
18 biomass facilities in New Hampshire and the four existing wood plants all came after the
19 bilateral PPA negotiation with Laidlaw. One of the existing wood plant offers came after
20 the prices in the Laidlaw contract were disclosed and was clearly designed to compete,
21 after the fact and with the knowledge of the Laidlaw prices, with the Laidlaw PPA. Even
22 with that after the fact knowledge, the offer was not superior to the Laidlaw PPA. The
23 other existing wood plants do not qualify as Class I renewable resources and cannot be
24 compared with the Laidlaw PPA because they do not help fulfill PSNH’s Class I
25 renewable requirement.

26

27 Of the two other proposed new biomass plants that made offers to PSNH, one is not even
28 in PSNH’s service territory and the other is proposed to be within eyesight of the Laidlaw
29 project. Neither offer was superior to the PPA negotiated with Laidlaw. Either party
30 could have approached, and likely did approach, other New Hampshire utilities with the
31 same statutory requirements and opportunities as PSNH. Neither has an existing boiler,
32 like Laidlaw, or Site Evaluation Committee review and approval.

33

1 If anything, these offers prove that PSNH's approach to creative bilateral negotiations to
2 meet State renewable requirements produces reasonable and competitive results.

3
4
5 **PUBLIC INTEREST ISSUES**
6

7 **Q. Mr McCluskey indicates in Section IV, B of his testimony that there are places**
8 **where the PPA under consideration is inconsistent with the Restructuring Policy**
9 **Principles of RSA 374-F:3. Do you agree with his views?**

10 A. No we do not. However, we appreciate that Mr. McCluskey agrees that there are
11 provisions of the PPA that he finds consistent with the Restructuring Policy Principles of
12 RSA 374-F:3. However, we do not believe that he has accurately assessed the principles
13 he speaks about in his testimony.

14
15 **Q. Please discuss the first area of disagreement.**

16 A. Mr McCluskey states that in his opinion the PPA fails to meet the restructuring
17 requirement that generation services should be subject to market competition and minimal
18 economic regulation. On its face, this 1996 "restructuring policy principle" appears to be
19 inconsistent with the 2007 RPS statute that promotes development of long term contracts
20 to aid in the development of new renewable facilities in New Hampshire. Recall that all of
21 the restructuring policy principles found in RSA 374-F:3 are "interdependent" and
22 intended to "guide" the Commission. (RSA 374-F:1, III). It is doubtful that the
23 Legislature intended Mr. McCluskey's interpretation of one such interdependent
24 restructuring policy principle to "trump" the RPS law's authority for multi-year purchase
25 agreements with renewable energy sources.

26
27 From our perspective, the Legislature has recognized the need to temper its enthusiasm for
28 fully competitive generation markets, in favor of allowing exceptions for renewable
29 development. If on balance, the remaining benefits associated with development of these
30 new renewable generation facilities in the state outweigh the very limited restriction of
31 fully competitive markets, then the Commission should rule in favor of the proposed PPA.

32
33 In this specific instance, efforts have been made to tie the contract to the competitive
34 market place for energy, in a manner that provided for the pricing needs of the developer

1 (ie. fixed prices) with the CRF concept, which can bring value back to customers based on
2 actual daily market prices. While energy prices during the first 20 years of the PPA are
3 not priced at hourly day-ahead Locational Marginal Prices (LMP), such prices are
4 essentially “trued up” to actual hourly day-ahead LMPs at the end of the contract. If
5 actual prices paid end up being, overall, above actual LMPs, then customers have access to
6 the CRF as additional offsetting value.
7

8 **Q. Mr McCluskey indicates in his testimony that wood price markets will be harmed by**
9 **the WPA. Do you agree with his views on these points?**

10 A. No, we do not. The PPA clearly indicates that the basis for any energy price adjustment is
11 not Laidlaw’s actual cost of wood, but instead the documented and audited cost of wood at
12 PSNH’s Schiller Unit 5. Laidlaw does not have the ability or incentive to over-pay for
13 wood to produce a higher earnings margin – Laidlaw always makes more money by
14 paying less for biomass fuel. Only changes in wood fuel price at Schiller will result in an
15 increase or decrease in the price paid for energy produced by Laidlaw. So we believe that
16 Mr McCluskey has mischaracterized the influence that Laidlaw has on wood prices.
17

18 **Q. Mr McCluskey refers to the restructuring principle found in RSA 374-F:3(V)(c)**
19 **concerning default service. Do you have any comments to make concerning that**
20 **testimony?**

21 A. Yes, we do. We are concerned by Mr. McCluskey’s selective enforcement, quotation, and
22 interpretation of the law. Mr McCluskey restates in part the RSA, saying it requires “that
23 default service be procured from the competitive market.” But, curiously, he leaves out a
24 critical word in his testimony. The RSA states “default service *should* be procured
25 through the competitive market.” The word *should* indicates a preference rather than a
26 requirement – a preference that has less force as it is one of a number of interdependent
27 principles intended to guide, not mandate, the Commission. Failing to include the word
28 “should” provides a misleading restatement of the law.

1 **Q. Mr McCluskey refers to the principle detailed in RSA 374-F:3(V)(e). Does he**
2 **accurately reflect the essence of that portion of statute in his criticism of the**
3 **proposed PPA?**

4 A. We do not believe so. The full text of the referenced RSA is as follows:

5 Notwithstanding any provision of subparagraphs (b) and (c), as
6 competitive markets develop, the commission may approve
7 alternative means of providing transition or default services
8 which are designed to minimize customer risk, not unduly harm
9 the development of competitive markets, and mitigate against
10 price volatility without creating new deferred costs, if the
11 commission determines such means to be in the public interest.
12

13 Our understanding of this principle suggests that contrary to Mr. McCluskey's assertion,
14 the Commission has the full authority to consider alternate means of providing the kinds
15 of services PSNH seeks to buy from Laidlaw through this PPA, and that the competitive
16 markets are not the sole vehicle for providing for that supply. We believe that the PPA
17 complies with this restructuring policy principle because it: 1) minimizes customer risk
18 (via the CRF mechanism); 2) does not causing undue harm to the development of
19 competitive markets (it is a bilaterally negotiated agreement with a merchant plant
20 developer); and 3) mitigates against price volatility without creating new deferred costs
21 (costs are established and fuel cost volatility is mitigated by its being indexed to a
22 Commission-reviewed benchmark).
23

24 Finally, Mr McCluskey erroneously states that the terms and conditions of the proposed
25 PPA shift risks from Laidlaw to PSNH's customers. PSNH disagrees. PSNH has shifted
26 risk onto Laidlaw and away from customers through the CRF, a unique feature that did not
27 exist when the fixed price PURPA rate orders were implemented where customers took
28 the entire risk of the fixed price. In fact, customers are protected either way. If the
29 Laidlaw PPA contract energy prices are below market, customers pay the below market
30 prices. If the contract energy prices are above market overall, then PSNH customers have
31 a claim to get further value from the facility to offset the above market prices.

