



Liberty Utilities

15 Buttrick Rd
Londonderry, NH 03053

5/4/2017

CLIFTON BELOW
25 PERLEY AVE
LEBANON, NH 03766

Service Address: 25 PERLEY AVE
LEBANON, NH 03766

**RE: Action Requested for Net Metering
Account: #44627617-44320785**

Dear CLIFTON BELOW,

This letter is to notify you that as of your March 2017 bill you have accumulated in excess of 600 kilowatt-hours (kWh) of surplus electricity due to your on-site solar generation. This means that as a net metering customer with on-site generation that you have produced more than 600 kWh above what you have used since you last received a credit or payment for prior banked kWh. Pursuant to New Hampshire Code of Administrative Rules Chapter PUC 900, you have a choice on how you would like the surplus kWh handled at this time. You will continue to accumulate any net surplus kWh unless you elect one of the following two options:

- Issue me a bill credit that will remain on my account for the value of the surplus kWh
- Issue me a check that will be mailed to me at above address for the value of the surplus kWh

Please select one of the boxes above and return this letter as confirmation of your selection to the below address:

Liberty Utilities
ATTN: Dennis Gray
15 Buttrick Rd
Londonderry, NH 03053

If you do not choose either of the above two options by July 1, 2017 any additional net surplus will continue to accumulate and appear on your monthly bill.

The New Hampshire Public Utilities Commission has determined the avoided costs to be used in determining the economic value of your surplus kWh in accordance with PUC 903.02(i)(7). The calculated economic value of your surplus kWh is shown below.

Excess kWh:	9942
Economic value per kWh ¹ :	\$0.04594
Total surplus payment:	\$456.71

If you have any questions please call us at 603-374-7413 and mention this letter. If we do not hear from you by that date we will continue to accrue the surplus kWh to offset consumption in future months, as has been done in the past.

Sincerely,

Liberty Utilities Customer Service

¹ The total capacity value of \$0.01263 plus energy value of \$0.03331.

Avoided Cost Calculation for Puc 900 4-20-2017_Final version w-conversion, 4-15-2017 Avoided Costs, 3/1/2018

Original 4-15-17 PUC Staff Calculation of Avoided Costs with addition of conversion table to show Total Avoided Energy & Capacity Costs in \$/kWh (boxed area)

			Relevant Rule(s)	
Avoided Energy Cost (All but Solar PV)	\$ 34.13	MWh	Puc 903.02 (i)(2) & (i)(6) a.	(See "AC calc" tab)
Avoided Energy Cost (Solar PV)	\$ 33.31	MWh	Puc 903.02 (i)(2) & (i)(7) a.	(See "AC calc" tab)
Avoided Capacity Costs	\$ 2.583	kW-month	Puc 903.02 (i)(3)	(See "Capacity" tab)
Portion of Surplus Generation During Peak Hour (All but Solar PV)	0.011416%		Puc 903.02 (i)(6) b.	(See "Capacity" tab)
Portion of Surplus Generation During Peak Hour (Solar PV)	0.040745%		Puc 903.02 (i)(7) c.	(See "Capacity" tab)

Conversion of Capacity Avoided Cost as a % of total to kWh		Avoided Capacity Cost				+	Avoided Energy	=	Total Avoided Energy & Capacity Costs for Surplus Generation							
	% kWh at pl	MWh	kW-month	in \$/MWh/mo.	in \$/MWh/year		\$/MWh		/MWh	/kWh						
1000	x	0.011416%	0.114155	x	\$ 2.583	\$ 0.29	x	12	=	\$ 3.54	+	\$ 34.13	=	\$ 37.67	\$ 0.03767	Total Non-PV
1000	x	0.040745%	0.407453	x	\$ 2.583	\$ 1.053	x	12	=	\$ 12.63	+	\$ 33.31	=	\$ 45.94	\$ 0.04594	Total PV
PV/ Non-PV =						356.9%	97.6%	122.0% = PV/ Non-PV								
Surplus Generation Valuation Example assuming			9.942	MWh of Surplus Generation			9.942	9.942								
9,942	x	0.040745%	4.0509	x	\$ 2.583	\$ 10.47	x	12	=	\$ 125.58		\$ 331.13		\$ 456.71		
											\$ 456.71					

DE 18-_____, Clifton Below, 3/1/18, ATTACHMENT p. 8
Motion to Correct Errors in PUC Determination of Avoided Costs

DE 18-_____, Clifton Below, 3/1/18, ATTACHMENT p. 9
 Motion to Correct Errors in PUC Determination of Avoided Costs

