Kenneth E. Traum Qualifications

My name is Kenneth E. Traum. I am the Assistant Consumer Advocate for the Office of Consumer Advocate (OCA). My business address is 21 S. Fruit Street, Suite 18, Concord, New Hampshire 03301. I have been affiliated with the OCA for approximately twenty one (21) years.

I received a B.S. in Mathematics from the University of New Hampshire in June, 1971, and an MBA from UNH in June, 1973. Upon graduation, I first worked as an accountant/auditor for a private contractor and then for the New Hampshire State Council on Aging, before going to the New Hampshire Public Utilities Commission (NHPUC) in February, 1976. At the NHPUC I started as an Accountant III, advanced to a PUC Examiner and later become Assistant Finance Director.

In my positions with the NHPUC, I was involved in all aspects of rate cases, assisted others in the preparation of testimony and presented direct testimony, conducted cross examination of witnesses, directed and participated in audits of utilities, and performed other duties as required. While employed at the NHPUC, I was a member of the NARUC Regulatory Studies Program at Michigan State.

In 1984, I left the NHPUC for Bay State Gas Company. With Bay State, I was involved in various aspects of financial analysis for Northern Utilities, Inc., Granite State Gas Transmission, Inc., and Bay State Gas Company, as well as regulatory activities with regard to Maine, New Hampshire, Massachusetts and the FERC.

In early 1986, I returned to New Hampshire to join the EnergyNorth companies, where my areas of responsibility included cash management, regulatory affairs, forecasting and other financial matters. While with EnergyNorth, I was a member of the New England Utility Rate Forum and the New England Gas Association. I also represented the utility, which is the largest natural gas utility in New Hampshire, over a two year period in the generic Commission docket (DE 86-208) which developed a methodology for conducting gas marginal cost studies.

In 1989 I joined the Office of Consumer Advocate with overall responsibility for advising the Consumer Advocate and its Advisory Board on all Financial, Accounting, Economic and Rate Design issues which arise in the course of utility ratemaking or cases concerning determinations of revenue responsibility, competition, mergers, acquisitions and supply/demand issues. I assist the Consumer Advocate and the OCA Advisory Board in formulating policy, and in implementation of that policy. In that role, I have testified before the NHPUC on many occasions. In early 2005, I was promoted to Assistant Consumer Advocate.

I am a member of the NASUCA (National Association of State Utility Consumer Advocates), Committees on Electricity and Gas. I am currently on the Board of Directors for Granite State Independent Living (GSIL) and formerly served as Chair as well as a member on the GSIL's Finance and Audit Committees.

REC Market (% of ACP)	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20
	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Base Case																				
100% Market Energy Price ($/MWh)	$66.63	$66.60	$68.32	$70.06	$71.92	$73.80	$75.67	$77.53	$79.37	$81.38	$83.43	$85.54	$87.70	$89.92	$92.19	$94.52	$96.91	$99.33	$101.82	$104.36
100% Market Capacity Price ($/kW-Mo)	$2.80	$2.80	$1.75	$1.64	$3.21	$4.29	$4.79	$5.35	$5.95	$6.49	$7.05	$7.36	$7.52	$7.66	$7.82	$8.02	$8.22	$8.43	$8.64	$8.85
80% REC Alternative Compliance Price ($/MWh)	$67.26	$68.94	$70.66	$72.43	$74.24	$76.09	$78.00	$79.95	$81.94	$83.99	$86.09	$88.24	$90.45	$92.71	$95.03	$97.41	$99.84	$102.34	$104.90	$107.52
All-in Mkt Price ($/MWh) at 80%CF	$125.23	$126.55	$127.85	$130.81	$136.81	$142.02	$146.27	$150.65	$155.11	$159.68	$164.38	$168.74	$172.94	$177.21	$181.61	$186.18	$190.86	$195.63	$200.52	$205.53
High Market Case																				
120% Market Energy Price ($/MWh)	$79.96	$79.92	$81.99	$84.07	$86.31	$88.56	$90.80	$93.04	$95.24	$97.65	$100.12	$102.65	$105.24	$107.90	$110.63	$113.43	$116.29	$119.20	$122.18	$125.23
100% Market Capacity Price ($/kW-Mo)	$2.80	$2.80	$1.75	$1.64	$3.21	$4.29	$4.79	$5.35	$5.95	$6.49	$7.05	$7.36	$7.52	$7.66	$7.82	$8.02	$8.22	$8.43	$8.64	$8.85
100% REC Alternative Compliance Price ($/MWh)	$67.26	$68.94	$70.66	$72.43	$74.24	$76.09	$78.00	$79.95	$81.94	$83.99	$86.09	$88.24	$90.45	$92.71	$95.03	$97.41	$99.84	$102.34	$104.90	$107.52
All-in Mkt Price ($/MWh) at 80%CF	$152.01	$153.65	$155.65	$159.30	$166.04	$171.99	$177.00	$182.14	$187.38	$192.76	$198.28	$203.50	$208.57	$213.73	$219.05	$224.56	$230.21	$235.96	$241.86	$247.91
Low Market Case																				
80% Market Energy Price ($/MWh)	$53.31	$53.28	$54.66	$56.05	$57.54	$59.04	$60.53	$62.03	$63.50	$65.10	$66.75	$68.43	$70.16	$71.94	$73.75	$75.62	$77.53	$79.47	$81.45	$83.49
100% Market Capacity Price ($/kW-Mo)	$2.80	$2.80	$1.75	$1.64	$3.21	$4.29	$4.79	$5.35	$5.95	$6.49	$7.05	$7.36	$7.52	$7.66	$7.82	$8.02	$8.22	$8.43	$8.64	$8.85
50% REC Alternative Compliance Price ($/MWh)	$67.26	$68.94	$70.66	$72.43	$74.24	$76.09	$78.00	$79.95	$81.94	$83.99	$86.09	$88.24	$90.45	$92.71	$95.03	$97.41	$99.84	$102.34	$104.90	$107.52
All-in Mkt Price ($/MWh) at 80%CF	$91.73	$92.54	$92.99	$95.07	$100.15	$104.43	$107.73	$111.16	$114.66	$118.21	$121.86	$125.16	$128.26	$131.41	$134.66	$138.05	$141.52	$145.06	$148.69	$152.41
Contract Payment																				
Contract Energy Payment ($/MWh)	$83.00	$84.53	$86.10	$87.71	$89.35	$91.04	$92.77	$94.55	$96.37	$98.23	$100.14	$102.10	$104.11	$106.16	$108.27	$110.44	$112.65	$114.92	$117.25	$119.64
Contract Capacity Payment ($/kW-Mo)	$4.25	$4.25	$4.25	$4.25	$4.25	$4.40	$4.55	$4.70	$4.85	$5.00	$5.15	$5.30	$5.45	$5.60	$5.75	$5.90	$6.05	$6.20	$6.35	$6.50
Contract Capacity Payment ($/MWh)	$7.28	$7.28	$7.28	$7.28	$7.28	$7.53	$7.79	$8.05	$8.30	$8.56	$8.82	$9.08	$9.33	$9.59	$9.85	$10.10	$10.36	$10.62	$10.87	$11.13
Contract REC Payment ($/MWh)	$53.80	$55.15	$56.53	$57.94	$59.39	$57.07	$58.50	$59.96	$61.46	$62.99	$60.26	$61.77	$63.32	$64.90	$66.52	$48.70	$49.92	$51.17	$52.45	$53.76
All-in Contract Price ($/MWh) at 80%CF	$144.08	$146.96	$149.90	$152.92	$156.02	$155.65	$159.06	$162.55	$166.13	$169.79	$169.22	$172.95	$176.76	$180.65	$184.64	$169.24	$172.93	$176.71	$180.57	$184.53

Laidlaw Arrangement
20-year Option

Assumptions

Net MWs	58
Capacity Factor	85%
Expected Annual MWHrs	431,868
Base Energy Price ($/MWh)	$83.00
Base Wood Cost ($/ton)	$34.00
Fixed Fuel Factor (Tons/MWH)	1.80
2012 Energy Margin	$22
2012 Rec Rate	$63.05
2012 Capacity	$4.25
Inflation Index	2.50%
Starting O&M	$6,000,000
Starting Variable Costs	$2,979,889

Year	Base Case	Base Case	Base Case	Base Case	Year 1 Base Case ISD 1/1/2014	Year 2 Base Case	Year 3 Base Case	Year 4 Base Case	Year 5 Base Case	Year 6 Base Case
Time Period	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Actual Schiller Wood Cost ($/Ton)				0	1	2	3	4	5	6
Capacity Payment ($/kW-Mo)	$34.00	$34.00	$34.00	$34.00	$34.00	$34.85	$35.72	$36.61	$37.53	$38.47
Class I Alternative Compliance Price ($/MWh)					$4.25	$4.25	$4.25	$4.25	$4.25	$4.40
REC Adjustment (PSNH Option)	$60.93	$62.45	$64.01	$65.61	$67.26	$68.94	$70.66	$72.43	$74.24	$76.09
CPI Adjustment	0%	0%	0%	0%	80%	80%	80%	80%	80%	75%
Market Energy Price ($/MWh)					100.00%	102.50%	105.00%	107.50%	110.00%	112.50%
Market Capacity Price ($/kW-Mo)	$56.46	$59.99	$61.25	$63.43	$66.63	$66.60	$68.32	$70.06	$71.92	$73.80
	$4.19	$3.59	$2.78	$2.69	$2.80	$2.80	$1.75	$1.64	$3.21	$4.29
Adjusted Basis Price ($/MWh)					$83.00	$84.53	$86.10	$87.71	$89.35	$91.04
Over Market Value					($7,068,599)	($7,742,295)	($7,675,746)	($7,621,431)	($7,528,098)	($7,447,855)
Cumulative Reduction Value					($7,068,599)	($14,810,894)	($22,486,641)	($30,108,072)	($37,636,170)	($45,084,025)
Buyout Value of Plant										
Revenue										
Capacity					$ 62,039,380	$ 63,281,047	$ 64,553,755	$ 65,858,281	$ 67,195,420	$ 67,027,276
Energy					$ 2,958,000	$ 2,958,000	$ 2,958,000	$ 2,958,000	$ 2,958,000	$ 3,062,400
RECs					$ 35,845,044	$ 36,505,802	$ 37,183,079	$ 37,877,288	$ 38,588,852	$ 39,318,205
					$ 23,236,336	$ 23,817,245	$ 24,412,676	$ 25,022,993	$ 25,648,567	$ 24,646,670
Expenses										
Lease Payment					-					
Fixed O&M										
Variable O&M					$ 20,000,000	$ 20,000,000	$ 20,000,000	$ 20,000,000	$ 20,000,000	$ 20,000,000
Fuel Costs					$ 6,000,000	$ 6,150,000	$ 6,300,000	$ 6,450,000	$ 6,600,000	$ 6,750,000
NADC Royalty Payment					$ 2,979,889	$ 3,054,386	$ 3,128,884	$ 3,203,381	$ 3,277,878	$ 3,352,375
Management Fee					$ 26,430,322	$ 27,091,080	$ 27,768,357	$ 28,462,566	$ 29,174,130	$ 29,903,483
Total Expenses					$ -	$ -	$ -	$ -	$ -	$ -
					$ -	$ -	$ -	$ -	$ -	$ -
Net Profit (as defined by agreement)					$ 55,410,211	$ 56,295,466	$ 57,197,240	$ 58,115,946	$ 59,052,008	$ 60,005,858
Percentage Rent at 15%	0.15				$ 6,629,169	$ 6,985,581	$ 7,356,514	$ 7,742,334	$ 8,143,412	$ 7,021,417
Pre-tax Profit					$994,375	$1,047,837	$1,103,477	$1,161,350	$1,221,512	$1,053,213
Calculated Tax at 40%					$ 5,634,794	$ 5,937,744	$ 6,253,037	$ 6,580,984	$ 6,921,900	$ 5,968,205
Net Income					$ 2,253,918	$ 2,375,097	$ 2,501,215	$ 2,632,394	$ 2,768,760	$ 2,387,282
Profit Margin					$ 3,380,876	$ 3,562,646	$ 3,751,822	$ 3,948,590	$ 4,153,140	$ 3,580,923
Average Profit Margin	4.91%				5.45%	5.63%	5.81%	6.00%	6.18%	5.34%