~~1 WOOD MARKET ISSUES~~

~~2~~
~~3 Q. Concord Steam offered Testimony from Robert J Berti and James C. Dammann~~
~~4 pertaining to wood supply issues. Do you have comments about that testimony?~~

~~5 A. Yes. Although we did not participate in the Site Evaluation Committee process for the~~
~~6 Laidlaw plant, we have some familiarity with it. The hearings lasted for 6 days and the~~
~~7 Subcommittee deliberated for 2 days. Even a cursory review of the transcripts makes~~
~~8 clear that wood supply issues were a major feature of that proceeding. Laidlaw's~~
~~9 witnesses testified for almost a day and a half about wood related issues. (See SEC~~
~~10 transcript, August 24, 2010, A.M. and P.M. Sessions; September 25, A.M. Session.)~~
~~11 Numerous exhibits were offered, including multiple reports from a variety of sources~~
~~12 about wood supply in New Hampshire and the northeast. The Subcommittee undertook an~~
~~13 extensive and exhaustive analysis of this issue and ultimately reached the following~~
~~14 conclusion:~~

~~15 the Subcommittee does not find that there is insufficient biomass in the~~
~~16 region for all facilities. It is impossible to predict, with any accuracy, how~~
~~17 much biomass will be on the market, the price of the biomass, and the~~
~~18 ability or inability of other facilities to purchase such biomass.~~
~~19~~

~~20 Decision at 61. Mr. Berti's testimony in this docket contradicts that conclusion, and the~~
~~21 extensive evidence the Subcommittee reviewed in reaching that conclusion.~~
~~22~~

~~23 Concord Steam could have intervened in the SEC proceeding but did not, although it~~
~~24 offered public comments. Likewise, Mr. Berti could also have intervened. He did not,~~
~~25 although he offered public comments. (See SEC Transcript, September 10, 2010, A.M.~~
~~26 Session at 17-30.) The comments he offered addressed many of the same points he raises~~
~~27 here. It is not PSNH's role to re-litigate the issues already decided by the SEC. Given~~
~~28 that the SEC voted unanimously to issue the Certificate, there is the implication it did not~~
~~29 find Mr. Berti's criticisms to have merit.~~
~~30~~

~~31 Q. Do you have any other comments about the Concord Steam testimony pertaining to~~
~~32 wood supply?~~

~~33 A. Yes. Laidlaw projects that it will use 750,000 tons per year of wood to fuel the Berlin~~
~~34 plant. Concord Steam claims that figure is "inaccurate" and a "misrepresentation", and~~
~~35 that the plant will use 925,000 to 975,000 tons per year of wood. Berti Testimony at 8.~~

1 Based on that (inaccurate) premise, Concord Steam then argues that Laidlaw will have to
2 procure more wood, and from greater distances. Both of these issues were also discussed
3 extensively during the SEC proceeding. Mr. Berti's assertions here contradict the
4 extensive evidence that was presented there.

5

6 Louis Bravakis of Laidlaw testified repeatedly, and was cross-examined extensively on the
7 issue that the facility expected to use 750,000 tons per year of wood. (See e.g. SEC
8 Transcript, August 24, 2010, P.M. Session at 36-39). Laidlaw's engineering consultant,
9 Dammon Frekker, also provided similar testimony supporting the 750,000 ton per year
10 figure and explaining the basis for that figure. (See e.g. SEC Transcript, August 25, 2010,
11 A.M. Session at 10-15). The Subcommittee Chair, when cross-examining Mr. Frekker,
12 asked that he submit a supplemental exhibit with the supporting calculations for the
13 750,000 ton figure, which was done. (Id.; see also Laidlaw Exh. 69.) In addition, Mr.
14 Frekker's testimony also explained the errors in the calculations submitted by another
15 intervenor, Clean Power Development, which led them to conclude the facility's fuel
16 usage would be higher than 750,000 tons. (SEC Transcript, August 25, 2010, A.M.
17 Session at 10-15.)

18

19 **Q. Do you have anything else to add on this issue?**

20 **A.** Yes. An inherent component of all the Berti testimony is the underlying assumption that
21 somehow the Laidlaw facility will have an adverse effect on the forests and forest
22 industry. In fact, Laidlaw reached a stipulation with the Public Counsel in the SEC
23 proceeding, which was appended to the Certificate as a set of Conditions, dealing with
24 "sustainability". That approach—the first of its kind in New Hampshire, was praised by
25 the Subcommittee. (See e.g. SEC Transcript, Day 2 Deliberations, September 21, 2010,
26 A.M. Session at 58-59 [Subcommittee Chair praising the condition]; id. at 56
27 [Commissioner Ignatius calling it a "real strong step forward in designing sustainability
28 standards"]).

29

30 **Q. Do you have comments with regard to the testimony of Concord Steam Corporation
31 witness Saltsman?**

32 **A.** Yes, we have several comments to make about Mr. Saltsman's testimony. First, Mr.
33 Saltsman puts forward assertions about the economic theory of supply and demand that
34 appear to contradict themselves. On page 5 of his testimony, Mr. Saltsman asserts that

1 ~~with the addition of Laidlaw, significant increased demand for wood fuel will dramatically~~
2 ~~increase wood prices. Later in his testimony on page 8 and 9, Mr Saltsman predicts that~~
3 ~~the operation of Laidlaw will result in the shutdown of the existing IPPs wood fired~~
4 ~~plants, resulting in a decreased demand for wood and a “disruption in the market place.”~~
5 ~~If demand for a product decreases, then simple economic theory would suggest that prices~~
6 ~~for that product will fall. Mr Saltsman appears to testify that wood for fuel markets work~~
7 ~~in a way that increased demand causes higher prices, and decreased demand causes higher~~
8 ~~prices. Both cannot be true.~~

9
10 ~~Second, Mr Saltsman provided an Exhibit (Attachment B) supporting his assertion on~~
11 ~~pages 7 and 8 of his testimony, that the operation of PSNH’s Schiller 5 unit on wood was~~
12 ~~the sole cause of price increases experienced by Concord Steam. I believe he makes this~~
13 ~~assertion to support his claim that the addition of a new large wood fuel demand in the~~
14 ~~state caused higher prices to be experienced by Concord Steam. Mr Saltsman was very~~
15 ~~selective in the data and dates he chose to present in his Exhibit. When a more full~~
16 ~~examination of the data is presented, very different conclusions can be reached.~~

17
18 ~~Attachment PSNH Rebuttal 7 takes Mr Saltsman’s response to PSNH Data Request 38 to~~
19 ~~Concord Steam, including price and quantity data by month for years 2004 through 2010.~~
20 ~~This data suggests a very different conclusion than Mr Saltsman has reached. Mr.~~
21 ~~Saltsman’s Exhibit suggests that a 42% increase in wood fuel costs occurred in 2006. In~~
22 ~~his testimony he claims that this increase all results from the new operation of Schiller 5~~
23 ~~on wood. The simple reality is that wood fuel prices for Concord Steam increased 19%~~
24 ~~year over year 2005 over 2004, and another 12.5% year over year 2006 over 2005. In~~
25 ~~actuality, the December price for Concord Steam was the lowest price in all of 2006,~~
26 ~~PSNH’s Schiller 5 Unit began commercial operation on wood in December 2006.~~
27 ~~Finally, in year 2007, the first full year of operation of PSNH’s Schiller 5 on wood,~~
28 ~~Concord Steam’s wood fuel price increased only 1.6% over 2006. So neither the price~~
29 ~~increases to Concord Steam Mr Saltsman wishes to lay at the feet of Schiller 5’s~~
30 ~~conversion to wood fuel, nor the correlation he makes to future expected price increases is~~
31 ~~supported by the data.~~