	A	B	C	D	E	F	G	H	I	K	M	N	O
1	ORIGINAL: Treating the TIME STAMPS in COLUMN A as HOUR ENDING (as PUC staff originally did) but with Sunrise & Sunset information added (Col. N & O + highlighting)												
2	SE ID	218414	216639	222562	224007	222665	170254	176715	152661			HR. before the hr. of Sunrise or after the hr. of Sunset	
3	Location	Keene	Bedford	Derry	Chester	Derry	Stratham	Rochester	Canterbury	Total	Hourly	Time of Sunrise or Sunset aligned with HOUR of	Ratio of X hrs. >sunrise to X hrs. < sunset
4	kW DC	58.8	9.88	5.46	4.8	13.86	62.22	6.89	19.6	181.51	Average	Sunset or Sunrise, assuming 1st Column is HOUR ENDING	
5	kW AC	60	7.6	5	3.8	11.4	56.6	6	16	166.4		Hour after hour of Sunrise or hour before Sunset hr.	
6	Pitch	5	20	23	26	34	22	30	15	21.875		2 hrs > hr. of sunrise or < hr. of sunset	
7	Azimuth	175	180	110	140	125	167	222	170	161.125			
8	Type	Commercial	Resi	Resi	Resi	Resi	Commercial	Resi	Commercial				
9	Hour Ending	Hourly Production (Wh)									Total	Hourly Ave.	Hour relative to Sunrise & Sunset
10	4/1/2016 0:00	0	0	0	0	0	0	0	0	-	0	Did not use. Started with Hour ending 1 am	
11	4/1/2016 1:00	0	0	0	0	0	0	0	0	-	0		
15	4/1/2016 5:00	0	0	0	0	0	0	0	0	-	0		
16	4/1/2016 6:00	69	0	0	12	3	262	18	48	412	52	HOUR BEFORE THE HOUR OF SUNRISE	
17	4/1/2016 7:00	2969	121	92	323	540	4814	329	1402	10,592	1324	6:27:00 AM HOUR OF SUNRISE	
18	4/1/2016 8:00	9051	737	647	731	1472	10172	820	3540	27,171	3396	HOUR AFTER HOUR OF SUNRISE 849	
19	4/1/2016 9:00	12779	2148	794	1039	2644	14980	1420	5131	40,935	5117	2 HOURS AFTER HOUR OF SUNRISE 19	
20	4/1/2016 10:00	9053	660	634	726	1559	7878	757	3690	24,957	3120		
21	4/1/2016 11:00	9954	1217	852	677	1864	10626	488	3866	29,543	3693		
26	4/1/2016 16:00	14851	732	798	898	2813	24791	874	3885	49,643	6205		
27	4/1/2016 17:00	4673	510	88	233	478	2754	358	1725	10,820	1352		
28	4/1/2016 18:00	549	114	7	99	171	632	226	388	2,184	273	2 HOURS BEFORE HOUR OF SUNSET	
29	4/1/2016 19:00	31	0	0	0	0	0	0	0	31	4	HOUR BEFORE THE HOUR OF SUNSET	
30	4/1/2016 20:00	0	0	0	0	0	0	0	0	-	0	7:13:00 PM, HOUR OF SUNSET	
31	4/1/2016 21:00	0	0	0	0	0	0	0	0	-	0	HOUR AFTER HOUR OF SUNSET	
351	4/15/2016 5:00	0	0	0	0	0	0	0	0	-	0		
352	4/15/2016 6:00	1050	192	5	324	146	2264	58	738	4,777	597	HOUR BEFORE THE HOUR OF SUNRISE	
353	4/15/2016 7:00	6845	1571	439	1673	1539	12962	232	4326	29,586	3698	6:03:00 AM HOUR OF SUNRISE	
354	4/15/2016 8:00	14125	5240	1958	2697	5513	26792	588	9024	65,938	8242	HOUR AFTER HOUR OF SUNRISE 123	
355	4/15/2016 9:00	20490	7867	3977	3445	9638	38548	2819	12826	99,609	12451	2 HOURS AFTER HOUR OF SUNRISE 10	
364	4/15/2016 18:00	2699	260	187	143	806	4045	341	1123	9,604	1201	2 HOURS BEFORE HOUR OF SUNSET	
365	4/15/2016 19:00	112	13	13	12	45	260	15	69	539	67	HOUR BEFORE THE HOUR OF SUNSET	
366	4/15/2016 20:00	0	0	0	0	0	0	0	0	-	0	7:30 PM, HOUR OF SUNSET	
367	4/15/2016 21:00	0	0	0	0	0	0	0	0	-	0	HOUR AFTER HOUR OF SUNSET	
368	4/15/2016 22:00	0	0	0	0	0	0	0	0	-	0		
734	5/1/2016 4:00	0	0	0	0	0	0	0	0	-	0		
735	5/1/2016 5:00	0	2	0	0	0	12	0	3	16	2	HOUR BEFORE THE HOUR OF SUNRISE	
736	5/1/2016 6:00	1866	324	125	236	568	2969	201	705	6,994	874	5:39 AM HOUR OF SUNRISE	
737	5/1/2016 7:00	5851	765	419	457	1272	11296	686	2339	23,085	2886	HOUR AFTER HOUR OF SUNRISE 40	
738	5/1/2016 8:00	9025	1399	792	694	2239	12172	1127	2346	29,796	3724	2 HOURS AFTER HOUR OF SUNRISE 52	
748	5/1/2016 18:00	1993	384	184	122	487	2702	167	329	6,367	796	2 HOURS BEFORE HOUR OF SUNSET	
749	5/1/2016 19:00	200	19	22	15	58	246	12	6	578	72	HOUR BEFORE THE HOUR OF SUNSET	
750	5/1/2016 20:00	0	0	0	0	0	0	0	0	-	0	7:48 PM, HOUR OF SUNSET	
751	5/1/2016 21:00	0	0	0	0	0	0	0	0	-	0	HOUR AFTER HOUR OF SUNSET	
752	5/1/2016 22:00	0	0	0	0	0	0	0	0	-	0		
1478	6/1/2016 4:00	0	0	0	0	0	0	0	0	-	0		
1479	6/1/2016 5:00	643	45	0	119	4	559	29	189	1,587	198	HOUR BEFORE THE HOUR OF SUNRISE	
1480	6/1/2016 6:00	6892	304	24	892	542	5039	167	1998	15,859	1982	5:09 AM HOUR OF SUNRISE	
1481	6/1/2016 7:00	17498	2552	244	1836	2300	12960	290	5760	43,441	5430	HOUR AFTER HOUR OF SUNRISE 286	
1482	6/1/2016 8:00	25604	5016	1819	2629	6561	21337	631	9580	73,178	9147	2 HOURS AFTER HOUR OF SUNRISE 12	