Laidlaw Arrangement
20-year Option

Assumptions

Net MWs	
Capacity Factor	
Expected Annual MWHrs	
Base Energy Price ($/MWh)	
Base Wood Cost ($/ton)	
Fixed Fuel Factor (Tons/MWH)	
2012 Energy Margin	
2012 Rec Rate	
2012 Capacity	
Inflation Index	
Starting O&M	
Starting Variable Costs	

	Year 7 Base Case	Year 8 Base Case	Year 9 Base Case	Year 10 Base Case	Year 11 Base Case	Year 12 Base Case	Year 13 Base Case	Year 14 Base Case	Year 15 Base Case	Year 16 Base Case	Year 17 Base Case
Year	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Time Period	7	8	9	10	11	12	13	14	15	16	17
Actual Schiller Wood Cost ($/Ton)	$39.43	$40.42	$41.43	$42.46	$43.52	$44.61	$45.73	$46.87	$48.04	$49.24	$50.47
Capacity Payment ($/kW-Mo)	$4.55	$4.70	$4.85	$5.00	$5.15	$5.30	$5.45	$5.60	$5.75	$5.90	$6.05
Class I Alternative Compliance Price (	$78.00	$79.95	$81.94	$83.99	$86.09	$88.24	$90.45	$92.71	$95.03	$97.41	$99.84
REC Adjustment (PSNH Option)	75%	75%	75%	75%	70%	70%	70%	70%	70%	50%	50%
CPI Adjustment	115.00%	117.50%	120.00%	122.50%	125.00%	127.50%	130.00%	132.50%	135.00%	137.50%	140.00%
Market Energy Price ($/MWh)	$75.67	$77.53	$79.37	$81.38	$83.43	$85.54	$87.70	$89.92	$92.19	$94.52	$96.91
Market Capacity Price ($/kW-Mo)	$4.79	$5.35	$5.95	$6.49	$7.05	$7.36	$7.52	$7.66	$7.82	$8.02	$8.22
Adjusted Basis Price ($/MWh)	$92.77	$94.55	$96.37	$98.23	$100.14	$102.10	$104.11	$106.16	$108.27	$110.44	$112.65
Over Market Value	($7,387,413)	($7,348,792)	($7,340,289)	($7,279,078)	($7,216,101)	($7,151,306)	($7,084,644)	($7,016,060)	($6,945,500)	($6,872,909)	($6,798,229)
Cumulative Reduction Value	($52,471,438)	($59,820,230)	($67,160,520)	($74,439,598)	($81,655,699)	($88,807,005)	($95,891,649)	($102,907,709)	($109,853,209)	($116,726,118)	($123,524,347)
Buyout Value of Plant											
Revenue	$ 68,495,429	$ 69,997,677	$ 71,534,871	$ 73,107,885	$ 72,858,584	$ 74,459,471	$ 76,097,769	$ 77,774,416	$ 79,490,368	$ 72,833,323	$ 74,420,528
Capacity	$ 3,166,800	$ 3,271,200	$ 3,375,600	$ 3,480,000	$ 3,584,400	$ 3,688,800	$ 3,793,200	$ 3,897,600	$ 4,002,000	$ 4,106,400	$ 4,210,800
Energy	$ 40,065,792	$ 40,832,069	$ 41,617,503	$ 42,422,572	$ 43,247,769	$ 44,093,595	$ 44,960,567	$ 45,849,213	$ 46,760,075	$ 47,693,709	$ 48,650,683
RECs	$ 25,262,837	$ 25,894,408	$ 26,541,768	$ 27,205,312	$ 26,026,416	$ 26,677,076	$ 27,344,003	$ 28,027,603	$ 28,728,293	$ 21,033,214	$ 21,559,045
Expenses											
Lease Payment	$ 20,000,000	$ 20,000,000	$ 20,000,000	$ 20,000,000	$ 20,000,000	$ 20,000,000	$ 20,000,000	$ 20,000,000	$ 20,000,000	$ 20,000,000	$ 20,000,000
Fixed O&M	$ 6,900,000	$ 7,050,000	$ 7,200,000	$ 7,350,000	$ 7,500,000	$ 7,650,000	$ 7,800,000	$ 7,950,000	$ 8,100,000	$ 8,250,000	$ 8,400,000
Variable O&M	$ 3,426,873	$ 3,501,370	$ 3,575,867	$ 3,650,364	$ 3,724,862	$ 3,799,359	$ 3,873,856	$ 3,948,353	$ 4,022,850	$ 4,097,348	$ 4,171,845
Fuel Costs	$ 30,651,070	$ 31,417,347	$ 32,202,780	$ 33,007,850	$ 33,833,046	$ 34,678,872	$ 35,545,844	$ 36,434,490	$ 37,345,353	$ 38,278,986	$ 39,235,961
NADC Royalty Payment	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Management Fee	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total Expenses	$ 60,977,943	$ 61,968,717	$ 62,978,647	$ 64,008,214	$ 65,057,908	$ 66,128,231	$ 67,219,700	$ 68,332,843	$ 69,468,203	$ 70,626,334	$ 71,807,806
Net Profit (as defined by agreement	$ 7,517,487	$ 8,028,961	$ 8,556,224	$ 9,099,671	$ 7,800,676	$ 8,331,240	$ 8,878,069	$ 9,441,572	$ 10,022,165	$ 2,206,989	$ 2,612,722
Percentage Rent at 15%	$1,127,623	$1,204,344	$1,283,434	$1,364,951	$1,170,101	$1,249,686	$1,331,710	$1,416,236	$1,503,325	$331,048	$391,908
Pre-tax Profit	$ 6,389,864	$ 6,824,616	$ 7,272,790	$ 7,734,720	$ 6,630,575	$ 7,081,554	$ 7,546,359	$ 8,025,336	$ 8,518,840	$ 1,875,941	$ 2,220,814
Calculated Tax at 40%	$ 2,555,946	$ 2,729,847	$ 2,909,116	$ 3,093,888	$ 2,652,230	$ 2,832,621	$ 3,018,544	$ 3,210,135	$ 3,407,536	$ 750,376	$ 888,326
Net Income	$ 3,833,918	$ 4,094,770	$ 4,363,674	$ 4,640,832	$ 3,978,345	$ 4,248,932	$ 4,527,815	$ 4,815,202	$ 5,111,304	$ 1,125,565	$ 1,332,488
Profit Margin	5.60%	5.85%	6.10%	6.35%	5.46%	5.71%	5.95%	6.19%	6.43%	1.55%	1.79%
Average Profit Margin											

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Laidlaw Arrangement
20-year Option

Assumptions

Net MWs	
Capacity Factor	
Expected Annual MWHrs	
Base Energy Price ($/MWh)	
Base Wood Cost ($/ton)	
Fixed Fuel Factor (Tons/MWH)	
2012 Energy Margin	
2012 Rec Rate	
2012 Capacity	
Inflation Index	
Starting O&M	
Starting Variable Costs	

Year	Year 18 Base Case	Year 19 Base Case	Year 20 Base Case End of PPA	Year 21 Base Case	Year 22 Base Case	Year 23 Base Case	Year 24 Base Case	Year 25 Base Case	Year 26 Base Case	Year 27 Base Case	Year 28 Base Case	Year 29 Base Case
Time Period	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042
Actual Schiller Wood Cost ($/Ton)	18	19	20	21	22	23	24	25	26	27	28	29
Capacity Payment ($/kW-Mo)	$51.74	$53.03	$54.35	$55.71	$57.11	$58.53	$60.00	$61.50	$63.03	$64.61	$66.23	$67.88
Class I Alternative Compliance Price (	$6.20	$6.35	$6.50									
REC Adjustment (PSNH Option)	$102.34	$104.90	$107.52	$110.21	$112.96	$115.78	$118.68	$121.65	$124.69	$127.80	$131.00	$134.27
CPI Adjustment	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
Market Energy Price ($/MWh)	142.50%	145.00%	147.50%	150.00%	152.50%	155.00%	157.50%	160.00%	162.50%	165.00%	167.50%	170.00%
Market Capacity Price ($/kW-Mo)	$99.33	$101.82	$104.36	$106.97	$109.65	$112.39	$115.20	$118.08	$121.03	$124.05	$127.15	$130.33
	$8.43	$8.64	$8.85	$9.07	$9.30	$9.53	$9.77	$10.02	$10.27	$10.52	$10.79	$11.06
Adjusted Basis Price ($/MWh)	$114.92	$117.25	$119.64									
Over Market Value	($6,732,816)	($6,665,769)	($6,597,045)									
Cumulative Reduction Value	($130,257,163)	($136,922,932)	($143,519,977)									
Buyout Value of Plant												
Revenue												
Capacity	$ 76,044,803	$ 77,707,075	$ 79,408,294	$ 76,309,861	$ 78,217,607	$ 80,173,048	$ 82,177,374	$ 84,231,808	$ 86,337,603	$ 88,496,043	$ 90,708,444	$ 92,976,156
Energy	$ 4,315,200	$ 4,419,600	$ 4,524,000	$ 6,315,430	$ 6,473,316	$ 6,635,149	$ 6,801,028	$ 6,971,053	$ 7,145,330	$ 7,323,963	$ 7,507,062	$ 7,694,738
RECs	$ 49,631,582	$ 50,637,004	$ 51,667,561	$ 46,197,279	$ 47,352,211	$ 48,536,016	$ 49,749,417	$ 50,993,152	$ 52,267,981	$ 53,574,681	$ 54,914,048	$ 56,286,899
	$ 22,098,021	$ 22,650,471	$ 23,216,733	$ 23,797,152	$ 24,392,080	$ 25,001,882	$ 25,626,929	$ 26,267,603	$ 26,924,293	$ 27,597,400	$ 28,287,335	$ 28,994,518
Expenses												
Lease Payment												
Fixed O&M	$ 20,000,000	$ 20,000,000	$ 20,000,000									
Variable O&M	$ 8,550,000	$ 8,700,000	$ 8,850,000	$ 9,000,000	$ 9,150,000	$ 9,300,000	$ 9,450,000	$ 9,600,000	$ 9,750,000	$ 9,900,000	$ 10,050,000	$ 10,200,000
Fuel Costs	$ 4,246,342	$ 4,320,839	$ 4,395,337	$ 4,469,834	$ 4,544,331	$ 4,618,828	$ 4,693,325	$ 4,767,823	$ 4,842,320	$ 4,916,817	$ 4,991,314	$ 5,065,812
NADC Royalty Payment	$ 40,216,860	$ 41,222,281	$ 42,252,839	$ 43,309,159	$ 44,391,888	$ 45,501,686	$ 46,639,228	$ 47,805,209	$ 49,000,339	$ 50,225,347	$ 51,480,981	$ 52,768,005
Management Fee	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total Expenses	$ 73,013,202	$ 74,243,121	$ 75,498,175	$ 56,778,993	$ 58,086,220	$ 59,420,514	$ 60,782,553	$ 62,173,031	$ 63,592,659	$ 65,042,164	$ 66,522,295	$ 68,033,817
Net Profit (as defined by agreement	$ 3,031,601	$ 3,463,955	$ 3,910,119	$ 19,530,868	$ 20,131,388	$ 20,752,534	$ 21,394,820	$ 22,058,777	$ 22,744,945	$ 23,453,879	$ 24,186,149	$ 24,942,338
Percentage Rent at 15%	$454,740	$519,593	$586,518									
Pre-tax Profit	$ 2,576,861	$ 2,944,361	$ 3,323,601	$ 19,530,868	$ 20,131,388	$ 20,752,534	$ 21,394,820	$ 22,058,777	$ 22,744,945	$ 23,453,879	$ 24,186,149	$ 24,942,338
Calculated Tax at 40%	$ 1,030,744	$ 1,177,745	$ 1,329,440	$ 7,812,347	$ 8,052,555	$ 8,301,013	$ 8,557,928	$ 8,823,511	$ 9,097,978	$ 9,381,552	$ 9,674,460	$ 9,976,935
Net Income	$ 1,546,117	$ 1,766,617	$ 1,994,161	$ 11,718,521	$ 12,078,833	$ 12,451,520	$ 12,836,892	$ 13,235,266	$ 13,646,967	$ 14,072,327	$ 14,511,689	$ 14,965,403
Profit Margin	2.03%	2.27%	2.51%	15.36%	15.44%	15.53%	15.62%	15.71%	15.81%	15.90%	16.00%	16.10%
Average Profit Margin												

