



**Public Service
of New Hampshire**

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The Northeast Utilities System

October 18, 2010

N.H.P.U.C. Case No. <u>DE 10-195</u>	
Exhibit No. <u>#32</u>	PSNH
Witness <u>Panel 4</u>	
DO NOT REMOVE FROM FILE	

Ms. Suzanne Amidon
Staff Attorney
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. Amidon:

This letter provides the response to requests for the information listed below.

Response to STAFF-01 Interrogatories dated 10/08/2010

STAFF-001, 002, 003, 004, 005, 006, 007, 008, 009, 010, 012, 013, 014, 016, 019, 020, 021, 022, 023, 024, 025, 026, 027, 028, 029, 030, 031, 033, 034, 035, 036, 037, 038, 039, 040, 041, 042, 043, 044, 045, 046, 047, 048, 049, 050, 051, 052.

Note: Regarding Confidential Attachments: STAFF-011, 015, 017, 018 & 032 include attachments containing confidential information. These attachments will be filed under separate cover.

Very truly yours,

Richard C. Labrecque
Manager
Supplemental Energy Sources

cc: Service List

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

Data Request STAFF-01

Dated: 10/08/2010

Q-STAFF-003

Page 1 of 5

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

Question:

Please provide any and all wholesale market energy price projections and natural gas price projections reviewed or considered by PSNH in the process of negotiating the pricing provisions in the proposed PPA.

Response:

PSNH does not forecast energy or natural gas market prices but relies on forward market prices typically obtained by brokers and/or NYMEX. See the attached for broker price summaries from August 2008 and August 2009. Additional information is included in the response to Q-STAFF-11.

	5 x16 Bid	5 x16 Offer	5x8, 2x24 Bid	5x8, 2x24 Offer	On-Peak	Off-Peak	24 hrs
Cal' 09	\$ 106.25	\$ 107.25	\$ 80.75	\$ 81.75	\$ 106.75	\$ 81.25	\$ 93.36
Cal' 10	\$ 102.00	\$ 103.25	\$ 78.00	\$ 79.00	\$ 102.63	\$ 78.50	\$ 89.96
Cal ' 11	\$ 97.50	\$ 98.50	\$ 74.75	\$ 75.50	\$ 98.00	\$ 75.13	\$ 85.99

REC Information

	Bid	Ask	average
CT Class I - 2008	20	26	23.0
MA New - 2008	46	47	46.5

Energy & REC Markets based on broker information on approx. Aug 1, 2008

Notes

- 1) Used latest energy quote (2011) for 2012 starting value
- 2) Used MA New 2008 REC price as starting point
- 3) escalate Energy and RECs with CPI in the absense of other intelligence
- 4) used Dave Errichetti / Levitan model for capacity. (repeated 2030 for 2031)

	Energy	RECs	Capacity (\$/kw-mo)
2012	\$ 85.99	46.5	3.02
2013	cpi	cpi	2.95
2014	cpi	cpi	2.95
2015	cpi	cpi	2.95
2016	cpi	cpi	3.43
2017	cpi	cpi	4.30
2018	cpi	cpi	5.24
2019	cpi	cpi	6.23
2020	cpi	cpi	7.27
2021	cpi	cpi	8.37
2022	cpi	cpi	9.53
2023	cpi	cpi	10.35
2024	cpi	cpi	10.76
2025	cpi	cpi	10.97
2026	cpi	cpi	10.84
2027	cpi	cpi	11.24
2028	cpi	cpi	11.78
2029	cpi	cpi	12.10
2030	cpi	cpi	12.42
2031	cpi	cpi	12.42

	5 x16 Bid	5 x16 Offer	5x8, 2x24 Bid	5x8, 2x24 Offer	On-Peak	Off-Peak	24 hrs
Cal' 10	\$ 64.00	\$ 65.00	\$ 50.00	\$ 51.25	\$ 64.50	\$ 50.63	\$ 57.22
Cal ' 11	\$ 70.00	\$ 72.00	\$ 55.50	\$ 56.50	\$ 71.00	\$ 56.00	\$ 63.13
Cal '12	\$ 73.25	\$ 74.50	\$ 56.75	\$ 58.00	\$ 73.88	\$ 57.38	\$ 65.21
Cal ' 13	\$ 74.50	\$ 76.00	\$ 58.50	\$ 59.75	\$ 75.25	\$ 59.13	\$ 66.78