Avoided Cost Calculation for Puc 900 4-20-2017_CB edits, Actual Solar Data of sunrise, 3/1/2018

DE 18-_____, Clifton Below, 3/1/18, ATTACHMENT p. 10
 Motion to Correct Errors in PUC Determination of Avoided Costs

	A	B	C	D	E	F	G	H	I	K	M	N	O
1	Actual Solar Production		ORIGINAL: Treating the TIME STAMPS in COLUMN A as HOUR ENDING (as PUC staff originally did) but with Sunrise & Sunset information added (Col. N & O + highlighting)										
1493	6/1/2016 19:00	2203	117	119	132	407	2507	75	610	6,170	771	2 HOURS BEFORE HOUR OF SUNSET	
1494	6/1/2016 20:00	41	2	1	3	15	75	0	10	148	19	HOUR BEFORE THE HOUR OF SUNSET	
1495	6/1/2016 21:00	0	0	0	0	0	0	0	0	-	0	8:20 PM, HOUR OF SUNSET	
1496	6/1/2016 22:00	0	0	0	0	0	0	0	0	-	0	HOUR AFTER HOUR OF SUNSET	
1497	6/1/2016 23:00	0	0	0	0	0	0	0	0	-	0		
2942	8/1/2016 4:00	0	0	0	0	0	0	0	0	-	0		
2943	8/1/2016 5:00	0	0	0	0	0	36	0	0	36	5	HOUR BEFORE THE HOUR OF SUNRISE	
2944	8/1/2016 6:00	1097	165	0	70	122	856	80	426	2,817	352	5:37 AM HOUR OF SUNRISE	
2945	8/1/2016 7:00	3907	1036	423	392	1566	3303	238	2113	12,978	1622	HOUR AFTER HOUR OF SUNRISE	#DIV/0!
2946	8/1/2016 8:00	3273	2203	969	1088	2938	6405	509	1437	18,822	2353	2 HOURS AFTER HOUR OF SUNRISE	59
2957	8/1/2016 19:00	34	14	15	12	46	131	13	53	318	40	2 HOURS BEFORE HOUR OF SUNSET	
2958	8/1/2016 20:00	0	0	0	0	0	0	0	0	-	0	HOUR BEFORE THE HOUR OF SUNSET	
2959	8/1/2016 21:00	0	0	0	0	0	0	0	0	-	0	8:07 PM, HOUR OF SUNSET	
2960	8/1/2016 22:00	0	0	0	0	0	0	0	0	-	0	HOUR AFTER HOUR OF SUNSET	
2961	8/1/2016 23:00	0	0	0	0	0	0	0	0	-	0		
3686	9/1/2016 4:00	0	0	0	0	0	0	0	0	-	0		
3687	9/1/2016 5:00	0	0	0	0	0	0	0	0	-	0		
3688	9/1/2016 6:00	108	38	0	17	16	377	31	46	634	79	HOUR BEFORE THE HOUR OF SUNRISE	
3689	9/1/2016 7:00	1638	381	182	263	744	2770	200	1430	7,607	951	6:11 AM HOUR OF SUNRISE	
3690	9/1/2016 8:00	5644	516	548	518	1316	6299	717	2723	18,282	2285	HOUR AFTER HOUR OF SUNRISE	99
3691	9/1/2016 9:00	12711	1410	321	407	975	7852	1012	8861	33,548	4194	2 HOURS AFTER HOUR OF SUNRISE	6