DE 10-195 PSNH Laidlaw PPA
OCA Testimony of Traum
Attachment KET -4

DE 10-195 OCA Calculation of Total and Above Market Costs of PSNH/Laidlaw PPA

	Year 1 - 2014	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20 - 2033
Energy Costs																				
Contract price $/MWh (1)	$83.00	$84.53	$86.10	$87.71	$89.35	$91.04	$92.77	$94.55	$96.37	$98.23	$100.14	$102.10	$104.11	$106.16	$108.27	$110.44	$112.65	$114.92	$117.25	$119.64
PSNH Base Case Mkt Energy price (1)	$66.63	$66.60	$68.32	$70.06	$71.92	$73.80	$75.67	$77.53	$79.37	$81.38	$83.43	$85.54	$87.70	$89.92	$92.19	$94.52	$96.91	$99.33	$101.82	$104.36
Difference vs PSNH's Est Mkt energy price	$16.37	$17.93	$17.78	$17.65	$17.43	$17.24	$17.10	$17.02	$17.00	$16.85	$16.71	$16.56	$16.41	$16.24	$16.08	$15.92	$15.74	$15.59	$15.43	$15.28
Expected Annual MWh's (1)	431,868	431,868	431,868	431,868	431,868	431,868	431,868	431,868	431,868	431,868	431,868	431,868	431,868	431,868	431,868	431,868	431,868	431,868	431,868	431,868
Total Annual Payment over Market	$7,069,679	$7,743,393	$7,678,613	$7,622,470	$7,527,459	$7,445,404	$7,384,943	$7,350,393	$7,341,756	$7,276,976	$7,216,514	$7,151,734	$7,086,954	$7,013,536	$6,944,437	$6,875,339	$6,797,602	$6,732,822	$6,663,723	$6,598,943
Cumulative over Market	$7,069,679	$14,813,072	$22,491,685	$30,114,156	$37,641,615	$45,087,019	$52,471,962	$59,822,355	$67,164,111	$74,441,087	$81,657,601	$88,809,336	$95,896,289	$102,909,826	$109,854,263	$116,729,602	$123,527,204	$130,260,026	$136,923,749	$143,522,692
Capacity Costs																				
Contract Price in $/kW-Month (2)	$4.25	$4.25	$4.25	$4.25	$4.25	$4.40	$4.55	$4.70	$4.85	$5.00	$5.15	$5.30	$5.45	$5.60	$5.57	$5.90	$6.05	$6.20	$6.35	$6.50
PSNH Base Case est. mkt. price (1)	$2.80	$2.80	$1.75	$1.64	$3.21	$4.29	$4.79	$5.35	$5.95	$6.49	$7.05	$7.36	$7.52	$7.66	$7.82	$8.02	$8.22	$8.43	$8.64	$8.85
Difference versus PSNH's est Market	$1.45	$1.45	$2.50	$2.61	$1.04	$0.11	-$0.24	-$0.65	-$1.10	-$1.49	-$1.90	-$2.06	-$2.07	-$2.06	-$2.25	-$2.12	-$2.17	-$2.23	-$2.29	-$2.35
Expected kW-Month over 12 months (3)	696,000	696,000	696,000	696,600	696,600	696,600	696,600	696,600	696,600	696,600	696,600	696,600	696,600	696,600	696,600	696,600	696,600	696,600	696,600	696,600
Total Annual Payment over Market	$1,009,200	$1,009,200	$1,740,000	$1,818,126	$724,464	$76,626	-$167,184	-$452,790	-$766,260	-$1,037,934	-$1,323,540	-$1,434,996	-$1,441,962	-$1,434,996	-$1,567,350	-$1,476,792	-$1,511,622	-$1,553,418	-$1,595,214	-$1,637,010
Cumulative over Market	$1,009,200	$2,018,400	$3,758,400	$5,576,526	$6,300,990	$6,377,616	$6,210,432	$5,757,642	$4,991,382	$3,953,448	$2,629,908	$1,194,912	-$247,050	-$1,682,046	-$3,249,396	-$4,726,188	-$6,237,810	-$7,791,228	-$9,386,442	-$11,023,452
REC Costs																				
Alternative Compliance Price (1)	$67.26	$68.94	$70.66	$72.43	$74.24	$76.09	$78.00	$79.95	$81.94	$83.99	$86.09	$88.24	$90.45	$92.71	$95.03	$97.41	$99.84	$102.34	$104.90	$107.52
Contract Price as a % of ACP (1)	80%	80%	80%	80%	80%	75%	75%	75%	75%	75%	70%	70%	70%	70%	70%	50%	50%	50%	50%	50%
Contract Price Rate per REC	$53.81	$55.15	$56.53	$57.94	$59.39	$57.07	$58.50	$59.96	$61.46	$62.99	$60.26	$61.77	$63.32	$64.90	$66.52	$48.71	$49.92	$51.17	$52.45	$53.76
Current Mkt Price as a % of ACP (4)	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%
Projected Mkt Price	$20.18	$20.68	$21.20	$21.73	$22.27	$22.83	$23.40	$23.99	$24.58	$25.20	$25.83	$26.47	$27.14	$27.81	$28.51	$29.22	$29.95	$30.70	$31.47	$32.26
Difference versus Market	$33.63	$34.47	$35.33	$36.22	$37.12	$34.24	$35.10	$35.98	$36.87	$37.80	$34.44	$35.30	$36.18	$37.08	$38.01	$19.48	$19.97	$20.47	$20.98	$21.50
Expected Annual MWh's (1)	431,868	431,868	431,868	431,868	431,868	431,868	431,868	431,868	431,868	431,868	431,868	431,868	431,868	431,868	431,868	431,868	431,868	431,868	431,868	431,868
Total Annual Payment over Market	$14,523,721	$14,886,490	$15,257,896	$15,640,100	$16,030,940	$14,787,376	$15,158,567	$15,537,531	$15,924,269	$16,322,667	$14,871,806	$15,243,213	$15,624,984	$16,015,393	$16,416,166	$8,413,652	$8,623,540	$8,839,474	$9,060,591	$9,286,889
Cumulative over Market	$14,523,721	$29,410,211	$44,668,107	$60,308,207	$76,339,147	$91,126,523	$106,285,090	$121,822,621	$137,746,890	$154,069,557	$168,941,363	$184,184,576	$199,809,560	$215,824,953	$232,241,120	$240,654,772	$249,278,312	$258,117,787	$267,178,377	$276,465,267
Annual Total Over Mkt for Energy, Capacity, & REC's	$22,602,600	$23,639,083	$24,676,509	$25,080,696	$24,282,863	$22,309,407	$22,376,326	$22,435,134	$22,499,765	$22,561,709	$20,764,781	$20,959,951	$21,269,976	$21,593,933	$21,793,254	$13,812,199	$13,909,521	$14,018,878	$14,129,100	$14,248,823
Cumulative Over Mkt Energy, Cap, & REC's	$22,602,600	$46,241,683	$70,918,193	$95,998,889	$120,281,752	$142,591,158	$164,967,484	$187,402,618	$209,902,383	$232,464,092	$253,228,873	$274,188,824	$295,458,800	$317,052,733	$338,845,987	$352,658,186	$366,567,706	$380,586,585	$394,715,685	$408,964,507
Est Total Annual Payments under PPA	$62,040,997	$63,282,186	$64,554,469	$65,863,852	$67,197,460	$67,027,930	$68,498,202	$70,003,024	$71,538,077	$73,109,839	$72,860,413	$74,461,325	$76,101,970	$77,775,004	$79,366,702	$72,839,573	$74,423,211	$76,047,876	$77,711,410	$79,413,811
Est Total Cumulative Payments under PPA	$62,040,997	$125,323,183	$189,877,652	$255,741,504	$322,938,964	$389,966,894	$458,465,096	$528,468,121	$600,006,198	$673,116,036	$745,976,449	$820,437,775	$896,539,745	$974,314,749	$1,053,681,451	$1,126,521,023	$1,200,944,234	$1,276,992,110	$1,354,703,520	$1,434,117,331
If Interest at the Prime Rate were applied to the "Cumulative Reduction"																				
Average Balance of Cumulative Reduction	$3,534,840	$11,056,258	$19,011,707	$26,920,801	$34,752,811	$42,493,783	$50,160,539	$57,777,376	$65,370,998	$72,927,157	$80,419,477	$87,847,101	$95,207,843	$102,497,312	$109,713,207	$116,857,612	$123,926,275	$130,921,219	$137,846,827	$144,703,243
Annual Interest (using Prime Rate of 3.25%)	$114,882	$359,328	$617,880	$874,926	$1,129,466	$1,381,048	$1,630,218	$1,877,765	$2,124,557	$2,370,133	$2,613,633	$2,855,031	$3,094,255	$3,331,163	$3,565,679	$3,797,872	$4,027,604	$4,254,940	$4,480,022	$4,702,855
Yr End Balance of Cum Reduc including Interest	$7,184,561	$15,172,401	$23,109,566	$30,989,082	$38,771,081	$46,468,067	$54,102,180	$61,700,120	$69,288,669	$76,811,220	$84,271,234	$91,664,366	$98,990,544	$106,240,988	$113,419,942	$120,527,474	$127,554,808	$134,514,966	$141,403,771	$148,225,548

(1) Source: PSNH Response to Staff 01-011, Attachment 3, which is Attachment KT-3
(2) Source: PSNH Response to Staff 01-011, Attachment 2, which is Attachment KT-2
(3) Source: PSNH Response to Staff 01-011, Attachment 3,(KT-3), Capacity Revenues divided by Capacity Payment
(4) Source: Att. KT-5, Evo Markets auction of UNH Class 1 REC's for 2010 at $13.16 when the ACP was $60.93, 2011 REC's priced at $18.90, and a $20 price per the PSNH response to Staff 06-001, Attachment KT-6, as well as the confidential Attachment KT-7
Bolded lines are OCA analysis or data

DE 10-195 PSNH Laidlaw PPA
OCA Testimony of Traum
Attachment KET -5

BROWSE BLOGS

> All Blogs
> BioFuels
> Carbon
> Carbon-California
> Coal
> Emissions
> EvoFinance
> EvoIndia
> Natural Gas Basis
> Natural Gas Options
> Nuclear Fuel
> Renewable Energy
> Weather

EVO HISTORY
EVO10 LISTS

For more information on renewable energy markets please call:

+1.914.323.0257 (East Coast)
+1.415.963.9120 (West Coast)

recdesk@evomarkets.com

From the Renewable Energy Desk

10.14.10

Evolution Completes REC Auction for University of New Hampshire

Sale on the EvoAuction(tm) Platform of 35,000 New England RECs Yields Nearly $540,000.

The University of New Hampshire successfully completed the sale of 35,000 vintage 2010 and 2011 New England renewable energy certificates (RECs) using Evolution Markets"online auction platform, EvoAuction™.

The RECs on offer are generated at UNH's landfill gas-to-energy project that uses methane gas from the Rochester Landfill as the primary fuel for a 7.9 MW cogeneration plant and a 4.6 MW landfill gas-to-energy power plant. The plant is part of the University's EcoLine™ project, which develops sustainable energy sources for the campus.

The 20,000 vintage 2010 RECs, which are eligible as Class I certificates in Massachusetts, New Hampshire, Connecticut, and Maine, sold for an average price of $13.16. The 15,000 vintage 2011 RECs, which are also eligible as Class I certificates in Massachusetts, New Hampshire, Connecticut, and Maine, sold for an average price of $18.90.

You can read more about the auction in our press release or view the full auction results on our web site.