REC Information

	Bid	Ask	average
CT Class I - 2009	26	30	28.0
CT Class I - 2010	30	32	31.0
CT Class I - 2011	29	32	30.5
MA New - 2009	27	32	29.5
MA New - 2010	35	36	35.5
ME New - 2009	32	34	33.0
ME New - 2010	35	40	37.5
RI New - 2009	33	36	34.5
RI New - 2010	35	40	37.5
NH Class I -2009	35	37	36.0
NH Class I -2010	36	39	37.5
	2010	low	35.5
		avg	37.0
		high	37.5

	Energy	RECs	Capacity (\$/kw-mo)
2012	\$ 65.21	37.0	3.02
2013	\$ 66.78	cpi	2.95
2014	cpi	cpi	2.95
2015	cpi	cpi	2.95
2016	cpi	cpi	3.43
2017	cpi	cpi	4.30
2018	cpi	cpi	5.24
2019	cpi	cpi	6.23
2020	cpi	cpi	7.27
2021	cpi	cpi	8.37
2022	cpi	cpi	9.53
2023	cpi	cpi	10.35
2024	cpi	cpi	10.76
2025	cpi	cpi	10.97
2026	cpi	cpi	10.84
2027	cpi	cpi	11.24
2028	cpi	cpi	11.78
2029	cpi	cpi	12.10
2030	cpi	cpi	12.42
2031	cpi	cpi	12.42

Energy & REC Markets based on broker information on approx. Aug 4, 2009

Notes

- 1) Used latest energy quotes (2012, 2013) for starting values
- 2) Used Average 2010 REC price as starting point
- 3) escalate Energy and RECs with CPI in the absense of other intelligence
- 4) used Dave Errichetti / Levitan model for capacity. (repeated 2030 for 2031)

Capacity Price Forecast

Commitment Period			Levitan FCA Price	Year	Nominal Capacity Price (\$/kW-mo)	Availability Adjustment %	PER \$/kW-mo	
2009	/	2010		2009	3.95	5%		
2010	/	2011	4.25	2010	4.19	5%	0.1	← only applies June - Dec.
2011	/	2012	3.12	2011	3.59	5%	0.1	
2012	/	2013	2.95	2012	3.02	5%	0.1	
2013	/	2014	2.95	2013	2.95	5%	0.1	
2014	/	2015	2.95	2014	2.95	5%	0.1	
2015	/	2016	2.95	2015	2.95	5%	0.1	
2016	/	2017	3.77	2016	3.43	5%	0.1	
2017	/	2018	4.68	2017	4.30	5%	0.1	
2018	/	2019	5.64	2018	5.24	5%	0.1	
2019	/	2020	6.65	2019	6.23	5%	0.1	
2020	/	2021	7.72	2020	7.27	5%	0.1	
2021	/	2022	8.84	2021	8.37	5%	0.1	
2022	/	2023	10.02	2022	9.53	5%	0.1	
2023	/	2024	10.58	2023	10.35	5%	0.1	
2024	/	2025	10.89	2024	10.76	5%	0.1	
2025	/	2026	11.03	2025	10.97	5%	0.1	
2026	/	2027	10.71	2026	10.84	5%	0.1	
2027	/	2028	11.61	2027	11.24	5%	0.1	
2028	/	2029	11.90	2028	11.78	5%	0.1	
2029	/	2030	12.24	2029	12.10	5%	0.1	
2030	/	2031	12.55	2030	12.42	5%	0.1	