3700	9/1/2016 18:00	2639	269	132	121	328	1649	172	745	6,055	757	2 HOURS BEFORE HOUR OF SUNSET	
3701	9/1/2016 19:00	65	9	6	2	10	72	2	19	185	23	HOUR BEFORE THE HOUR OF SUNSET	
3702	9/1/2016 20:00	0	0	0	0	0	0	0	0	-	0	7:20 PM, HOUR OF SUNSET	
3703	9/1/2016 21:00	0	0	0	0	0	0	0	0	-	0	HOUR AFTER HOUR OF SUNSET	
3704	9/1/2016 22:00	0	0	0	0	0	0	0	0	-	0		
4167	9/21/2016 5:00	0	0	0	0	0	0	0	0	-	0		
4168	9/21/2016 6:00	0	1	0	24	0	392	3	19	440	55	HOUR BEFORE THE HOUR OF SUNRISE	
4169	9/21/2016 7:00	1371	0	14	1154	177	7860	119	2649	13,344	1668	6:33 AM HOUR OF SUNRISE	
4170	9/21/2016 8:00	5593	2013	915	2144	885	17402	256	7391	36,598	4575	HOUR AFTER HOUR OF SUNRISE	17
4171	9/21/2016 9:00	19637	4341	3231	2400	3198	22338	2061	10758	67,963	8495	2 HOURS AFTER HOUR OF SUNRISE	4
4179	9/21/2016 17:00	5494	362	294	296	1423	6253	277	2454	16,853	2107	2 HOURS BEFORE HOUR OF SUNSET	
4180	9/21/2016 18:00	759	46	39	40	187	759	37	313	2,180	272	HOUR BEFORE THE HOUR OF SUNSET	
4181	9/21/2016 19:00	0	0	0	0	0	0	0	0	-	0	6:44 PM, HOUR OF SUNSET	
4182	9/21/2016 20:00	0	0	0	0	0	0	0	0	-	0	HOUR AFTER HOUR OF SUNSET	
4183	9/21/2016 21:00	0	0	0	0	0	0	0	0	-	0		
5248	11/5/2016 6:00	0	0	0	0	0	0	0	0	-	0		
5249	11/5/2016 7:00	7	2	0	0	0	300	2	10	321	40	HOUR BEFORE THE HOUR OF SUNRISE	
5250	11/5/2016 8:00	1451	184	101	175	316	3324	64	399	6,015	752	7:27 AM HOUR OF SUNRISE	
5251	11/5/2016 9:00	6126	384	158	238	504	4608	493	989	13,501	1688	HOUR AFTER HOUR OF SUNRISE	23
5252	11/5/2016 10:00	11099	847	406	589	1011	7637	941	1541	24,071	3009	2 HOURS AFTER HOUR OF SUNRISE	3
5258	11/5/2016 16:00	1879	142	102	150	372	4477	173	744	8,040	1005	2 HOURS BEFORE HOUR OF SUNSET	
5259	11/5/2016 17:00	402	3	3	7	12	109	0	41	577	72	HOUR BEFORE THE HOUR OF SUNSET	
5260	11/5/2016 18:00	0	0	0	0	0	0	0	0	-	0	5:32 PM, HOUR OF SUNSET	
5261	11/5/2016 19:00	0	0	0	0	0	0	0	0	-	0	HOUR AFTER HOUR OF SUNSET	
5262	11/5/2016 20:00	0	0	0	0	0	0	0	0	-	0		
5265	11/5/2016 23:00	0	0	0	0	0	0	0	0	-	0		