FEEDS

> Renewable Energy

MONTHLY ARCHIVE

> November 2010 (1)
> October 2010 (1)
> September 2010 (2)
> August 2010 (1)
> July 2010 (3)
> May 2010 (2)
> April 2010 (1)
> March 2010 (1)
> January 2010 (2)
> December 2009 (3)

ON THE RENEWABLE ENERGY BLOG

11.3.10
Evolution to Host NE REC Auction Nov. 10

10.14.10
Evolution Completes REC Auction for University of New Hampshire

9.22.10
Evolution to Host REC Auction for University of New Hampshire

9.1.10
Upheaval in CA Legislature leads to the demise of SB 722

Public Service Company of New Hampshire
Docket No. DE 10-195

Data Request STAFF-06

Dated: 11/30/2010
Q-STAFF-001
Page 1 of 1

Witness: Richard C. Labrecque
Request from: New Hampshire Public Utilities Commission Staff

Question:
Ref. PSNH Response to Staff 1-8. Please specify the year to which the $20 REC price relates.

Response:
The $20 REC price referenced in the response in Staff 1-8 is the 2012 MA REC price.

Public Version

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Confidential Attachment in Confidential Version of Testimony

Public Version

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Confidential Attachment in Confidential Version of Testimony

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December 15, 2009

Via Hand Delivery

Thomas S. Burack, Chairman
Site Evaluation Committee
N.H. Department of Environmental Services
29 Hazen Drive
Concord, NH 03302-0095

Re: Application of Laidlaw Berlin Biopower, LLC for a Certificate of Site and Facility for a Renewable Energy Facility in Berlin, New Hampshire

Dear Chairman Burack:

I enclose for filing with the New Hampshire Site Evaluation Committee an original and eighteen (18) copies of the Application of Laidlaw Berlin BioPower, LLC for a Certificate of Site and Facility for a renewable energy facility in Berlin, New Hampshire pursuant to RSA 162-H. I also enclose a disc containing an electronic pdf version of the Application and supporting materials.

Laidlaw Berlin BioPower, LLC ("LBB") is proposing to convert and upgrade much of the remaining facility equipment and infrastructure located at the former Fraser Pulp Mill in Berlin, New Hampshire in order to develop a biomass-fueled energy facility. LBB will use whole tree wood chips and other low-grade clean wood as fuel, and will be capable of generating up to nominally 70 megawatts (MW) of electric power (gross output).

The Project is a renewable energy facility under RSA 162-H:2. XII and is therefore subject to the review process and time frames established in RSA 162-H:6-a and Administrative Rule Site 301.05. The Project also qualifies for review by a subcommittee pursuant to RSA 162-H:4, V(b) and Administrative Rule Site 301.02 and 301.03.

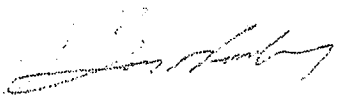
The Application contains pre-filed testimony, exhibits and other information sufficient for the Subcommittee to commence its review. In preparing the Application, we have followed the format and content requirements of Administrative Rule Site 301.02 and 301.03.

LBB will assist the Subcommittee and its staff in any way necessary to facilitate an expeditious review of this Application. Assuming that the Application is deemed complete pursuant to RSA 162-H:6-a, we request that a prehearing conference be conducted to establish a procedural schedule for the duration of the adjudicative proceeding.

LBB looks forward to working with the subcommittee to arrange for the public comment hearing required under RSA 162-H:6-a, IV in Berlin. LBB also respectfully requests, pursuant to Administrative Rule Site 202.13, that the subcommittee and public counsel visit the site of the proposed facility. We suggest that visit coincide with the public hearing in Berlin.

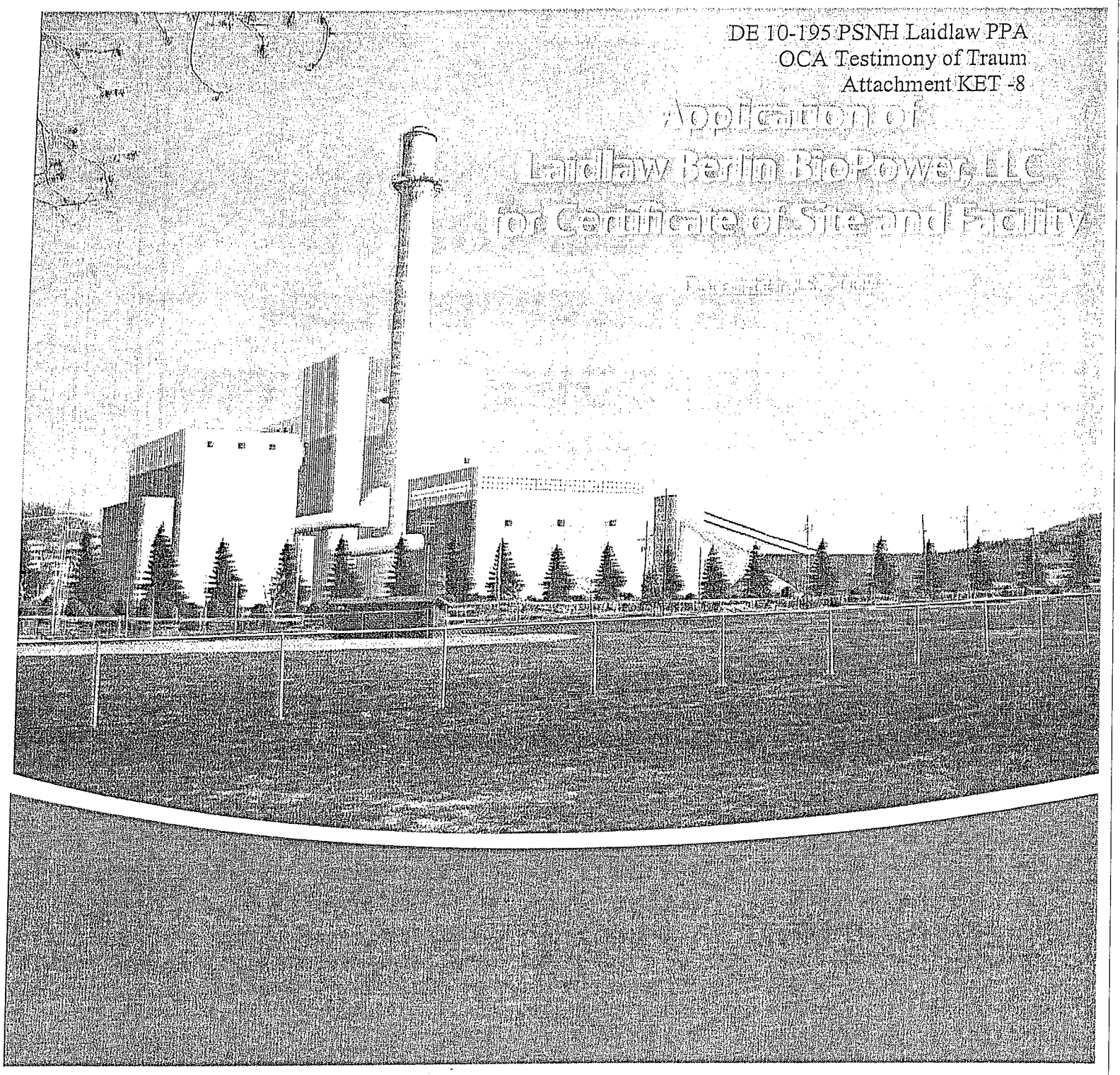
Please do not hesitate to contact me if you have any questions. Thank you for your assistance with LBB's Application.

Very truly yours,



Barry Needleman

Enclosures
cc: Attorney General Michael L. Delaney
City of Berlin
Laidlaw Berlin BioPower, LLC



Application of
Laidlaw Berlin BioPower, LLC
for Certificate of Site and Facility

Submitted to:
New Hampshire Site Evaluation Committee
Docket No. 2009-XX

Prepared by:

Laidlaw Berlin BioPower, LLC
90 John Street, 4th Floor
New York, New York 10038

Supported by:

ESS Group, Inc.
888 Worcester Street, Suite 240
Wellesley, MA 02482

The McLane Law Firm
Waldron Engineering & Construction, Inc.
The Babcock & Wilcox Company
Stantec Engineering, Inc.

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

BERLIN BIOPOWER
COOS COUNTY, NEW HAMPSHIRE

SUBMITTED TO	New Hampshire Site Evaluation Committee Docket No. 2009 -
PREPARED BY	Laidlaw Berlin BioPower, LLC 90 John Street, 4th Floor New York, New York 10038
SUPPORTED BY	ESS Group, Inc. 888 Worcester Street, Suite 240 Wellesley, Massachusetts 02482
IN ASSOCIATION WITH	The McLane Law Firm Waldron Engineering & Construction, Inc. The Babcock & Wilcox Company Stantec Engineering, Inc.

December 15, 2009

(f) RENEWABLE ENERGY FACILITY INFORMATION

(1) Make, model and manufacturer of the unit

The Facility will be comprised of all of the individual components required to produce electrical energy from the fuel described below. The make, model and manufacturer of the majority of the components will not be finalized until the detailed engineering and procurement phase of the Project. One of the major components that is currently known is the existing boiler which will be converted to a bubbling fluidized bed boiler by Babcock and Wilcox, the original manufacturer.

(2) Capacity, in megawatts, as designed and as intended for operation

The rated electrical output of the steam turbine generator is expected to be approximately 70 MW. It is expected that the net electrical output of the Facility, after allowance for all internal "parasitic" loads, will be approximately 64 MW.

(3) Type of unit, including:

a. Fuel utilized

The biomass boiler will be fueled with clean biomass as defined in New Hampshire's Renewable Portfolio Standard (HB 0873, 2007 Session)[9], and ULSD auxiliary fuel used for boiler start-up and flame stabilization.

b. Method of cooling condenser discharge

The steam turbine condenser will be cooled with recirculating water from an open cycle wet cooling tower. The warmed cooling water will be cooled by direct contact with counter flowing ambient air that will be drawn through the cooling tower and exhausted vertically upward by electric motor driven fans.

c. Whether the unit will serve base, intermediate or peaking loads

The Facility is designed to serve base load duty, with occasional intermediate dispatch.

d. Unit efficiency

Based on the annual average heat input rate provided by B&W at a fuel moisture content of 37.6% (932 MMBtu/hr) and a gross power output of 70 MW, the Facility will have a gross heat rate of approximately 13,300 Btu/kWh. This equates to a fuel to gross power output efficiency of approximately 25%. This efficiency will vary to some degree with fuel moisture content, as added heat input is required to vaporize water contained in fuels with higher moisture content than the design fuel. The efficiency may be further improved during more detailed design engineering. Further, when completely designed and incorporated, the

[9] *"Biomass Fuels" means plant-derived fuel including clean and untreated wood such as brush, stumps, lumber ends, and trimmings, wood pallets, bark, wood chips or pellets, shavings, sawdust, and slash, agricultural crops, biogas, or liquid biofuels, but shall exclude any materials derived in whole or in part from construction and demolition debris.* RSA 362-F:II.

(h) ADDITIONAL INFORMATION

(1) A description in detail of the type and size of each major part of the proposed facility

The Facility will be a base loaded electric energy generating facility with an expected nominal gross electrical output of approximately 70 MW. The heart of the Facility will be a BFB boiler; a highly efficient and advanced technology for the conversion of biomass fuel to energy. The boiler and other major components of the Project are described below.

(i) Biomass Boiler & Steam Generator

The existing B&W recovery boiler will be converted to a biomass-fueled BFB boiler with air-locked hopper bottoms for removal of bed sand particles and other non-combustible materials. An air distribution system consisting of fluidizing air and overfire air will be added to assure efficient fuel combustion. A flue gas recirculation system will be utilized to adjust the bed temperature depending on the moisture content of the incoming fuel. The existing feedwater economizer, which will preheat the feedwater to the boiler drum, will be modified to optimize boiler efficiency. The use of a tubular air pre-heater will ensure efficient use of the energy released in the boiler.

The boiler will be capable of generating up to 600,000 pounds per hour of steam at temperatures up to 900ºF and 850 psig. Stable operation and compliant emission levels will be maintained over the range of expected operating loads from 70% to 100% of maximum steam output. A series of double sided retractable soot blowers will be utilized on heat transfer surfaces within the superheater and convective sections of the boiler to maintain design performance levels.