32
33 ~~Third, Mr Saltsman asserts that PSNH will have monopoly power over wood fuel and~~
34 ~~Class I REC markets, PSNH will not control the wood supply activities of Laidlaw, and~~

1 as a result, PSNH and Laidlaw will be competitors for the wood fuel resource.
2 Furthermore, Mr Saltsman ignores all of the other uses for wood both in New Hampshire
3 and in the New England region when making his claim. Even if Schiller 5 and Laidlaw
4 were the only operating power generation facilities in the state, the total consumption of
5 wood in these facilities would be a small fraction of the total wood consumed in the state
6 and region.

7
8 Finally, the assertion that PSNH will have a dominant position in the Class I REC market
9 fails to understand that biomass comprises only a small portion of the Class I REC supply
10 today, and will likely be a small percentage of that supply long term. Other non biomass
11 sources of supply currently provide the bulk of Class I REC's in the New England
12 markets. The REC market does not consist of New Hampshire alone, and Class I RECs
13 are not limited to biomass generation, but include several other alternative supply
14 resources.

15 16 17 CONCLUSION

18 19 Q. Please summarize your testimony.

20 A. PSNH urges the Commission to approve the PPA with Laidlaw. In determining whether
21 to do so, the Commission must resolve a threshold issue: does the PPA comply with the
22 objectives of the law and state policy to increase the amount of renewable generation in
23 New Hampshire.

24
25 Staff and intervenors in this docket are suggesting that the Commission make its decision
26 based primarily on economic analysis using today's market prices for energy and RECs as
27 the driver of its decision. PSNH contends that there are many other factors to consider.
28 State policy is to promote renewable generation in New Hampshire, yet experience has
29 shown that absent a long term PPA, no developer can secure financing to enable
30 construction of a new plant. Even Mr. Dalton, at p. 7, agrees that, "in the current
31 economic and financial climate it is clear that most renewable energy project developers
32 need long term Power Purchase Agreements to finance projects. If New Hampshire and
33 other New England state's RPS targets are to be met, then buyers need to enter into long
34 term PPAs."

1 Long term PPAs are necessary to implement the state's policy, yet if they are priced above
2 today's short term market, the Staff and intervenors in this docket recommend that they
3 not be approved. This creates a "Catch-22" situation for the development of new
4 renewable facilities. The Commission must decide whether it will implement state policy,
5 or take the narrow view recommended by Staff and intervenors and reject the contract
6 solely on the basis of today's short term wholesale market prices for power, thereby
7 precluding the type of renewable energy development the Legislature specifically intended
8 to encourage via the RPS. If the views of the other parties are accepted, new renewable
9 sources will simply be built in other states and PSNH will be the price taker from those
10 facilities, sending our customers' dollars to support economic development elsewhere. By
11 doing that, New Hampshire will lose out on the jobs, taxes, federal subsidies, and other
12 substantial economic benefits of hosting such facilities which have been described in Dr.
13 Shapiro's testimony.

14
15 Staff and OCA, by recommending rejection of the petition, are suggesting a "do nothing"
16 approach to state law and policy. Since current market prices for energy and RECs are
17 less than those in the PPA, they recommend that the PPA be rejected. But we can't
18 assume that energy prices will always remain at these low levels, or that the REC market
19 will always be over-supplied as it is today. Recall the nearly 1800% increase in demand
20 for Class I RECs postulated earlier in our testimony.

21
22 Importantly and notwithstanding the false conclusions of opponents to the project, PSNH
23 has developed a PPA with Laidlaw that essentially prices energy at the day ahead
24 Locational Marginal Price over a portion of the life of the facility. This is a unique and
25 creative feature for a long term PPA that also needs to provide a basis for financing a new
26 renewable energy facility that meets New Hampshire renewable energy requirements
27 while providing large and much needed economic benefits to the State and the North
28 Country.

29
30 In view of the RPS law, and the Governor's "25-by-25" commitment espoused by the
31 legislature when it enacted that law (2007 N.H. Laws, 26:1, VI), PSNH and New
32 Hampshire should not stand aside and hope that other market participants, located in other
33 states, will respond to the dramatic increase in renewable power requirements that are
34 required throughout New England by state laws and policies. Staff and OCA essentially

1 suggest the PSNH be a price taker, i.e. always on the sidelines buying energy and RECs at
2 current market prices to avoid the risk of a long-term contract being over-market – and
3 hope the new development takes place in other states to supply those Class I RECs. They
4 discount the risk inherent in their own recommendations and they over-estimate the ability
5 to construct a power plant without firmly established revenue streams. The future market
6 landscape that they envision is one with low and stable prices. They have not fully
7 recognized the uncertainty surrounding future scenarios that can play out over the 20 year
8 term of the PPA. Consider a future in which the natural gas supply and demand balance
9 returns to the precarious conditions that existed just a few years ago. Consider a future in
10 which little or no new power plants (renewable or non-renewable) are constructed due to
11 the short-term business models of most market participants. What if carbon legislation is
12 enacted? What if lawmakers decide to create more aggressive renewable portfolio
13 standards? The future markets for fuel, energy, capacity and renewable certificates are, at
14 best, uncertain and, at worst, could be subject to significant volatility and price escalations.

15
16 PSNH firmly believes that the unique attributes of this PPA provide value to customers
17 that will not be obtained through other means. PSNH believes that the PPA with Laidlaw
18 meets all State requirements, is in the public interest of the State of New Hampshire, and
19 should be approved by the Commission
20

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

22 **A.** Yes, it does.