	A	B	C	D	E	F	G	H	I	K	M	N	O
1	Actual Solar Production	ORIGINAL: Treating the TIME STAMPS in COLUMN A as HOUR ENDING (as PUC staff originally did) but with Sunrise & Sunset information added (Col. N & O + highlighting)											
5266	11/6/2016 0:00	0	0	0	0	0	0	0	0	-	0		
5267	11/6/2016 1:00	0	0	0	0	0	0	0	0	-	0		
5268	11/6/2016 2:00	0	0	0	0	0	0	0	0	-	0	End of DST, there should be an extra hour ending 2 pm here	
5269	11/6/2016 3:00	0	0	0	0	0	0	0	0	-	0		
5270	11/6/2016 4:00	0	0	0	0	0	0	0	0	-	0		
5271	11/6/2016 5:00	0	0	0	0	0	0	0	0	-	0		
5272	11/6/2016 6:00	50	21	0	0	0	27	0	52	149	19	19 HOUR BEFORE THE HOUR OF SUNRISE	
5273	11/6/2016 7:00	5672	426	18	44	209	663	156	2145	9,333	1167	6:28 AM HOUR OF SUNRISE	
5274	11/6/2016 8:00	9337	1415	555	947	1201	8996	1012	3676	27,139	3392	HOUR AFTER HOUR OF SUNRISE	35
5275	11/6/2016 9:00	19041	3315	1003	3009	1248	19755	2105	3110	52,586	6573	2 HOURS AFTER HOUR OF SUNRISE	5
5281	11/6/2016 15:00	7256	215	191	184	839	1401	235	1005	11,326	1416	2 HOURS BEFORE HOUR OF SUNSET	
5282	11/6/2016 16:00	461	22	1	3	31	171	4	88	781	98	HOUR BEFORE THE HOUR OF SUNSET	
5283	11/6/2016 17:00	0	0	0	0	0	0	0	0	-	0	4:31 PM, HOUR OF SUNSET	
5284	11/6/2016 18:00	0	0	0	0	0	0	0	0	-	0	HOUR AFTER HOUR OF SUNSET	
5285	11/6/2016 19:00	0	0	0	0	0	0	0	0	-	0		
5872	12/1/2016 6:00	0	0	0	0	0	0	0	0	-	0	0 HOUR BEFORE THE HOUR OF SUNRISE	
5873	12/1/2016 7:00	999	917	47	122	110	390	44	1013	3,642	455	6:59 AM HOUR OF SUNRISE	
5874	12/1/2016 8:00	4106	2477	319	1626	1298	5400	501	4194	19,923	2490	HOUR AFTER HOUR OF SUNRISE	1245
5875	12/1/2016 9:00	10979	2061	824	1619	2208	16144	1529	4102	39,467	4933	2 HOURS AFTER HOUR OF SUNRISE	7
5881	12/1/2016 15:00	1708	182	78	179	623	1528	37	1181	5,515	689	2 HOURS BEFORE HOUR OF SUNSET	
5882	12/1/2016 16:00	0	0	0	2	3	12	0	3	20	2	HOUR BEFORE THE HOUR OF SUNSET	
5883	12/1/2016 17:00	0	0	0	0	0	0	0	0	-	0	4:12 PM, HOUR OF SUNSET	
5884	12/1/2016 18:00	0	0	0	0	0	0	0	0	-	0	HOUR AFTER HOUR OF SUNSET	
5885	12/1/2016 19:00	0	0	0	0	0	0	0	0	-	0		
6616	1/1/2017 6:00	0	0	0	0	0	0	0	0	-	0		
6617	1/1/2017 7:00	0	0	0	9	19	1536	1	0	1,564	195	HOUR BEFORE THE HOUR OF SUNRISE	
6618	1/1/2017 8:00	0	0	0	791	416	13642	70	0	14,919	1865	7:18 AM HOUR OF SUNRISE	
6619	1/1/2017 9:00	41	3	0	1087	946	14166	260	0	16,502	2063	HOUR AFTER HOUR OF SUNRISE	61
6620	1/1/2017 10:00	324	31	88	1253	2641	12273	1501	4	18,115	2264	2 HOURS AFTER HOUR OF SUNRISE	2
6625	1/1/2017 15:00	88	29	85	280	1633	8928	168	11	11,221	1403	2 HOURS BEFORE HOUR OF SUNSET	
6626	1/1/2017 16:00	0	0	3	7	145	113	5	0	273	34	HOUR BEFORE THE HOUR OF SUNSET	
6627	1/1/2017 17:00	0	0	0	0	0	0	0	0	-	0	4:22 PM, HOUR OF SUNSET	
6628	1/1/2017 18:00	0	0	0	0	0	0	0	0	-	0	HOUR AFTER HOUR OF SUNSET	
6629	1/1/2017 19:00	0	0	0	0	0	0	0	0	-	0		
7360	2/1/2017 6:00	0	0	0	0	0	0	0	0	-	0		
7361	2/1/2017 7:00	70	0	0	0	0	0	0	0	70	9	HOUR BEFORE THE HOUR OF SUNRISE	
7362	2/1/2017 8:00	262	16	0	0	0	0	0	0	278	35	7:01 AM HOUR OF SUNRISE	
7363	2/1/2017 9:00	295	49	0	1	0	24	19	117	506	63	HOUR AFTER HOUR OF SUNRISE	0
7364	2/1/2017 10:00	1778	74	0	2	0	168	79	274	2,375	297	2 HOURS AFTER HOUR OF SUNRISE	0.1
7369	2/1/2017 15:00	11962	353	172	269	906	9264	384	3285	26,594	3324	2 HOURS BEFORE HOUR OF SUNSET	
7370	2/1/2017 16:00	1103	77	17	39	554	2233	81	456	4,559	570	HOUR BEFORE THE HOUR OF SUNSET	
7371	2/1/2017 17:00	0	0	0	0	0	0	0	0	-	0	4:59 PM, HOUR OF SUNSET	
7372	2/1/2017 18:00	0	0	0	0	0	0	0	0	-	0	HOUR AFTER HOUR OF SUNSET	
7373	2/1/2017 19:00	0	0	0	0	0	0	0	0	-	0	Snow in the morning and above freezing >noon of 2/1	
8031	3/1/2017 5:00	0	0	0	0	0	0	0	0	-	0		