The boiler will be capable of firing clean biomass and has been designed to handle variable fuel moisture contents ranging from 35% up to 50%. At an average moisture content of 37.6%[10], the wood fuel will have a higher heating value of approximately 5,060 Btu/lb. The heat input rate to the boiler will vary primarily depending on the moisture content of the wood fuel. The average heat input rate at maximum steam load will be 932 MMBtu/hr with 37.6% moisture content fuel. The maximum heat input rate will be 1,013 MMBtu/hr with 50% moisture content fuel. Individual fuel feeders will be equipped with adjustable air swept distributors to adjust the flow of fuel into the boiler. The fuel chutes will each be equipped with backdraft dampers.

The boiler will also be equipped with four No. 2 distillate oil fired burners for use during startup, with a maximum expected heat input capacity of 240 MMBtu/hr. The Facility will also include a 500 kW emergency diesel generator set and a 288 horsepower diesel fire pump. The boiler startup burners, the emergency generator, and the diesel fire pump will be

[10] This fuel moisture content has been established as the design point for equipment supplier performance guarantee purposes.

Public Service Company of New Hampshire
Docket No. DE 10-257

Technical Session TECH-01

Dated: 11/19/2010
Q-TS-004
Page 1 of 2

Witness: Frederick White
Request from: New Hampshire Public Utilities Commission Staff

Question:
Ref. Staff 01, Q-STAFF-006. Please show how you derived the ISO-NE forward energy market price for 2011

Response:
Please see attached file (Tech-01, Q-TS-4, Page 2 of 2) and associated notes explaining the derivation of monthly forward market energy prices for 2011.

Derivation of ISO-NE Forward Market Energy Prices

	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)
	NYMEX Prices				ISO-NE Power		ISO-NE Forward Market Energy		
	ISO-NE Power $/MWh		Natural Gas $/MMBtu	Q4 NG Price	$/MWh		$/MWh		
2011	Peak	Off-Peak	New England	Distribution	Peak	Off-Peak	Peak	Off-Peak	24 Hr
Jan	55.7	45.7	5.609				55.7	45.7	50.2
Feb	55.7	45.7	5.595				55.7	45.7	50.5
Mar	49.5	37.7	4.976				49.5	37.7	43.6
Apr	45.5	37.7	4.753				45.5	37.7	41.4
May	46.7	36.6	4.782				46.7	36.6	41.2
Jun	48.1	36.8	4.840				48.1	36.8	42.3
Jul	57.0	40.2	4.912				57.0	40.2	47.4
Aug	57.0	40.2	4.964				57.0	40.2	48.5
Sep	48.0	37.2	4.986				48.0	37.2	42.3
Oct	50.2	40.0	5.068	92.7%	46.5	37.1	46.5	37.1	41.3
Nov	50.2	40.0	5.371	98.2%	49.3	39.3	49.3	39.3	44.0
Dec	50.2	40.0	5.966	109.1%	54.7	43.6	54.7	43.6	48.7
Total							51.1	39.8	45.1

NOTES: 1) Columns a, b, & c are NYMEX settlement prices used in PSNH's preliminary 2011 ES filing. For column c reference Staff-01, Q6a.

2) Column d percentages are the relative values of column c Q4 values, to the column c Q4 3-month average. e.g. - Column c Oct. value of 5.068 is 92.7% of the column c Oct-Dec average of 5.468.

3) Columns e & f are column d values times columns a & b, respectively. i.e. - Q4 average power prices in columns a & b are distributed consistent with Q4 natural gas prices.

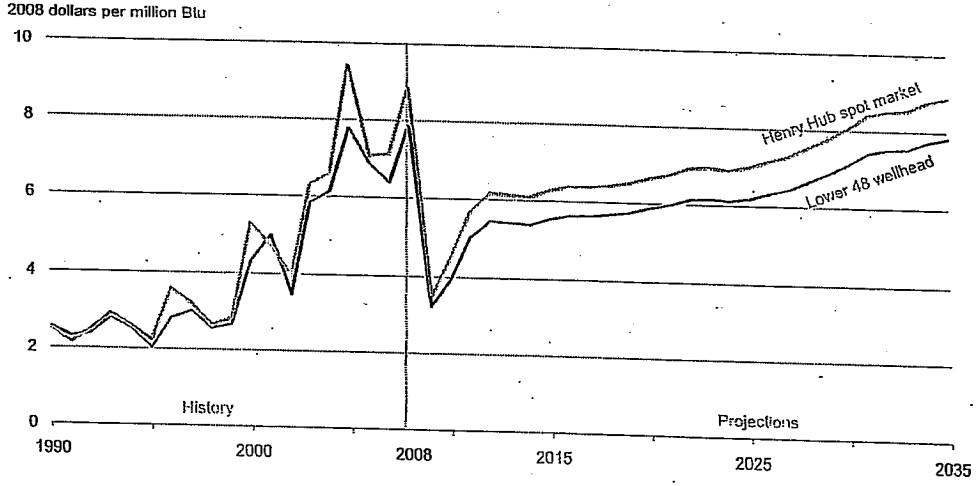
4) Columns g & h are columns a & b for Jan-Sep and columns e & f for Oct-Dec, respectively. Reference Staff-01, Q6d (columns g & h).

5) Column i is the 24 hour average of columns g & h based on the number of peak & off-peak hours in each month. Annual averages are also shown.

Figure 69. Annual average lower 48 wellhead and Henry Hub spot market prices for natural gas, 1990-2035 (2008 dollars per million Btu)

	Wellhead price	Henry Hub spot price
1990	2.55	2.6
	2.3	2.2
	2.4	2.51
	2.81	2.94
	2.54	2.61
	2.03	2.25
	2.83	3.59
	3.02	3.21
	2.57	2.65
	2.69	2.84
2000	4.32	5.28
	4.99	4.74
	3.49	3.95
	5.83	6.3
	6.14	6.6
	7.77	9.41
	6.87	7.07
	6.38	7.12
2008	7.85	8.86
	3.24	3.49
	3.94	4.5
	5.02	5.68
	5.45	6.17
	5.42	6.13
	5.38	6.09
2015	5.54	6.27
	5.63	6.38
	5.64	6.38
	5.69	6.43
	5.75	6.51
	5.87	6.64
	5.96	6.74
	6.12	6.93
	6.15	6.96
	6.11	6.91
2025	6.18	6.99
	6.32	7.15
	6.44	7.29
	6.65	7.53
	6.87	7.77
	7.11	8.05
	7.41	8.39
	7.51	8.5
	7.53	8.53
	7.73	8.75
2035	7.84	8.88

Figure 69. Annual average lower 48 wellhead and Henry Hub spot market prices for natural gas, 1990-2035



U.S. Energy Information Administration, Natural Gas Annual 2007, DOE/EIA-0131(2007) (Washington, DC, January 2009). Henry Hub natural gas prices: U.S. Energy Information Administration, Short-Term Energy Outlook Query System, Monthly Natural Gas Data, Variable NGHHUUS. Projections: AEO-2010 National Energy Modeling System, run AEO2010R.D111809A.

Public Service Company of New Hampshire
Docket No. DE 10-195

Data Request CSC-04

Dated: 11/30/2010
Q-CSC-001
Page 1 of 3

Witness: Richard C. Labrecque
Request from: Concord Steam Corporation

Question:
Please explain and provide the calculations and work papers for the cost of wood fuel delivered to Schiller Station provided in the attachments to Q-Staff-011 (Set 1) and Q-Staff-011 (Set 3).

Response:
The analyses provided via Staff 1-11 RV01 index the initial wood price by an inflation escalator (calculation provided in the attachment). The analyses in attachments 3, 4, 5, and 7 to Staff 1-11 use an escalator of 2.5%. The analysis in attachment 6 uses an escalator of 0.50%. Both of these values are estimates and are not based on any study, report, forecast or calculation. The initial wood price of $34/ton is an estimate and is not based on any study, report, forecast or calculation.

The analyses provided via Staff 3-11 RV01 index the initial wood price by the year-to-year change in the NYMEX natural gas forward market prices from Aug 14, 2008 (calculation provided in the attachment). The initial wood price of $38/ton is an estimate and is not based on any study, report, forecast or calculation.

	Assumed Wood Price Inflation Index	
	2.50%	0.50%
	Schiller Delivered Fuel Cost ($/ton)	
	STAFF 1-11 Attachments 3, 4, 5, 7	STAFF 1-11 Attachment 6
2010	34.00	34.00
2011	34.00	34.00
2012	34.00	34.00
2013	34.00	34.00
2014	34.00	34.00
2015	34.85	34.17
2016	35.72	34.34
2017	36.61	34.51
2018	37.53	34.69
2019	38.47	34.86
2020	39.43	35.03
2021	40.42	35.21
2022	41.43	35.38
2023	42.46	35.56
2024	43.52	35.74
2025	44.61	35.92
2026	45.73	36.10
2027	46.87	36.28
2028	48.04	36.46
2029	49.24	36.64
2030	50.47	36.82
2031	51.74	37.01
2032	53.03	37.19
2033	54.35	37.38
2034	55.71	37.57
2035	57.11	37.75
2036	58.53	37.94
2037	60.00	38.13
2038	61.50	38.32
2039	63.03	38.52
2040	64.61	38.71
2041	66.23	38.90
2042	67.88	39.10
2043	69.58	39.29
2044	71.32	39.49
2045	73.10	39.69
2046	74.93	39.88
2047	76.80	40.08
2048	78.72	40.28
2049	80.69	40.48
2050	82.71	40.69
2051	84.77	40.89
2052	86.89	41.10
2053	89.07	41.30

	STAFF 3-11 Schiller Delivered Fuel Cost ($/ton)	Henry Hub Gas ($/Mbtu) - NYMEX (from Aug 14, 2008)	Year / Year Change in NYMEX Price
2010	38.00	9.17	
2011	36.84	8.89	96.95%
2012	35.82	8.64	97.22%
2013	35.04	8.45	97.84%
2014	34.95	8.43	99.72%
2015	35.49	8.56	101.55%
2016	35.94	8.67	101.26%
2017	36.41	8.78	101.31%
2018	36.91	8.90	101.38%
2019	37.49	9.04	101.57%
2020	38.23	9.22	101.99%
2021	38.83	9.37	101.56%
2022	39.44	9.51	101.56%
2023	40.06	9.66	101.56%
2024	40.68	9.81	101.56%
2025	41.32	9.97	101.56%
2026	41.96	10.12	101.56%
2027	42.62	10.28	101.56%
2028	43.28	10.44	101.56%
2029	43.96	10.61	101.56%

Public Service Company of New Hampshire
Docket No. DE 10-195

Data Request STAFF-05

Dated: 11/01/2010
Q-STAFF-002
Page 1 of 1

Witness: Richard C. Labrecque
Request from: New Hampshire Public Utilities Commission Staff

Question:
Ref. PSNH Response to Staff 1-19. Please provide for the period October 2008 through September 2010 the percentage of PSNH's monthly retail load met by competitive suppliers.

Response:
The percentage of PSNH's total retail load served by competitive suppliers for October 2008 through September 2010 is as follows:

Oct-08	2.9%
Nov-08	6.0%
Dec-08	7.4%
Jan-09	7.5%
Feb-09	10.4%
Mar-09	12.1%
Apr-09	13.5%
May-09	15.7%
Jun-09	17.8%
Jul-09	18.8%
Aug-09	19.7%
Sep-09	22.6%
Oct-09	25.7%
Nov-09	26.2%
Dec-09	26.8%
Jan-10	24.7%
Feb-10	26.4%
Mar-10	28.5%
Apr-10	30.6%
May-10	31.9%
Jun-10	31.8%
Jul-10	30.1%
Aug-10	30.6%
Sep-10	33.0%

Public Service Company of New Hampshire
Docket No. DE 10-195

Data Request STAFF-06

Dated: 11/30/2010
Q-STAFF-003
Page 1 of 1

Witness: Richard C. Labrecque
Request from: New Hampshire Public Utilities Commission Staff

Question:
Ref. PSNH Response to Staff 1-19. Please explain why the energy service forecast is 73% of the delivery service forecast instead of 69%.

Response:
In the response to Staff 1-19, the delivery service forecast was adjusted upward using a delivery efficiency factor of 0.945 to adjust load to the pool transmission level in addition to adjusting for migration. The formula used to calculate Energy Service sales is Delivery Sales x (1-Migration Rate) x (1/Delivery Efficiency Factor).

The proper calculation of RPS requirements would not have used the delivery efficiency, since RPS obligations are a percentage of end-use customers sales (as measured at the meter). The table provided in the response to Staff 1-19 has been corrected below.