Impact of Change from 2.39% to 3.0% Market Energy Price Escalation

	(A)	(B)	(D)	(E) = (D) - (A)	(F) - see note
	Staff / OCA Market Energy Price	Percent Increase over Prior Year	Market Prices escalate 3.0% Per year	Price Difference	Nominal Market Cost Increase
2014	\$66.63		\$66.63	\$0.00	\$0
2015	\$66.60	-0.05%	\$68.63	\$2.03	\$979,746
2016	\$68.32	2.58%	\$70.69	\$2.37	\$1,143,383
2017	\$70.06	2.55%	\$72.81	\$2.75	\$1,327,189
2018	\$71.92	2.65%	\$74.99	\$3.07	\$1,483,768
2019	\$73.80	2.61%	\$77.24	\$3.44	\$1,662,333
2020	\$75.67	2.53%	\$79.56	\$3.89	\$1,878,319
2021	\$77.53	2.46%	\$81.95	\$4.42	\$2,132,704
2022	\$79.37	2.37%	\$84.40	\$5.03	\$2,431,323
2023	\$81.38	2.53%	\$86.94	\$5.56	\$2,683,465
2024	\$83.43	2.52%	\$89.55	\$6.12	\$2,952,975
2025	\$85.54	2.53%	\$92.23	\$6.69	\$3,231,293
2026	\$87.70	2.53%	\$95.00	\$7.30	\$3,524,384
2027	\$89.92	2.53%	\$97.85	\$7.93	\$3,828,585
2028	\$92.19	2.52%	\$100.78	\$8.59	\$4,149,929
2029	\$94.52	2.53%	\$103.81	\$9.29	\$4,484,824
2030	\$96.91	2.53%	\$106.92	\$10.01	\$4,834,547
2031	\$99.33	2.50%	\$110.13	\$10.80	\$5,214,898
2032	\$101.82	2.51%	\$113.43	\$11.61	\$5,607,915
2033	\$104.36	2.49%	\$116.84	\$12.48	\$6,024,650
Average =>					
		2.39%	Total Nominal \$=>		\$59,576,230
			Total NPV \$ at 7.59% =>		\$23,478,330

Notes:

Staff witness McClusky used column A market price forecast in Exhibit GRM-11
OCA witness Traum used column A market price forecast in Exhibit KET-4
Column F is determined by multiplying the column D price difference by 482,895 MWH annual Laidlaw production

Impact of Wood Fuel Price Change from \$34/ton with 2.5% annual escalation to \$27/ton with 1.0% escalation

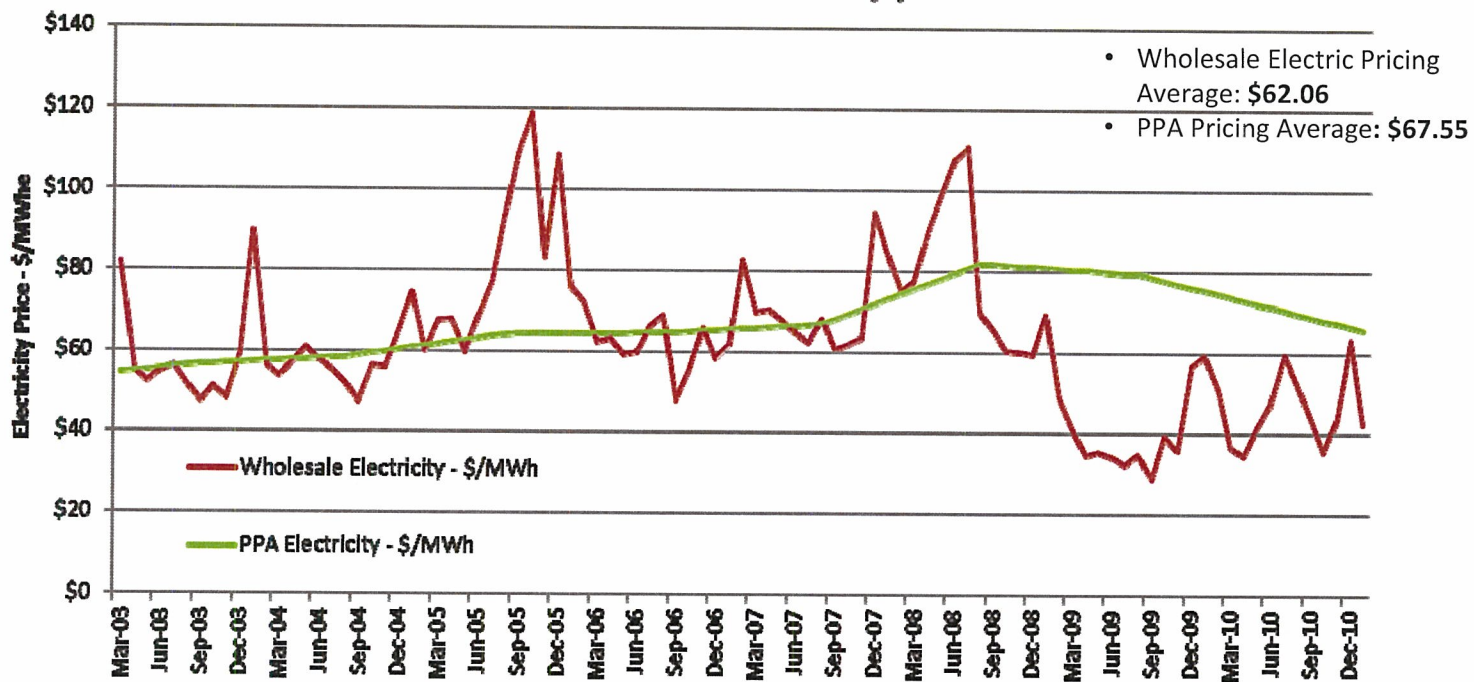
	(A)	(B)	(C) = (A) - (B)	(D)	(E) = (C) X (D)
	Staff PPA Energy Prices	PPA Prices if \$27 wood fuel escalates at 1% per year	Price Difference	Annual MWH	Nominal Cost Difference
2014	\$83.00	\$70.40	\$12.60	482,895	\$6,084,477
2015	\$84.53	\$70.89	\$13.64	482,895	\$6,588,619
2016	\$86.10	\$71.38	\$14.72	482,895	\$7,109,731
2017	\$87.71	\$71.87	\$15.84	482,895	\$7,647,787
2018	\$89.35	\$72.37	\$16.98	482,895	\$8,197,937
2019	\$91.04	\$72.88	\$18.16	482,895	\$8,769,813
2020	\$92.77	\$73.39	\$19.38	482,895	\$9,358,563
2021	\$94.55	\$73.91	\$20.64	482,895	\$9,968,992
2022	\$96.37	\$74.43	\$21.94	482,895	\$10,596,244
2023	\$98.23	\$74.95	\$23.28	482,895	\$11,240,297
2024	\$100.14	\$75.48	\$24.66	482,895	\$11,905,952
2025	\$102.10	\$76.02	\$26.08	482,895	\$12,593,186
2026	\$104.11	\$76.56	\$27.55	482,895	\$13,301,972
2027	\$106.16	\$77.11	\$29.05	482,895	\$14,027,456
2028	\$108.27	\$77.66	\$30.61	482,895	\$14,779,269
2029	\$110.44	\$78.22	\$32.22	482,895	\$15,557,384
2030	\$112.65	\$78.79	\$33.86	482,895	\$16,352,118
2031	\$114.92	\$79.36	\$35.56	482,895	\$17,173,101
2032	\$117.25	\$79.93	\$37.32	482,895	\$18,020,305
2033	\$119.64	\$80.51	\$39.13	482,895	\$18,893,704
Average =>					
			Total Nominal \$=>		\$238,166,907
			Total NPV \$ at 7.59% =>		\$104,830,475

Notes:

Staff witness McClusky used column A PPA energy price forecast in Exhibit GRM-11
Column A assumes \$34/ton wood prices in 2014 that escalate 2.5% each year
Column B assumes \$27/ton wood prices in 2014 that escalate 1% each year.
Annual MWH from Staff witness McClusky Exhibit GRM-3

Energy Pricing under Laidlaw PPA

Laidlaw PPA energy price compares favorably to wholesale electricity prices

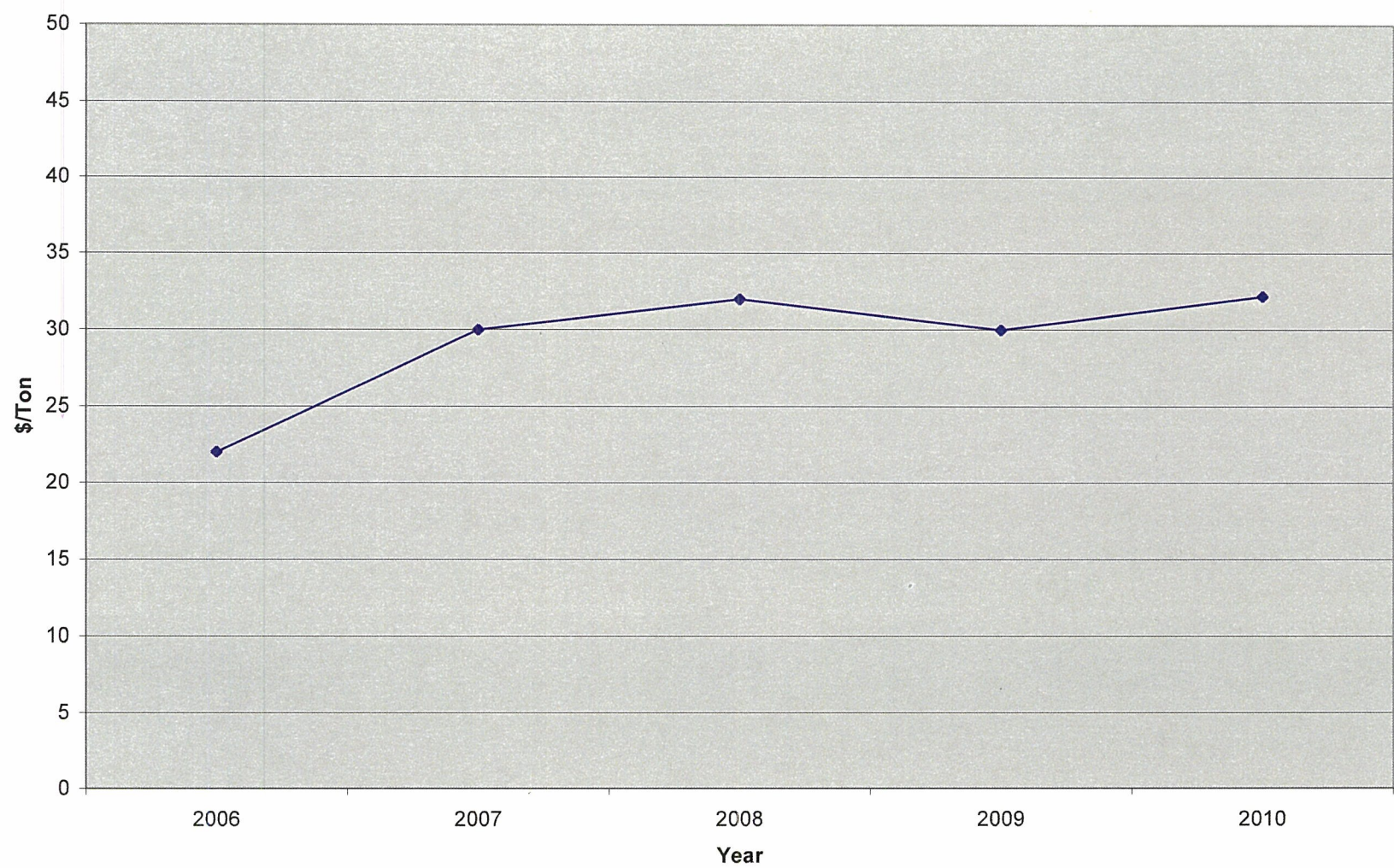


Wholesale electricity price - Day Ahead LMP for NH zone as reported by ISO-NE; PPA Pricing determined using average overall NH wood pricing as reported by the Timberwood Owner's Association

Attachment PSNH Rebuttal 3: Comparison of Laidlaw Contract Prices with Concord Power & Steam Term Sheet Offer

Laidlaw PPA Pricing (with \$27/ton wood)					Concord Power & Steam Term Sheet Pricing (constant wood price)												
Year	Capacity \$/KW-yr	Energy \$/MWH	REC \$/REC	Market Adjustment	Total cost at CF of 87.5% \$/MWH	Year	Capacity \$/KW-yr	Energy \$/MWH	Energy-esc \$/MWH	Energy-fuel \$/MWH	Energy-Total \$/MWH	REC \$/REC	Market Adjustment (Not Appl)	Total cost at CF of 87.5% \$/MWH	GDPIPD	Class 1 REC ACP	
1	\$51.00	\$70.40	\$53.80		\$130.86	1	\$43	\$33.50	\$34.30	\$46.35	\$114.15	\$0.00		\$119.79	2.50%	\$67.26	
2	\$51.00	\$70.40	\$55.15		\$132.20	2	\$43	\$33.50	\$35.16	\$46.35	\$115.01	\$0.00		\$120.64	2.50%	\$68.94	
3	\$51.00	\$70.40	\$56.53		\$133.58	3	\$43	\$33.50	\$36.04	\$46.35	\$115.89	\$0.00		\$121.52	2.50%	\$70.66	
4	\$51.00	\$70.40	\$57.94		\$134.99	4	\$43	\$33.50	\$36.94	\$46.35	\$116.79	\$0.00		\$122.42	2.50%	\$72.43	
5	\$51.00	\$70.40	\$59.39		\$136.44	5	\$43	\$33.50	\$37.86	\$46.35	\$117.71	\$0.00		\$123.35	2.50%	\$74.24	
6	\$52.80	\$70.40	\$57.07		\$134.36	6	\$43	\$33.50	\$38.81	\$46.35	\$118.66	\$0.00		\$124.29	2.50%	\$76.09	
7	\$54.60	\$70.40	\$58.50		\$136.02	7	\$43	\$33.50	\$39.78	\$46.35	\$119.63	\$0.00		\$125.26	2.50%	\$78.00	
8	\$56.40	\$70.40	\$59.96		\$137.72	8	\$43	\$33.50	\$40.77	\$46.35	\$120.62	\$0.00		\$126.26	2.50%	\$79.95	
9	\$58.20	\$70.40	\$61.46		\$139.45	9	\$43	\$33.50	\$41.79	\$46.35	\$121.64	\$0.00		\$127.28	2.50%	\$81.94	
10	\$60.00	\$70.40	\$62.99		\$141.22	10	\$43	\$33.50	\$42.84	\$46.35	\$122.69	\$0.00		\$128.32	2.50%	\$83.99	
11	\$61.80	\$70.40	\$60.26		\$138.73	11	\$43	\$33.50	\$43.91	\$46.35	\$123.76	\$0.00		\$129.39	2.50%	\$86.09	
12	\$63.60	\$70.40	\$61.77		\$140.47	12	\$43	\$33.50	\$45.00	\$46.35	\$124.85	\$0.00		\$130.49	2.50%	\$88.24	
13	\$65.40	\$70.40	\$63.32		\$142.25	13	\$43	\$33.50	\$46.13	\$46.35	\$125.98	\$0.00		\$131.62	2.50%	\$90.45	
14	\$67.20	\$70.40	\$64.90		\$144.07	14	\$43	\$33.50	\$47.28	\$46.35	\$127.13	\$0.00		\$132.77	2.50%	\$92.71	
15	\$69.00	\$70.40	\$66.52		\$145.92	15	\$43	\$33.50	\$48.47	\$46.35	\$128.32	\$0.00		\$133.95	2.50%	\$95.03	
16	\$70.80	\$70.40	\$48.70		\$128.34	16	\$43	\$33.50	\$49.68	\$46.35	\$129.53	\$0.00		\$135.16	2.50%	\$97.41	
17	\$72.60	\$70.40	\$49.92		\$129.79	17	\$43	\$33.50	\$50.92	\$46.35	\$130.77	\$0.00		\$136.40	2.50%	\$99.84	
18	\$74.40	\$70.40	\$51.17		\$131.27	18	\$43	\$33.50	\$52.19	\$46.35	\$132.04	\$0.00		\$137.68	2.50%	\$102.34	
19	\$76.20	\$70.40	\$52.45		\$132.79	19	\$43	\$33.50	\$53.50	\$46.35	\$133.35	\$0.00		\$138.98	2.50%	\$104.90	
20	\$78.00	\$70.40	\$53.76		\$134.33	20	\$43	\$33.50	\$54.83	\$46.35	\$134.68	\$0.00		\$140.32	2.50%	\$107.52	
10% market adjustment ==>				\$7.04													
20% market adjustment ==>				\$14.08													
Contract Average Price with 10% market adjustment ==>					\$129.20						Contract Average Price			\$129.30	2010 REC CPI	\$60.93 2.50%	
Contract Average Price with 20% market adjustment ==>					\$122.16												