DE 18-_____, Clifton Below, 3/1/18, ATTACHMENT p. 12
 Motion to Correct Errors in PUC Determination of Avoided Costs

	A	B	C	D	E	F	G	H	I	K	M	N	O
1	Actual Solar Production	ORIGINAL: Treating the TIME STAMPS in COLUMN A as HOUR ENDING (as PUC staff originally did) but with Sunrise & Sunset information added (Col. N & O + highlighting)											
8032	3/1/2017 6:00	5	0	0	0	0	77	5	2	89	11	HOUR BEFORE THE HOUR OF SUNRISE	
8033	3/1/2017 7:00	572	120	0	61	196	1630	96	477	3,152	394	6:22 AM HOUR OF SUNRISE	
8034	3/1/2017 8:00	2130	373	227	243	747	3932	311	839	8,802	1100	HOUR AFTER HOUR OF SUNRISE	15
8035	3/1/2017 9:00	4185	969	546	345	1408	6403	357	1060	15,273	1909	2 HOURS AFTER HOUR OF SUNRISE	2
8042	3/1/2017 16:00	2485	308	193	220	625	3093	307	954	8,185	1023	2 HOURS BEFORE HOUR OF SUNSET	
8043	3/1/2017 17:00	122	31	19	25	78	188	15	87	565	71	HOUR BEFORE THE HOUR OF SUNSET	
8044	3/1/2017 18:00	0	0	0	0	0	0	0	0	-	0	5:36 PM, HOUR OF SUNSET	
8045	3/1/2017 19:00	0	0	0	0	0	0	0	0	-	0	HOUR AFTER HOUR OF SUNSET	
8046	3/1/2017 20:00	0	0	0	0	0	0	0	0	-	0		
8271	3/11/2017 5:00	0	0	0	0	0	0	0	0	-	0		
8272	3/11/2017 6:00	0	72	0	17	0	2411	0	551	3,051	381	HOUR BEFORE THE HOUR OF SUNRISE	
8273	3/11/2017 7:00	100	529	43	652	0	13129	1	5774	20,228	2529	6:05 AM HOUR OF SUNRISE	
8274	3/11/2017 8:00	609	1247	284	1112	13	22554	54	7072	32,944	4118	HOUR AFTER HOUR OF SUNRISE	15
8275	3/11/2017 9:00	1490	1714	463	1697	493	30424	221	9496	45,998	5750	2 HOURS AFTER HOUR OF SUNRISE	3
8282	3/11/2017 16:00	2259	300	30	406	391	8849	160	1703	14,100	1762	2 HOURS BEFORE HOUR OF SUNSET	
8283	3/11/2017 17:00	355	44	0	55	56	1231	15	377	2,132	266	HOUR BEFORE THE HOUR OF SUNSET	
8284	3/11/2017 18:00	0	0	0	0	0	0	0	0	-	0	5:48 PM, HOUR OF SUNSET	
8285	3/11/2017 19:00	0	0	0	0	0	0	0	0	-	0	HOUR AFTER HOUR OF SUNSET	
8286	3/11/2017 20:00	0	0	0	0	0	0	0	0	-	0		
8290	3/12/2017 0:00	0	0	0	0	0	0	0	0	-	0		
8291	3/12/2017 1:00	0	0	0	0	0	0	0	0	-	0		
8292	3/12/2017 2:00	0	0	0	0	0	0	0	0	-	0	Start of DST, hour ending 2 pm should be skipped	
8293	3/12/2017 3:00	0	0	0	0	0	0	0	0	-	0		
8296	3/12/2017 6:00	0	0	0	0	0	0	0	0	-	0		