	2011	2012	2013	2014	2015
Delivery Service Forecast w/EE/DSM (MWh)	7,788,024	7,877,125	7,903,333	7,995,366	8,064,644
Migration Rate (Base case)	31%	31%	31%	31%	31%
Energy Service Forecast	5,373,737	5,435,216	5,453,300	5,516,803	5,564,604
Class I RPS Requirement (%)	2.00%	3.00%	4.00%	5.00%	6.00%
Class I RPS Requirement (MWh)	107,475	163,056	218,132	275,840	333,876
Laidlaw RECs Produced	0	0	203,232	406,464	406,464
% of Class I Requirement met by Laidlaw	0%	0%	93%	147%	122%

Public Service Company of New Hampshire
Docket No. DE 10-195

Data Request STAFF-05

Dated: 11/01/2010
Q-STAFF-001
Page 1 of 1

Witness: Richard C. Labrecque
Request from: New Hampshire Public Utilities Commission Staff

Question:
Article 5.1 states that seller shall sell and deliver and PSNH shall purchase and accept delivery of 100% of the Products produced by the Facility. Article 1.18 defines the term Facility as the generating plant described in Appendix A. Appendix A states that the Facility will be designed to have a net electric output at standard conditions of approximately 64 MW (winter) and 61 MW (summer). Please respond to the following:
(i) Does the PPA allow Laidlaw to expand, at any time before or during the term, the output of the Facility above the level specified in Appendix A? If the answer is yes, please specify where in the PPA Laidlaw is provided that right.

(ii) If Laidlaw expands the output of the facility above the level specified in Appendix A, is PSNH obligated to purchase the incremental products produced as a result of that expansion? If the answer is yes, please specify where in the PPA PSNH incurs that obligation.

Response:
(i) The PPA is silent on the ability of Laidlaw to expand the facility.

(ii) Regarding plant expansion, the relevant language in the PPA is Article 1.18 and Article 5.1. Article 1.18 defines the "Facility" as the generating plant described in Appendix A. If and when the Facility is expanded such that the description in Appendix A is no longer valid, PSNH will determine the appropriate course of action consistent with the PPA terms and conditions.

Public Service Company of New Hampshire
Docket No. DE 10-195

Data Request STAFF-01

Dated: 10/08/2010
Q-STAFF-032-RV02
Page 1 of 9

Witness: Richard C. Labrecque
Request from: New Hampshire Public Utilities Commission Staff

Question:
Ref. Labrecque Testimony, page 3. Regarding NH RSA Chapter 362-F, identify all other long-term renewable resource options that PSNH considered for meeting its New Hampshire Class I REC obligations. Provide all evaluations, studies, reports, spreadsheets, correspondence, notes, presentation materials, and work papers related to these renewable resource options.

Response:
As is more fully detailed in Docket DE 09-067, PSNH received proposals from both Clean Power Development, LLC and Concord Steam Corporation in July 2009, several months after negotiations with Laidlaw were in progress. These proposals are attached to the response to Q-STAFF-017.

Attachment 1 to this response is a comparison of the two proposals (CPD, CSC) to the Laidlaw PPA using the forward market prices provided in response to Q-STAFF-003.

Attachment 2 is an additional comparison of the three proposals.

Summary of Biomass PPA Proposals
2012-2031

	CPD	Concord		Laidlaw	
Capacity (MW)	19.5	10.2		58	
Energy (MWh)/RECs	163,000	75,949		431,868	
Offer Comparison:					
NPV, 2012	$1,578.01	$1,507.90		$1,725.58	
Levelized 2012-2031 ($/kWh)	$0.1431	$0.1367		$0.1564	
Market Comparison:	Aug-09	Aug-09		Aug-08	Aug-09
NPV, 2012	$1,469.86	$1,482.37		$1,888.48	$1,482.37
Levelized 2012-2031 ($/kWh)	$0.1333	$0.1344		$0.1712	$0.1344
Lifetime Over (Under) Market ($M)	$22.9	($1.6)		($182.6)	$152.0
NPV, 2012	$17.6	$1.9		($70.4)	$105.0

Assumptions:
All proposals used a 2.5% inflator
Capacity payments begin in 2013 for Concord and Laidlaw
Wood prices assumed to start at $32.50/ton
Laidlaw's Base Energy Price is assumed to be able to go below $83/MWh wood prices go below $34/ton
CPD and Concord market comparison is based on Aug 4, 2009 market prices; Laidlaw market comparison is based on Aug 1, 2008 market prices
Note: Laidlaw market comparisons do not include the disposition of the proposed "Cumulative Reduction"

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
REC Need*	172,168	253,892	337,726	424,392	516,364	608,366	704,836	802,311	908,041	1,012,803	1,120,488	1,231,159	1,344,884	1,461,728
NWP RECs	0	0	0	0	0	0	0	0	0	315,000	315,000	315,000	315,000	315,000
REC Need with NWP	172,168	253,892	337,726	424,392	516,364	608,366	704,836	802,311	908,041	697,803	805,488	916,159	1,029,884	1,146,728
REC Need with Laidlaw	(259,700)	(177,976)	(94,142)	(7,476)	84,496	176,498	272,968	370,443	476,173	265,935	373,620	484,291	598,016	714,860

*Assumes 8,000 RECs for Smith Hydro, 60,549 RECs for Lempster, and 34,355 Class IV Hydro RECs

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CLEAN POWER DEVELOPMENT - BERLIN
INDICATIVE BID PRICES - AUG-2009

Year	1 2012	2 2013	3 2014	4 2015	5 2016	6 2017	7 2018	8 2019	9 2020	10 2021	11 2022	12 2023	13 2024	14 2025	15 2026	16 2027	17 2028	18 2029	19 2030	20 2031
Non-fuel Variable O&M - Electricity price escalated ($/MWh)	$36.00	$36.90	$37.82	$38.77	$39.74	$40.73	$41.75	$42.79	$43.86	$44.96	$46.08	$47.24	$48.42	$49.63	$50.87	$52.14	$53.44	$54.78	$56.15	$57.55
Fixed - Electricity price energy fixed ($/MWh)	$35.10	$35.10	$35.10	$35.10	$35.10	$35.10	$35.10	$35.10	$35.10	$35.10	$35.10	$35.10	$35.10	$35.10	$35.10	$35.10	$35.10	$35.10	$35.10	$35.10
Fuel - Electricity price Fuel ($/MWh)	$52.94	$54.26	$55.62	$57.01	$58.44	$59.90	$61.39	$62.93	$64.50	$66.11	$67.77	$69.46	$71.20	$72.98	$74.80	$76.67	$78.59	$80.55	$82.57	$84.63
INDICATIVE BID PRICES - PROPOSAL THREE ($/MWh)	$124.04	$126.26	$128.54	$130.88	$133.27	$135.73	$138.24	$140.82	$143.46	$146.17	$148.95	$151.80	$154.71	$157.70	$160.77	$163.91	$167.13	$170.43	$173.82	$177.28
2012 Discount Rate (based on PSNH WACC)	6.49%																			
NPV, 2012	$1,578.01																			
Levelized 2012-2031	$143.06																			
Footnotes:																				
Capacity Value Starting in 2013 ($/KW-Mo)	$0.00	$2.70	$2.70	$2.70	$2.70	$2.70	$2.70	$2.70	$2.70	$2.70	$2.70	$2.70	$2.70	$2.70	$2.70	$2.70	$2.70	$2.70	$2.70	$2.70
Annual Capacity (KW)	19,500	19,500	19,500	19,500	19,500	19,500	19,500	19,500	19,500	19,500	19,500	19,500	19,500	19,500	19,500	19,500	19,500	19,500	19,500	19,500
Annual Energy Production (MWh)	163,000	163,000	163,000	163,000	163,000	163,000	163,000	163,000	163,000	163,000	163,000	163,000	163,000	163,000	163,000	163,000	163,000	163,000	163,000	163,000
Alternative Compliance Payment of NH REC ($/MWh)	$65.60	$67.24	$68.93	$70.65	$72.41	$74.23	$76.08	$77.98	$79.93	$81.93	$83.98	$86.08	$88.23	$90.44	$92.70	$95.01	$97.39	$99.82	$102.32	$104.88
Assumed CPI	2.5%																			
Wood Price ($/Ton)	$32.50	$33.31	$34.15	$35.00	$35.87	$36.77	$37.69	$38.63	$39.60	$40.59	$41.60	$42.64	$43.71	$44.80	$45.92	$47.07	$48.25	$49.45	$50.69	$51.96
Fuel Factor	1.63																			
Wood Price Baseline ($/Ton)	$40.00	$41.00	$42.03	$43.08	$44.15	$45.26	$46.39	$47.55	$48.74	$49.95	$51.20	$52.48	$53.80	$55.14	$56.52	$57.93	$59.38	$60.86	$62.39	$63.95
Wood Price Adjustment (WPA) ($/Ton)	$52.94	$54.26	$55.62	$57.01	$58.44	$59.90	$61.39	$62.93	$64.50	$66.11	$67.77	$69.46	$71.20	$72.98	$74.80	$76.67	$78.59	$80.55	$82.57	$84.63
August 4, 2009 Market Price Forecast:																				
Energy ($/MWh)	$65.21	$66.78	$68.45	$70.17	$71.92	$73.72	$75.56	$77.45	$79.39	$81.37	$83.40	$85.49	$87.63	$89.82	$92.06	$94.36	$96.72	$99.14	$101.62	$104.16
Capacity ($/kW-Mo)	$3.02	$2.95	$2.95	$2.95	$3.43	$4.30	$5.24	$6.23	$7.27	$8.37	$9.53	$10.35	$10.76	$10.97	$10.84	$11.24	$11.78	$12.10	$12.42	$12.42
Capacity ($/MWh)	$0.00	$4.23	$4.23	$4.23	$4.92	$6.17	$7.52	$8.94	$10.44	$12.02	$13.68	$14.86	$15.45	$15.75	$15.56	$16.14	$16.91	$17.37	$17.83	$17.83
Class I RECs ($/MWh)	$37.00	$37.93	$38.87	$39.84	$40.84	$41.86	$42.91	$43.98	$45.08	$46.21	$47.36	$48.55	$49.76	$51.00	$52.28	$53.59	$54.93	$56.30	$57.71	$59.15
Total Energy Price ($/MWh)	$102.21	$108.94	$111.56	$114.25	$117.68	$121.75	$125.99	$130.37	$134.90	$139.59	$144.45	$148.90	$152.83	$156.57	$159.90	$164.09	$168.56	$172.81	$177.16	$181.14
NPV, 2012	$1,469.86																			
Levelized 2012-2031	$133.26																			
Over (Under) Market ($/MWh)	$21.83	$17.32	$16.98	$16.63	$15.59	$13.97	$12.25	$10.45	$8.56	$6.58	$4.50	$2.90	$1.88	$1.13	$0.87	($0.18)	($1.43)	($2.38)	($3.34)	($3.86)
Over (Under) Market ($)	$3,557,883	$2,823,022	$2,767,823	$2,711,244	$2,540,930	$2,277,906	$1,997,016	$1,702,903	$1,395,528	$1,072,514	$733,819	$473,002	$306,402	$184,836	$141,018	($28,575)	($233,030)	($387,855)	($544,679)	($628,572)
Lifetime Over (Under) Market ($)	$22,852,934																			
NPV, 2012	$17,627,777																			