Year	On Peak Energy (\$/MWh)				Off Peak Energy (\$/MWh)			ILCRP Capacity Price (\$/kW- Month)		Year	ILCRP - All Hours Energy (\$/MWh)			CL&P IRP-based Capacity Price (\$/kW-Month)
	Market Based ("High")	50-50 Weighted ("Reference")	Fundamental Based ("Low")		Market Based ("High")	50-50 Weighted ("Reference")	Fundamental Based ("Low")				Market Based ("High")	50-50 Weighted ("Reference")	Fundamental Based ("Low")	
2008	\$82.15	\$74.23	\$66.32		\$62.00	\$56.03	\$50.05	\$3.46		2008	\$71.57	\$64.68	\$57.78	\$3.29
2009	\$85.15	\$74.52	\$63.89		\$63.80	\$55.84	\$47.87	\$3.95		2009	\$73.94	\$64.71	\$55.48	\$3.75
2010	\$83.00	\$73.91	\$64.82		\$62.00	\$55.21	\$48.42	\$6.08		2010	\$71.98	\$64.09	\$56.21	\$4.06
2011	\$81.38	\$74.42	\$67.46		\$60.38	\$55.21	\$50.05	\$7.59		2011	\$70.35	\$64.33	\$58.32	\$4.18
2012	\$79.24	\$74.35	\$69.45		\$58.79	\$55.16	\$51.53	\$7.75		2012	\$68.51	\$64.28	\$60.04	\$3.96
2013	\$80.91	\$75.92	\$70.92		\$60.03	\$56.32	\$52.62	\$7.91		2013	\$69.95	\$65.63	\$61.31	\$3.58
2014	\$82.60	\$77.50	\$72.40		\$61.29	\$57.50	\$53.71	\$8.08		2014	\$71.41	\$67.00	\$62.59	\$3.47
2015	\$84.40	\$79.19	\$73.97		\$62.62	\$58.75	\$54.88	\$8.25		2015	\$72.97	\$68.46	\$63.95	\$3.58
2016	\$86.30	\$80.97	\$75.64		\$64.03	\$60.07	\$56.12	\$8.44		2016	\$74.61	\$70.00	\$65.39	\$3.68
2017	\$88.33	\$82.87	\$77.41		\$65.53	\$61.48	\$57.43	\$8.64		2017	\$76.36	\$71.64	\$66.92	\$3.78
2018	\$90.40	\$84.81	\$79.23		\$67.07	\$62.92	\$58.78	\$8.84		2018	\$78.15	\$73.32	\$68.49	\$3.88
2019	\$92.50	\$86.78	\$81.07		\$68.63	\$64.39	\$60.15	\$9.05		2019	\$79.96	\$75.02	\$70.08	\$4.11
2020	\$94.62	\$88.78	\$82.93		\$70.20	\$65.87	\$61.53	\$9.25		2020	\$81.80	\$76.75	\$71.69	\$4.42
2021	\$96.75	\$90.77	\$84.79		\$71.78	\$67.35	\$62.91	\$9.46		2021	\$83.64	\$78.47	\$73.31	\$4.73
2022	\$98.92	\$92.80	\$86.69		\$73.39	\$68.85	\$64.32	\$9.67		2022	\$85.51	\$80.23	\$74.95	\$5.04
2023	\$101.13	\$94.88	\$88.63		\$75.03	\$70.40	\$65.76	\$9.89		2023	\$87.43	\$82.03	\$76.63	\$5.35
2024	\$103.39	\$97.00	\$90.62		\$76.71	\$71.97	\$67.23	\$10.11		2024	\$89.39	\$83.86	\$78.34	\$5.67
2025	\$105.70	\$99.17	\$92.64		\$78.42	\$73.58	\$68.73	\$10.34		2025	\$91.38	\$85.73	\$80.09	\$5.97
2026	\$108.06	\$101.38	\$94.70		\$80.17	\$75.22	\$70.26	\$10.57		2026	\$93.42	\$87.65	\$81.87	\$6.28
2027	\$110.47	\$103.64	\$96.82		\$81.96	\$76.90	\$71.83	\$10.80		2027	\$95.50	\$89.60	\$83.70	\$6.60
2028	\$112.93	\$105.96	\$98.98		\$83.79	\$78.61	\$73.44	\$11.04		2028	\$97.63	\$91.60	\$85.57	\$6.91
2029	\$115.45	\$108.32	\$101.19		\$85.66	\$80.37	\$75.07	\$11.29		2029	\$99.81	\$93.64	\$87.48	\$7.22
2030	\$118.03	\$110.74	\$103.44		\$87.57	\$82.16	\$76.75	\$11.54		2030	\$102.04	\$95.73	\$89.43	\$7.66
2031	\$120.66	\$113.21	\$105.75		\$89.52	\$83.99	\$78.46	\$11.80		2031	\$104.31	\$97.87	\$91.42	
2032	\$123.35	\$115.73	\$108.11		\$91.52	\$85.87	\$80.21	\$12.06		2032	\$106.64	\$100.05	\$93.46	
2033	\$126.11	\$118.31	\$110.52		\$93.56	\$87.78	\$82.00	\$12.33		2033	\$109.02	\$102.28	\$95.55	
2034	\$128.92	\$120.95	\$112.99		\$95.65	\$89.74	\$83.83	\$12.61		2034	\$111.45	\$104.57	\$97.68	
2035	\$131.79	\$123.65	\$115.51		\$97.78	\$91.74	\$85.70	\$12.89		2035	\$113.94	\$106.90	\$99.86	
2036	\$134.73	\$126.41	\$118.09		\$99.96	\$93.79	\$87.61	\$13.18		2036	\$116.48	\$109.28	\$102.09	
2037	\$137.74	\$129.23	\$120.72		\$102.19	\$95.88	\$89.57	\$13.47		2037	\$119.08	\$111.72	\$104.36	
2038	\$140.81	\$132.11	\$123.41		\$104.47	\$98.02	\$91.56	\$13.77		2038	\$121.74	\$114.21	\$106.69	
2039	\$143.95	\$135.06	\$126.17		\$106.81	\$100.21	\$93.61	\$14.08		2039	\$124.45	\$116.76	\$109.07	
2040	\$147.17	\$138.07	\$128.98		\$109.19	\$102.44	\$95.70	\$14.39		2040	\$127.23	\$119.37	\$111.51	
2041	\$150.45	\$141.15	\$131.86		\$111.62	\$104.73	\$97.83	\$14.71		2041	\$130.07	\$122.03	\$113.99	