CSC Wood Prices



Based on CSC Annual Cost of Energy Filings with NHPUC

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Let's dispel three myths about wood power

By *Anonymous*

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My Turn

It is critical to our energy future

There is a growing mythology among some who profess a concern about healthy forests and our energy future that wood is bad as a fuel for energy, and that we in the northeastern United States are foolish to include wood in the mix of fuels that can sustain our energy future.

The first myth is that wood is not renewable and that burning wood for energy will lead to a wholesale liquidation cutting of our forests. The forests of New Hampshire naturally grow about one-half cord per acre per year. Of New Hampshire's 5.7 million acres, about 4.85 million are growing trees. This means that about 2.425 million cords a year of wood is added to our total forest inventory each year through natural growth. In the most recent year for which data is available, the total timber harvest in New Hampshire was 1.3 million cords, or just a bit more than 50 percent of total growth. Our current forest products economy is consuming less than annual growth and natural regeneration each year consistently exceeds consumption.

Managed sustainably, New Hampshire's forests have a capacity to provide more fuel for energy tomorrow than they do today. The carbon debt from burning wood chips is repaid promptly and in full when the wood is harvested from sustainably managed forests. Moreover, a sustainable forest products economy helps private landowners keep forests as forests, with all their ecological and recreational benefits.

The second myth is that the generation of electricity with wood generates more carbon dioxide than the burning of coal. Schiller Station's 50-megawatt wood boiler in Newington, converted from a coal boiler with the same 50-megawatt capacity in 2006, has emitted nearly the same volume of carbon dioxide as a wood plant as it did as a coal plant - according to records maintained by the State Department of Environmental Services.

The third myth is that the United States can meet all its energy demands solely from solar, wind, geothermal and investments in energy efficiency. We certainly can do much better with renewable energy and conservation, but even if we maximized what the economy could do with each, we still need more than each of these sources can deliver. As a domestically produced renewable, using wood energy is in our national and local interests.

There is a public policy challenge with wood as a source for energy, specifically as it relates to motivating consumers to use wood to get the most efficient use of the fuel. There is a credible argument that generating electricity is the least efficient use of wood to generate energy. The challenge is to create economic incentives for future consumers to use wood wisely while not pulling the rug out from existing incentives that are being used as intended - to reduce dependence on non-renewable fossil fuels like coal, oil and natural gas.

The Forest Society owns more than 50,000 acres of woodlands in 95 New Hampshire communities. We manage these forests sustainably, for a variety of forest products (including wood chips for energy markets). About 60 percent of our standing wood inventory is "low grade," meaning that the individual trees will never be marketable as sawlogs (the high end of wood products from the forest). These trees do have a market as pulp for the paper industry and as fuel for energy markets. The resource is renewable, and if managed properly, can provide a sustainable supply of fuel for the indefinite future.

The wise use of our forest resources will never be a silver bullet for our energy needs. But they can and should be part of the diversity of fuels that get us to the better place a progressive national energy policy should take us. Here in New Hampshire especially, we must resist self-serving out-of-state interests who fail to see the long-term environmental benefit of sustainable forest management. Let us not be tree-wise but forest-foolish.

(Jane A. Difley is president/forester of the Society for the Protection of New Hampshire Forests.)