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CONCORD POWER & STEAM - CONCORD
AUG-2009 PROPOSAL PRICES

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Year	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Capacity Price ($/MWh)	$0.00	$5.80	$5.80	$5.80	$5.80	$5.80	$5.80	$5.80	$5.80	$5.80	$5.80	$5.80	$5.80	$5.80	$5.80	$5.80	$5.80	$5.80	$5.80	$5.80
Fixed Energy ($/MWh)	$33.50	$33.50	$33.50	$33.50	$33.50	$33.50	$33.50	$33.50	$33.50	$33.50	$33.50	$33.50	$33.50	$33.50	$33.50	$33.50	$33.50	$33.50	$33.50	$33.50
Variable Energy Price ($/MWh)	$34.30	$35.16	$36.04	$36.94	$37.86	$38.81	$39.78	$40.77	$41.79	$42.84	$43.91	$45.00	$46.13	$47.28	$48.47	$49.68	$50.92	$52.19	$53.50	$54.83
Fuel Charge ($/MWh)	$46.35	$47.51	$48.70	$49.91	$51.16	$52.44	$53.75	$55.10	$56.47	$57.88	$59.33	$60.82	$62.34	$63.89	$65.49	$67.13	$68.81	$70.53	$72.29	$74.10
Total Price Proposal ($/MWh)	$114.15	$121.97	$124.03	$126.15	$128.32	$130.55	$132.83	$135.17	$137.57	$140.02	$142.54	$145.12	$147.77	$150.48	$153.26	$156.11	$159.03	$162.02	$165.09	$168.23
2012 Discount Rate (based on PSNH WACC)	6.49%																			
NPV, 2012	$1,507.90																			
Levelized 2012-2031	$138.71																			
Footnotes:																				
Capacity Value Starting in 2013 ($/KW-Mo)	$ -	$ 3.60	$ 3.60	$ 3.60	$ 3.60	$ 3.60	$ 3.60	$ 3.60	$ 3.60	$ 3.60	$ 3.60	$ 3.60	$ 3.60	$ 3.60	$ 3.60	$ 3.60	$ 3.60	$ 3.60	$ 3.60	$ 3.60
Net Annual Capacity (KW) (60% of 17 MW)	10,200	10,200	10,200	10,200	10,200	10,200	10,200	10,200	10,200	10,200	10,200	10,200	10,200	10,200	10,200	10,200	10,200	10,200	10,200	10,200
Annual Energy Production (MWh) 85% CF	75,949	75,949	75,949	75,949	75,949	75,949	75,949	75,949	75,949	75,949	75,949	75,949	75,949	75,949	75,949	75,949	75,949	75,949	75,949	75,949
Alternative Compliance Payment of NH REC ($/MWh)	$65.60	$67.24	$68.93	$70.65	$72.41	$74.23	$76.08	$77.98	$79.93	$81.93	$83.98	$86.08	$88.23	$90.44	$92.70	$95.01	$97.39	$99.82	$102.32	$104.89
Assumed Price Inflator (CPI)	2.5%																			
Base Energy Price ($/MWh)	$46.35																			
Utility Wood Price ($/Ton)	$32.50	$33.31	$34.15	$35.00	$35.87	$36.77	$37.69	$38.63	$39.60	$40.59	$41.60	$42.64	$43.71	$44.80	$45.92	$47.07	$48.25	$49.45	$50.69	$51.96
August 4, 2009 Market Price Forecast:																				
Energy ($/MWh)	$65.21	$66.78	$68.45	$70.17	$71.92	$73.72	$75.56	$77.45	$79.39	$81.37	$83.40	$85.49	$87.63	$89.82	$92.06	$94.36	$96.72	$99.14	$101.62	$104.16
Capacity ($/kW-Mo)	$3.02	$2.95	$2.95	$2.95	$3.43	$4.30	$5.24	$6.23	$7.27	$8.37	$9.53	$10.35	$10.76	$10.97	$10.84	$11.24	$11.78	$12.10	$12.42	$12.42
Capacity ($/MWh)	$0.00	$4.75	$4.75	$4.75	$5.53	$6.93	$8.44	$10.04	$11.72	$13.49	$15.36	$16.68	$17.34	$17.68	$17.47	$18.11	$18.98	$19.50	$20.02	$20.02
Class I RECs ($/MWh)	$37.00	$37.93	$38.87	$39.84	$40.84	$41.86	$42.91	$43.98	$45.08	$46.21	$47.36	$48.55	$49.76	$51.00	$52.28	$53.59	$54.93	$56.30	$57.71	$59.15
Total Energy Price ($/MWh)	$102.21	$109.46	$112.08	$114.76	$118.29	$122.51	$126.91	$131.47	$136.18	$141.07	$146.13	$150.72	$154.73	$158.50	$161.81	$166.07	$170.64	$174.94	$179.34	$183.33
NPV, 2012	$1,482.37																			
Levelized 2012-2031	$134.39																			
Over (Under) Market ($/MWh)	$11.94	$12.50	$11.95	$11.39	$10.04	$8.04	$5.92	$3.70	$1.38	($1.04)	($3.59)	($5.60)	($6.96)	($8.02)	($8.55)	($9.96)	($11.51)	($12.92)	($14.26)	($15.09)
Over (Under) Market ($)	$906,644	$949,700	$907,847	$864,946	$762,221	$610,661	$449,406	$280,877	$105,043	($79,348)	($272,327)	($424,955)	($528,726)	($609,346)	($649,723)	($756,379)	($881,513)	($981,393)	($1,082,699)	($1,145,384)
Lifetime Over (Under) Market ($)	($1,575,564)																			
NPV, 2012	$1,939,575																			

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LAIDLAW - BERLIN
AUG-2008 PROPOSAL PRICES

Year	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Capacity Price ($/MWh)	$0.00	$6.85	$6.85	$6.85	$6.85	$6.85	$7.09	$7.33	$7.57	$7.82	$8.06	$8.30	$8.54	$8.78	$9.02	$9.27	$9.51	$9.75	$9.99	$10.23
Energy Price ($/MWh)	$80.30	$81.76	$83.25	$84.80	$86.37	$87.99	$89.64	$91.34	$93.08	$94.86	$96.68	$98.56	$100.48	$102.44	$104.46	$106.53	$108.64	$110.81	$113.04	$115.32
Class I REC ($/MWh)	$52.48	$53.80	$55.14	$55.52	$57.93	$55.67	$57.06	$58.49	$59.95	$61.45	$58.79	$60.25	$61.76	$63.31	$64.89	$47.51	$48.69	$49.91	$51.15	$52.44
Total Price Proposal ($/MWh)	$132.78	$142.41	$145.25	$148.17	$151.15	$150.51	$153.79	$157.16	$160.60	$164.12	$163.53	$167.11	$170.78	$174.53	$178.37	$163.30	$166.85	$170.48	$174.19	$177.99
2012 Discount Rate (based on PSNH WACC)	6.49%																			
NPV, 2012	$1,725.58																			
Levelized 2012-2031	$156.44																			
Footnotes:																				
Capacity Value Starting in 2013 ($/KW-Mo)	$ -	$ 4.25	$ 4.25	$ 4.25	$ 4.25	$ 4.25	$ 4.40	$ 4.55	$ 4.70	$ 4.85	$ 5.00	$ 5.15	$ 5.30	$ 5.45	$ 5.60	$ 5.75	$ 5.90	$ 6.05	$ 6.20	$ 6.35
Net Annual Capacity (KW)	58,000	58,000	58,000	58,000	58,000	58,000	58,000	58,000	58,000	58,000	58,000	58,000	58,000	58,000	58,000	58,000	58,000	58,000	58,000	58,000
Annual Energy Production (MWh) 85% CF	431,868	431,868	431,868	431,868	431,868	431,868	431,868	431,868	431,868	431,868	431,868	431,868	431,868	431,868	431,868	431,868	431,868	431,868	431,868	431,868
Alternative Compliance Payment of NH REC ($/MWh)	$55.50	$57.24	$58.93	$70.65	$72.41	$74.23	$76.08	$77.98	$79.93	$81.93	$83.98	$86.08	$88.23	$90.44	$92.70	$95.01	$97.39	$99.82	$102.32	$104.88
Assumed CPI	2.5%																			
Base Energy Price ($/MWh)	$83.00																			
Utility Wood Price ($/Ton)	$32.50	$33.31	$34.15	$35.00	$35.87	$36.77	$37.69	$38.63	$39.60	$40.59	$41.60	$42.64	$43.71	$44.80	$45.92	$47.07	$48.25	$49.45	$50.69	$51.96
Fuel Factor	1.80																			
Wood Price Baseline ($/Ton)	$34.00																			
Wood Price Adjustment (WPA) ($/Ton)	-$2.70	-$1.24	$0.26	$1.80	$3.37	$4.99	$6.64	$8.34	$10.08	$11.86	$13.68	$15.56	$17.48	$19.44	$21.46	$23.53	$25.64	$27.81	$30.04	$32.32
August 1, 2008 Market Price Forecast:																				
Energy ($/MWh)	$85.99	$88.14	$90.34	$92.60	$94.92	$97.29	$99.72	$102.22	$104.77	$107.39	$110.08	$112.83	$115.65	$118.54	$121.50	$124.54	$127.65	$130.84	$134.12	$137.47
Capacity ($/KW-Mo)	$3.02	$2.95	$2.95	$2.95	$3.43	$4.30	$5.24	$6.23	$7.27	$8.37	$9.53	$10.35	$10.76	$10.97	$10.84	$11.24	$11.78	$12.10	$12.42	$12.42
Capacity ($/MWh)	$0.00	$4.75	$4.75	$4.75	$5.53	$6.93	$8.44	$10.04	$11.72	$13.49	$15.36	$16.58	$17.34	$17.68	$17.47	$18.11	$13.98	$19.50	$20.02	$20.02
Class I RECs ($/MWh)	$46.50	$47.66	$48.85	$50.08	$51.33	$52.61	$53.93	$55.27	$56.66	$58.07	$59.52	$61.01	$62.54	$64.10	$65.70	$67.35	$69.03	$70.76	$72.52	$74.34
Total Energy Price ($/MWh)	$132.49	$140.56	$143.95	$147.43	$151.77	$156.83	$162.09	$167.53	$173.14	$178.95	$184.96	$190.52	$195.53	$200.32	$204.68	$210.00	$215.57	$221.10	$226.66	$231.82
NPV, 2012	$1,888.48																			
Levelized 2012-2031	$171.21																			
Over (Under) Market ($/MWh)	$0.29	$1.85	$1.30	$0.73	($0.62)	($6.33)	($8.30)	($10.37)	($12.54)	($14.83)	($21.43)	($23.41)	($24.75)	($25.79)	($26.30)	($46.70)	($48.92)	($50.92)	($52.46)	($53.83)
Over (Under) Market ($)	$126,415	$799,007	$560,994	$317,031	($257,111)	($2,731,717)	($3,584,348)	($4,479,349)	($5,416,909)	($6,404,182)	($9,254,756)	($10,108,991)	($10,687,564)	($11,135,877)	($11,359,739)	($20,168,651)	($21,084,160)	($21,862,640)	($22,657,524)	($23,246,805)
Lifetime Over (Under) Market ($)	($182,547,985)																			
NPV, 2012	($70,352,974)																			
August 4, 2009 Market Price Forecast:																				
Energy ($/MWh)	$55.21	$66.78	$68.45	$70.17	$71.92	$73.72	$75.56	$77.45	$79.39	$81.37	$83.40	$85.49	$87.63	$89.82	$92.05	$94.35	$96.72	$99.14	$101.62	$104.16
Capacity ($/KW-Mo)	$3.02	$2.95	$2.95	$2.95	$3.43	$4.30	$5.24	$6.23	$7.27	$8.37	$9.53	$10.35	$10.76	$10.97	$10.84	$11.24	$11.78	$12.10	$12.42	$12.42
Capacity ($/MWh)	$0.00	$4.75	$4.75	$4.75	$5.53	$6.93	$8.44	$10.04	$11.72	$13.49	$15.36	$16.58	$17.34	$17.68	$17.47	$18.11	$18.98	$19.50	$20.02	$20.02
Class I RECs ($/MWh)	$37.00	$37.93	$38.87	$39.84	$40.84	$41.86	$42.91	$43.98	$45.08	$46.21	$47.36	$48.55	$49.76	$51.00	$52.28	$53.59	$54.93	$56.30	$57.71	$59.15
Total Energy Price ($/MWh)	$102.21	$109.46	$112.08	$114.76	$118.29	$122.51	$126.91	$131.47	$136.18	$141.07	$146.13	$150.72	$154.73	$158.50	$161.81	$165.07	$170.54	$174.94	$179.34	$183.33
NPV, 2012	$1,482.37																			
Levelized 2012-2031	$134.39																			
Over (Under) Market ($/MWh)	$30.57	$32.94	$33.17	$33.40	$32.87	$28.00	$26.88	$25.69	$24.42	$23.06	$17.40	$16.39	$16.05	$16.03	$15.56	($2.77)	($3.79)	($4.46)	($5.15)	($5.33)
Over (Under) Market ($)	$13,202,558	$14,227,302	$14,324,996	$14,425,133	$14,193,693	$12,090,607	$11,608,534	$11,093,356	$10,545,113	$9,956,891	$7,515,343	$7,080,351	$6,931,522	$6,922,685	$7,151,313	($1,194,833)	($1,635,935)	($1,928,261)	($2,224,866)	($2,303,248)
Lifetime Over (Under) Market ($)	$151,982,205																			
NPV, 2012	$105,035,249																			