8297	3/12/2017 7:00	664	333	0	363	4	3322	14	741	5,441	680	HOUR BEFORE THE HOUR OF SUNRISE	
8298	3/12/2017 8:00	5299	2069	283	2008	198	15559	73	6095	31,585	3948	7:03 AM HOUR OF SUNRISE	
8299	3/12/2017 9:00	12131	4909	1003	3133	830	26539	413	11298	60,255	7532	HOUR AFTER HOUR OF SUNRISE	18
8300	3/12/2017 10:00	19023	7092	1771	3831	2165	34990	1277	15086	85,234	10654	2 HOURS AFTER HOUR OF SUNRISE	3
8307	3/12/2017 17:00	9114	352	241	277	1838	9487	560	3688	25,558	3195	2 HOURS BEFORE HOUR OF SUNSET	
8308	3/12/2017 18:00	710	76	47	51	175	1722	109	397	3,287	411	HOUR BEFORE THE HOUR OF SUNSET	
8309	3/12/2017 19:00	0	0	0	0	0	0	0	0	-	0	6:49 PM, HOUR OF SUNSET	
8310	3/12/2017 20:00	0	0	0	0	0	0	0	0	-	0	HOUR AFTER HOUR OF SUNSET	
8311	3/12/2017 21:00	0	0	0	0	0	0	0	0	-	0		
8751	3/31/2017 5:00	0	0	0	0	0	0	0	0	-	0		
8752	3/31/2017 6:00	21	8	0	1	0	195	21	13	260	32	HOUR BEFORE THE HOUR OF SUNRISE	
8753	3/31/2017 7:00	958	240	164	130	441	2268	292	770	5,263	658	6:29 AM HOUR OF SUNRISE	
8754	3/31/2017 8:00	2395	705	485	478	1334	5896	734	1602	13,628	1704	HOUR AFTER HOUR OF SUNRISE	#DIV/0!
8755	3/31/2017 9:00	3903	768	635	551	1530	9034	1088	2830	20,340	2542	2 HOURS AFTER HOUR OF SUNRISE	46
8756	3/31/2017 10:00	7798	998	583	713	1842	11149	1410	2783	27,277	3410		
8763	3/31/2017 17:00	0	1	0	11	0	2019	240	21	2,292	286		
8764	3/31/2017 18:00	0	0	0	0	0	401	39	0	440	55	2 HOURS BEFORE HOUR OF SUNSET	
8765	3/31/2017 19:00	0	0	0	0	0	0	0	0	-	0	HOUR BEFORE THE HOUR OF SUNSET	
8766	3/31/2017 20:00	0	0	0	0	0	0	0	0	-	0	7:12 PM, HOUR OF SUNSET	
8767	3/31/2017 21:00	0	0	0	0	0	0	0	0	-	0	HOUR AFTER HOUR OF SUNSET	
8768	3/31/2017 22:00	0	0	0	0	0	0	0	0	-	0		
8769	3/31/2017 23:00	0	0	0	0	0	0	0	0	-	0	<i>There was snow on the afternoon & eve. of 3/31/17 in NH</i>	
8770													
8800	Size weighted Az.	10290	1778.4	600.6	672	1732.5	10390.74	1529.58	3332	30325.82	167.08	= Size Weighted Average Azimuth	

Avoided Cost Calculation for Puc 900 4-20-2017_CB edits, Actual Solar Data of sunrise, 3/1/2018

DE 18-____, Clifton Below, 3/1/18, ATTACHMENT p. 13
 Motion to Correct Errors in PUC Determination of Avoided Costs