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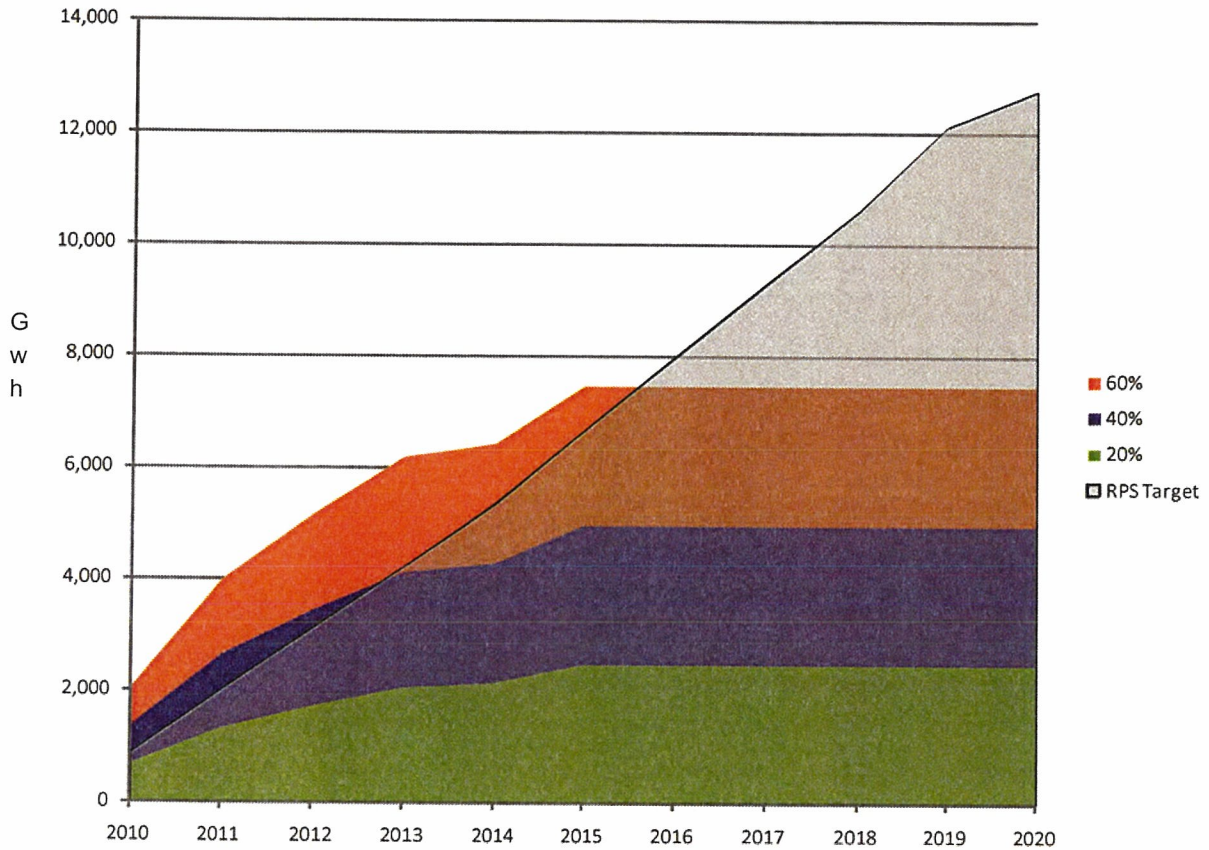


Figure 8-8: Various levels of estimated cumulative electric energy from new renewable projects in the ISO queue, as of April 1, 2010 (including affected non-FERC queue projects) compared with RPS demand by year.
Notes: Various percentages of electric energy availability from queue projects have been assumed and are not projections of the projects' expected energy production. RPSs also can be met with behind-the-meter projects, imports, new projects not in the queue, and Alternative Compliance Payments.