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CPI-U All Urban Consumers, Not Seasonally Adjusted, U.S. city average, All items

Year	Actual Annual	% Chg
2000	172.2	
2001	177.1	2.8%
2002	179.9	1.6%
2003	184	2.3%
2004	188.9	2.7%
2005	195.3	3.4%
2006	201.6	3.2%
2007	207.342	2.8%
2008	215.303	3.8%
Avg 2001-2008		2.8%

Source: BLS
http://www.bls.gov/cpi/home.htm

Year	Forecast Annual	% Chg
2000	1.722	
2001	1.770	2.8%
2002	1.799	1.6%
2003	1.840	2.3%
2004	1.889	2.7%
2005	1.953	3.4%
2006	2.016	3.2%
2007	2.073	2.9%
2008	2.152	3.8%
2009	2.139	-0.6%
2010	2.174	1.6%
2011	2.217	2.0%
2012	2.261	2.0%
2013	2.304	1.9%
2014	2.351	2.0%
2015	2.402	2.2%
2016	2.455	2.2%
2017	2.510	2.2%
2018	2.566	2.2%
2019	2.623	2.2%
2020	2.680	2.2%
2021	2.739	2.2%
2022	2.799	2.2%
2023	2.860	2.2%
2024	2.922	2.2%
2025	2.985	2.2%
2026	3.049	2.1%
2027	3.114	2.1%
2028	3.180	2.1%
Avg 2009-2028		2.0%

Source: Economy.com

GDP Implicit Price Deflator

Year	Actual Annual	% Chg
2000	88.647	
2001	90.650	2.3%
2002	92.118	1.6%
2003	94.100	2.2%
2004	96.770	2.8%
2005	100.000	3.3%
2006	103.257	3.3%
2007	106.214	2.9%
2008	108.483	2.1%
Avg 2001-2008		2.6%

Source: BEA
http://www.bea.gov/national/nipaweb/TableVi

Year	Forecast Annual	% Chg
2000	1.0000	
2001	1.0240	2.4%
2002	1.0419	1.7%
2003	1.0640	2.1%
2004	1.0945	2.9%
2005	1.1303	3.3%
2006	1.1667	3.2%
2007	1.1981	2.7%
2008	1.2242	2.2%
2009	1.2427	1.5%
2010	1.2459	0.3%
2011	1.2588	1.0%
2012	1.2765	1.4%
2013	1.2959	1.5%
2014	1.3159	1.5%
2015	1.3374	1.6%
2016	1.3603	1.7%
2017	1.3835	1.7%
2018	1.4070	1.7%
2019	1.4308	1.7%
2020	1.4546	1.7%
2021	1.4789	1.7%
2022	1.5034	1.7%
2023	1.5278	1.6%
2024	1.5527	1.6%
2025	1.5772	1.6%
2026	1.6018	1.6%
2027	1.6263	1.5%
2028	1.6507	1.5%
Avg 2009-2028		1.5%

Source: Economy.com

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RPS Requirements Analysis

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Delivery Service Forecast (MWH)	7,916,354	7,858,039	7,935,127	8,023,918	8,061,017	8,125,506	8,215,681	8,355,901	8,461,436	8,593,166	8,708,603	8,878,096	9,011,267	9,146,436	9,283,633	9,422,887	9,564,231
Energy Service Forecast (MWH)	7,916,354	7,858,039	7,935,127	8,023,918	8,061,017	8,125,506	8,215,681	8,355,901	8,461,436	8,593,166	8,708,603	8,878,096	9,011,267	9,146,436	9,283,633	9,422,887	9,564,231
RPS Requirement (%)																	
Class I	0.50%	1.00%	2.00%	3.00%	4.00%	5.00%	6.00%	7.00%	8.00%	9.00%	10.00%	11.00%	12.00%	13.00%	14.00%	15.00%	16.00%
Class II	0.00%	0.04%	0.08%	0.15%	0.20%	0.30%	0.30%	0.30%	0.30%	0.30%	0.30%	0.30%	0.30%	0.30%	0.30%	0.30%	0.30%
Class III	4.50%	5.50%	6.50%	6.50%	6.50%	6.50%	6.50%	6.50%	6.50%	6.50%	6.50%	6.50%	6.50%	6.50%	6.50%	6.50%	6.50%
Class IV	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%
RPS Requirement (MWH)																	
Class I	39,582	78,580	158,703	240,718	322,441	406,275	492,941	584,913	676,915	773,385	870,860	976,591	1,081,352	1,189,037	1,299,709	1,413,433	1,530,277
Class II	0	3,143	6,348	12,036	16,122	24,377	24,647	25,068	25,384	25,779	26,126	26,634	27,034	27,439	27,851	28,269	28,693
Class III	356,236	432,192	515,783	521,555	523,966	528,158	534,019	543,134	549,993	558,556	566,059	577,076	585,732	594,518	603,436	612,488	621,675
Class IV	79,164	78,580	79,351	80,239	80,610	81,255	82,157	83,559	84,614	85,932	87,086	88,781	90,113	91,464	92,836	94,229	95,642
Current Supply Sources (MWH)																	
Class I	68,549	68,549	68,549	68,549	68,549	68,549	68,549	68,549	68,549	68,549	68,549	68,549	68,549	68,549	68,549	68,549	68,549
Class II	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Class III	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Class IV	34,355	34,355	34,355	34,355	34,355	34,355	34,355	34,355	34,355	34,355	34,355	34,355	34,355	34,355	34,355	34,355	34,355
Potential Supply Sources (MWH)																	
Class I	0	0	0	0	431,868	431,868	431,868	431,868	431,868	431,868	431,868	431,868	431,868	431,868	431,868	431,868	431,868
Class II	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Class III	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Class IV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Supply Deficit (MWH)																	
Class I	(28,967)	10,031	90,153	172,168	(177,976)	(94,142)	(7,476)	84,496	176,498	272,968	370,443	476,173	580,935	688,620	799,291	913,015	1,029,850
Class II	0	3,143	6,348	12,036	16,122	24,377	24,647	25,068	25,384	25,779	26,126	26,634	27,034	27,439	27,851	28,269	28,693
Class III	356,236	432,192	515,783	521,555	523,966	528,158	534,019	543,134	549,993	558,556	566,059	577,076	585,732	594,518	603,436	612,488	621,675
Class IV	44,809	44,225	44,996	45,884	46,255	46,900	47,802	49,204	50,259	51,577	52,731	54,426	55,758	57,109	58,481	59,874	61,287
CPI (%)	2.1%	2.2%	2.2%	2.3%	2.3%	2.3%	2.3%	2.2%	2.2%	2.2%	2.2%	2.2%	2.2%	2.2%	2.2%	2.2%	2.2%
ACP ($/MWH)																	
Class I	$60.92	$62.25	$63.64	$65.14	$66.67	$68.21	$69.78	$71.35	$72.95	$74.58	$76.25	$77.95	$79.69	$81.47	$83.29	$85.14	$87.04
Class II	$159.98	$163.46	$167.14	$171.06	$175.07	$179.13	$183.25	$187.38	$191.57	$195.86	$200.24	$204.71	$209.27	$213.94	$218.72	$223.60	$228.58
Class III	$29.87	$30.52	$31.21	$31.94	$32.69	$33.45	$34.22	$34.99	$35.77	$36.57	$37.39	$38.22	$39.07	$39.95	$40.84	$41.75	$42.68
Class IV	$29.87	$30.52	$31.21	$31.94	$32.69	$33.45	$34.22	$34.99	$35.77	$36.57	$37.39	$38.22	$39.07	$39.95	$40.84	$41.75	$42.68

Assumptions:
Energy Service Forecast - Assumes no migration.
Smith Hydro - PSNH receives RECs for everything above a minimum threshold amount. Can generate between 0 and 31,000 RECs in a given year. Assumed 8,000 for this analysis.
Lempster - Has the option to sell a portion of RECs to a 3rd party if the price is higher than the contract price. Assumed that they would sell 90% to PSNH for this analysis.
Laidlaw - Assume in service in 2013.
NWP - Assumed 315,000 RECs

60549.12

DE 10-195 PSNH Laidlaw PPA
OCA Testimony of Traum
Attachment KET - 15

PSNH Energy Park
780 North Commercial Street, Manchester, NH 0310

Public Service Company of New Hampshire
P.O. Box 330
Manchester, NH 03105-0330
(603) 669-4000
www.psnh.com

The Northeast Utilities System

December 3, 2010

Ms. Debra A. Howland
Executive Director & Secretary
State of New Hampshire
Public Utilities Commission
21 S. Fruit Street, Suite 10
Concord, NH 03301-2429

Re: Docket No. DE 10-195 - Laidlaw PPA

Dear Ms. Howland:

Enclosed for filing are PSNH's responses to STAFF-01 Q-STAFF-017-RV01 and STAFF-05 Q-STAFF-006-RV01 with confidential attachments.

STAFF-01 Q-STAFF-017-RV01
Based on Order 25,174 (page 13) the Commission has ruled that this information is confidential and should be protected from disclosure. However, the order directed PSNH to provide to the Wood-Fired IPPs an aggregated summary of proposals received, including the range of price and products offered, but without information identifying the suppliers. That summary is being provided in the response to STAFF 1-17 RV02.

Based on the ruling in Order 25,174, PSNH will not be filing a motion for confidential treatment, but requests that the attachments to this response be handled as confidential.

STAFF-05 Q-STAFF-006-RV01
Based on Order 25,174 (page 15) the Commission has ruled that this information is confidential and should be protected from disclosure. Therefore, PSNH will not be filing a motion for confidential treatment, but requests that the attachment to this response be handled as confidential.

If you have any questions, please contact me.

Very truly yours,

R C Labrecque

Richard C. Labrecque, Manager
Supplemental Energy Sources

cc: Suzanne Amidon
Ken E. Traum

Witness: Terrance J. Large
Request from: New Hampshire Public Utilities Commission Staff

Question:
Please provide each and every offer, bid or proposal made by a renewable energy developer to sell renewable energy certificates, energy, or capacity to PSNH which was received after negotiations with Laidlaw began.

Response:
Since the original filing of PSNH's response to STAFF 1-17 (Oct 18, 2010) PSNH has received both new and revised proposals. As such, PSNH is providing the revised response. See attachments 1, 2, and 3 for the new and revised proposals.

Based on Order 25,174 (page 13) the Commission has ruled that this information is confidential and should be protected from disclosure. However, the order directed PSNH to provide to the Wood-Fired IPPs an aggregated summary of proposals received, including the range of price and products offered, but without information identifying the suppliers. That summary is being provided in the response to STAFF 1-17 RV02.

Based on the ruling in Order 25,174, PSNH will not be filing a motion for confidential treatment, but requests that the attachment to this response be handled as confidential.

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Public Service Company of New Hampshire
Docket No. DE 10-195

Data Request STAFF-05
Dated: 11/01/2010
Q-STAFF-006-RV01
Page 1 of 8

Witness: Terrance J. Large
Request from: New Hampshire Public Utilities Commission Staff

Question:
Regarding the proposals provided to Staff by PSNH in response to Staff 1-17, please provide copies of all correspondence between PSNH and the developers concerning such proposals including PSNH's final response.

Response:
Since the original filing of PSNH's response to STAFF 5-6 (Nov 8, 2010) PSNH has received and/or provided additional correspondence related to the proposals provided in Staff 1-17 and Staff 1-17 RV01. As such, PSNH is providing this revised response. See attachments 1 for the additional correspondence.

Based on Order 25,174 (page 15) the Commission has ruled that this information is confidential and should be protected from disclosure. Therefore, PSNH will not be filing a motion for confidential treatment, but requests that the attachment to this response be handled as confidential.

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