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

Data Request STAFF-01

Dated: 10/08/2010
Q-STAFF-007
Page 1 of 3

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

Question:

To the extent not provided in response to question 4 above, please provide the most recent long-term price projection for capacity in PSNH's possession.

Response:

The assumptions for capacity prices used in PSNH's 2010 Least Cost Integrated Resource Plan/Newington Continued Unit Operation study filing, DE 10-261, and the Merrimack Scrubber update, DE 08-103, are included in the attached file.

Base Case Capacity Price Forecast used in 2010 Least Cost Integrated Resource Plan / Newington
Continued Unit Operation Study filing, DE 10-261

Capacity Year		Clearing Price (\$/kW-Mo)	Generator Payments (\$/kW-Mo)
2010/11	2010	4.50	4.25
2011/12	2011	3.60	3.12
2012/13	2012	2.95	2.54
2013/14	2013	2.95	2.52
2014/15	2014	3.03	2.76
2015/16	2015	3.08	2.94
2016/17	2016	2.76	2.76
2017/18	2017	3.13	3.13
2018/19	2018	3.43	3.43
2019/20	2019	4.41	4.41
2020/21	2020	5.53	5.53
2021/22	2021	6.44	6.44
2022/23	2022	8.35	8.35
2023/24	2023	10.27	10.27
2024/25	2024	12.18	12.18
2025/26	2025	14.09	14.09
2026/27	2026	14.44	14.44
2027/28	2027	14.81	14.81
2028/29	2028	15.18	15.18
2029/30	2029	15.55	15.55
2030/31	2030	15.94	15.94

Note: Capacity year begins June 1; 2010 is capacity year 2010-11

Sources:

Capacity price forecast developed by Levitan & Associates, Inc. (LAI) for use in PSNH's 2010 Least Cost Integrated Resource Plan/Newington Continued Unit Operation Study and are based on the ISO-NE 2009 Regional System Plan assumptions.

Base Case Capacity Price Forecast used in Merrimack Scrubber Update, DE 08-103

Calendar Year	Clearing Price (\$/kW-Mo)	Capacity Price (\$/Kw-Mo)
2012	3.22	3.00
2013	2.95	2.73
2014	2.99	2.78
2015	3.06	2.84

Notes:

Capacity year begins June 1; 2011 is 5 months of 2010 capacity prices and 7 months of 2011 prices.

Capacity prices are reduced by \$0.22/kW-Mo to account for peak energy rents.

Capacity price reflects the replacement capacity price for PSNH Energy Service customers.