Source: pg 134 on the 2010 ISO-NE Regional System Plan

	Wood Purchased Plant Tons			Wood Purchased Yard Tons			Total Cost	Total Tons	Avg. \$/ton			
2004												
January	\$17,800.00	988.81	18.00	\$	24,735.93	1,462.79	16.91	\$42,535.93	2,451.60	\$17.35		
February	\$16,635.88	924.20	18.00	\$	5,944.49	356.15	16.69	\$22,580.37	1,280.35	\$17.64		
March	\$6,820.00	482.22	14.14	\$	-	-	-	\$6,820.00	482.22	\$14.14		
April	\$11,160.00	620.00	18.00	\$	-	-	-	\$11,160.00	620.00	\$18.00		
May	\$12,145.73	661.17	18.37	\$	26,523.80	1,681.52	15.77	\$38,669.53	2,342.69	\$16.51		
June	\$8,151.30	440.61	18.50	\$	30,209.58	1,913.28	15.79	\$38,360.88	2,353.89	\$16.30		
July	\$0.00	0.00		\$	21,050.05	1,324.67	15.89	\$21,050.05	1,324.67	\$15.89		
August	\$0.00	0.00		\$	32,801.78	1,967.44	16.67	\$32,801.78	1,967.44	\$16.67		
September	\$0.00	0.00		\$	30,027.59	1,771.06	16.95	\$30,027.59	1,771.06	\$16.95		
October	\$12,210.13	679.71	17.96	\$	26,829.86	1,578.25	17.00	\$39,039.99	2,257.96	\$17.29		
November	\$22,117.49	1,134.23	19.50	\$	43,388.80	2,345.34	18.50	\$65,506.29	3,479.57	\$18.83		
December	\$34,531.69	1,732.31	19.93	\$	47,999.88	2,554.93	18.79	\$82,531.57	4,287.24	\$19.25	\$431,084	\$24,619 \$17.51
	\$141,572.22	7,663	18.47		\$289,511.76	16,955	17.07	\$431,083.98	24,619	17.51		
2005												
January	\$29,612.85	1,450.35	20.42	\$	36,037.85	1,836.79	19.62	\$65,650.70	3,287.14	\$19.97		
February	\$30,123.04	1,516.40	19.86	\$	41,652.02	2,096.86	19.86	\$71,775.06	3,613.26	\$19.86		
March	\$26,252.10	1,280.59	20.50	\$	55,603.48	2,834.02	19.62	\$81,855.58	4,114.61	\$19.89		
April	\$24,105.16	1,121.17	21.50	\$	31,819.84	1,621.81	19.62	\$55,925.00	2,742.98	\$20.39		
May	\$22,181.88	1,031.72	21.50	\$	29,749.60	1,516.29	19.62	\$51,931.48	2,548.01	\$20.38		
June	\$24,585.27	1,143.51	21.50	\$	38,158.75	1,944.89	19.62	\$62,744.02	3,088.40	\$20.32		
July	\$20,775.67	966.31	21.50	\$	79,826.57	3,843.48	20.77	\$100,602.24	4,809.79	\$20.92		
August	\$8,716.75	405.43	21.50	\$	105,262.41	5,019.74	20.97	\$113,979.16	5,425.17	\$21.01		
September	\$31,445.31	1,403.87	22.40	\$	81,614.87	3,864.34	21.12	\$113,060.18	5,268.21	\$21.46		
October	\$16,576.88	735.75	22.53	\$	32,278.12	1,528.32	21.12	\$48,855.00	2,264.07	\$21.58		
November	\$8,968.56	398.52	22.50	\$	53,996.03	2,555.21	21.13	\$62,964.59	2,953.73	\$21.32		
December	\$24,576.18	1,033.91	23.77	\$	47,187.69	2,165.03	21.80	\$71,763.87	3,198.94	\$22.43	\$901,107	\$43,314 \$20.80
	\$267,919.65	12,488	21.45		\$633,187.23	30,827	20.54	\$901,106.88	43,314	20.80		18.81% % Increase 2005 over 2004
2006												
January	\$19,599.36	816.64	24.00	\$	47,711.94	2,063.32	23.12	\$67,311.30	2,879.96	\$23.37		
February	\$23,169.12	965.38	24.00	\$	46,408.81	1,924.08	24.12	\$69,577.93	2,889.46	\$24.08		
March	\$30,138.06	1,210.95	24.89	\$	67,103.05	2,782.05	24.12	\$97,241.11	3,993.00	\$24.35		
April	\$36,194.40	1,508.20	24.00	\$	5,040.84	208.99	24.12	\$41,235.24	1,717.19	\$24.01		
May	\$24,459.84	1,019.16	24.00	\$	-	-	-	\$24,459.84	1,019.16	\$24.00		
June	\$44,981.76	1,829.24	24.59	\$	-	-	-	\$44,981.76	1,829.24	\$24.59		
July	\$52,209.58	2,109.82	24.75	\$	-	-	-	\$52,209.58	2,109.82	\$24.75		
August	\$34,508.07	1,386.85	24.88	\$	-	-	-	\$34,508.07	1,386.85	\$24.88		
September	\$41,135.36	1,679.96	24.49	\$	-	-	-	\$41,135.36	1,679.96	\$24.49		
October	\$82,776.70	3,359.91	24.64	\$	57,100.00	2,932.00	19.47	\$139,876.70	6,291.91	\$22.23		
November	\$102,801.25	4,296.61	23.93	\$	45,500.00	2,200.00	20.68	\$148,301.25	6,496.61	\$22.83		
December	\$103,284.86	4,420.86	23.36	\$	27,205.15	1,359.84	20.01	\$130,490.01	5,780.70	\$22.57	\$891,328	\$38,074 \$23.41
	\$595,258.36	24,604	24.19		\$296,069.79	13,470	21.98	\$891,328.15	38,074	23.41		12.53% % Increase 2006 over 2005
2007												
January	\$145,159.77	6,293.16	23.07	\$	17,796.00	889.60	20.00	\$98,012.95	3,696.00	\$26.52		
February	\$116,610.70	4,882.16	23.89	\$	28,978.80	1,448.94	20.00	\$145,589.50	6,331.10	\$23.00		
March	\$60,269.26	2,436.43	24.74	\$	-	-	-	\$60,269.26	2,436.43	\$24.74		
April	\$35,547.25	1,421.86	25.00	\$	-	-	-	\$35,547.25	1,421.86	\$25.00		
May	\$35,547.25	1,508.95	23.56	\$	7,238.67	361.99	20.00	\$42,785.92	1,870.94	\$22.87		
June	\$52,226.67	2,069.07	25.24	\$	-	-	-	\$52,226.67	2,069.07	\$25.24		
July	\$41,227.82	1,597.93	25.80	\$	24,580.66	1,200.29	20.48	\$65,808.48	2,798.22	\$23.52		
August	\$50,888.50	1,982.35	25.67	\$	143,065.93	7,025.45	20.36	\$193,954.43	9,007.80	\$21.53		
September	\$40,983.64	1,599.22	25.63	\$	88,012.47	4,145.61	21.23	\$128,996.11	5,744.83	\$22.45		
October	\$60,121.68	2,448.19	24.56	\$	39,711.34	1,868.79	21.25	\$99,833.02	4,316.98	\$23.13		
November	\$60,121.68	2,020.68	29.75	\$	341.44	15.52	22.00	\$60,463.12	2,036.20	\$29.69		
December	\$95,948.43	3,653.80	26.26	\$	-	-	-	\$95,948.43	3,653.80	\$26.26	\$1,079,435	\$45,383 \$23.78
	\$794,652.65	31,914	24.90		\$349,725.31	16,956	20.63	\$1,079,435.14	45,383	23.78		1.60% % Increase 2007 over 2006
2008												
January	\$98,012.95	3,696.00	26.52	\$	-	-	-	\$98,012.95	3,696.00	\$26.52		
February	\$79,879.53	3,024.66	26.41	\$	32,537.44	1,369.59	23.76	\$112,416.97	4,394.25	\$25.58		
March	\$45,857.25	1,738.89	26.37	\$	58,179.26	2,426.35	23.98	\$104,036.51	4,165.24	\$24.98		
April	\$30,628.94	1,135.47	26.97	\$	27,888.36	1,161.24	24.02	\$58,517.30	2,296.71	\$25.48		
May	\$44,043.93	1,520.30	28.97	\$	18,927.01	807.69	23.43	\$62,970.94	2,327.99	\$27.05		
June	\$42,592.23	1,499.30	28.41	\$	18,252.15	825.47	22.11	\$60,844.38	2,324.77	\$26.17		
July	\$39,773.62	1,363.41	29.17	\$	31,840.29	1,175.85	27.08	\$71,613.91	2,539.26	\$28.20		
August	\$44,897.92	1,448.32	31.00	\$	111,503.22	3,819.34	29.19	\$156,401.14	5,267.66	\$29.69		
September	\$53,925.02	1,719.21	31.37	\$	179,378.86	5,954.23	30.13	\$233,303.88	7,673.44	\$30.40		
October	\$80,815.18	2,437.13	33.16	\$	79,865.30	2,665.49	29.96	\$160,680.48	5,102.62	\$31.49		
November	\$821.37	24.89	33.00	\$	3,654.11	198.75	18.39	\$4,475.48	223.64	\$20.01		
December	\$55,810.73	1,687.70	33.07	\$	68,539.05	2,238.25	30.62	\$124,349.78	3,925.95	\$31.67	\$1,247,624	\$43,938 \$28.40
	\$617,058.67	21,295	28.98		\$630,565.05	22,642	27.85	\$1,247,623.72	43,938	28.40		19.38% % Increase 2008 over 2007
2009												
January	\$121,484.24	3,657.02	33.22	\$	78,573.41	2,706.99	29.03	\$200,057.65	6,364.01	\$31.44		
February	\$88,984.15	2,683.22	33.16	\$	80,573.12	2,745.00	29.35	\$169,557.27	5,428.22	\$31.24		
March	\$45,268.81	1,360.05	33.28	\$	2,312.82	112.93	20.48	\$47,581.63	1,472.98	\$32.30		
April	\$249.81	7.57	33.00	\$	-	42.09	0.00	\$249.81	49.66	\$5.03		
May	\$0.00	0.00		\$	-	56.57	0.00	\$0.00	56.57	\$0.00		
June	\$51,350.36	1,588.60	32.32	\$	4,603.22	165.06	27.89	\$55,953.58	1,753.66	\$31.91		
July	\$71,290.51	2,299.69	31.00	\$	19,682.45	737.42	26.69	\$90,972.96	3,037.11	\$29.95		
August	\$58,738.18	1,894.78	31.00	\$	932.17	30.07	31.00	\$59,670.35	1,924.85	\$31.00		
September	\$66,116.49	2,132.79	31.00	\$	31,329.82	1,164.76	26.90	\$97,446.31	3,297.55	\$29.55		
October	\$96,060.94	3,098.74	31.00	\$	97,109.19	3,630.33	26.75	\$193,170.13	6,729.07	\$28.71		
November	\$99,514.03	3,210.13	31.00	\$	122,084.84	4,597.08	26.56	\$221,598.87	7,807.21	\$28.38		
December	\$160,753.60	5,185.60	31.00	\$	55,242.88	2,106.97	26.22	\$215,996.48	7,292.57	\$29.62	\$1,352,255	\$45,213 \$29.91
	\$859,811.12	27,118	31.71		\$492,443.92	18,095	27.21	\$1,352,255.04	45,			