	A	B	C	D	E	F	G	H	I	K	M	N	O
1	Actual Solar Production		CORRECTED: By shifting all production data up one row to adjust from source data time stamped as HOUR BEGINNING to HOUR ENDING format										
2	SE ID	218414	216639	222562	224007	222665	170254	176715	152661			HR. before the hr. of Sunrise or after the hr. of Sunset	
3	Location	Keene	Bedford	Derry	Chester	Derry	Stratham	Rochester	Canterbury	Total	Hourly	Time of Sunrise or Sunset aligned with HOUR of	Ratio of X hrs. >sunrise to X hrs. <sunset
4	kW DC	58.8	9.88	5.46	4.8	13.86	62.22	6.89	19.6	181.51	Average	Sunset or Sunrise, assuming 1st Column is HOUR	
5	kW AC	60	7.6	5	3.8	11.4	56.6	6	16	166.4		ENDING	
6	Pitch	5	20	23	26	34	22	30	15	21.875		Hour after hour of Sunrise or hour before Sunset hr.	
7	Azimuth	175	180	110	140	125	125	22	222	170	161.125	2 hrs > hr. of sunrise or < hr. of sunset	
8	Type	Commercial	Resi	Resi	Resi	Resi	Commercial	Resi	Commercial				
9	Hour ENDING	Hourly Production (Wh) CORRECTED by shifting all production data up one row (HR Beginning to HR Ending)											
10	4/1/2016 0:00	0	0	0	0	0	0	0	0	-	0	Did not use. Started with Hour ending 1 am	
11	4/1/2016 1:00	0	0	0	0	0	0	0	0	-	0		
15	4/1/2016 5:00	0	0	0	0	0	0	0	0	-	0		
16	4/1/2016 6:00	0	0	0	0	0	0	0	0	-	0	0 HOUR BEFORE THE HOUR OF SUNRISE	
17	4/1/2016 7:00	69	0	0	12	3	262	18	48	412	52	6:27:00 AM HOUR OF SUNRISE	
18	4/1/2016 8:00	2969	121	0	323	540	4814	329	1402	10,499	1312	HOUR AFTER HOUR OF SUNRISE	5
19	4/1/2016 9:00	9051	737	647	731	1472	10172	820	3540	27,171	3396	2 HOURS AFTER HOUR OF SUNRISE	3
20	4/1/2016 10:00	12779	2148	794	1039	2644	14980	1420	5131	40,935	5117		
21	4/1/2016 11:00	9053	660	634	726	1559	7878	757	3690	24,957	3120		
26	4/1/2016 16:00	21116	2121	1643	1630	7081	29053	3326	5868	71,837	8980		
27	4/1/2016 17:00	14851	732	798	898	2813	24791	874	3885	49,643	6205		
28	4/1/2016 18:00	4673	510	88	233	478	2754	358	1725	10,820	1352	2 HOURS BEFORE HOUR OF SUNSET	
29	4/1/2016 19:00	549	114	7	99	171	632	226	388	2,184	273	HOUR BEFORE THE HOUR OF SUNSET	
30	4/1/2016 20:00	31	0	0	0	0	0	0	0	31	4	7:13:00 PM, HOUR OF SUNSET	
31	4/1/2016 21:00	0	0	0	0	0	0	0	0	-	0	HOUR AFTER HOUR OF SUNSET	
351	4/15/2016 5:00	0	0	0	0	0	0	0	0	-	0		
352	4/15/2016 6:00	0	0	0	0	0	0	0	0	-	0	0 HOUR BEFORE THE HOUR OF SUNRISE	
353	4/15/2016 7:00	1050	192	5	324	146	2264	58	738	4,777	597	6:03:00 AM HOUR OF SUNRISE	
354	4/15/2016 8:00	6845	1571	439	1673	1539	12962	232	4326	29,586	3698	HOUR AFTER HOUR OF SUNRISE	3
355	4/15/2016 9:00	14125	5240	1958	2697	5513	26792	588	9024	65,938	8242	2 HOURS AFTER HOUR OF SUNRISE	2
364	4/15/2016 18:00	11270	397	288	358	2711	16103	873	5038	37,038	4630	2 HOURS BEFORE HOUR OF SUNSET	
365	4/15/2016 19:00	2699	260	187	143	806	4045	341	1123	9,604	1201	HOUR BEFORE THE HOUR OF SUNSET	
366	4/15/2016 20:00	112	13	13	12	45	260	15	69	539	67	7:30 PM, HOUR OF SUNSET	
367	4/15/2016 21:00	0	0	0	0	0	0	0	0	-	0	HOUR AFTER HOUR OF SUNSET	
368	4/15/2016 22:00	0	0	0	0	0	0	0	0	-	0		
734	5/1/2016 4:00	0	0	0	0	0	0	0	0	-	0		
735	5/1/2016 5:00	0	0	0	0	0	0	0	0	-	0	0 HOUR BEFORE THE HOUR OF SUNRISE	
736	5/1/2016 6:00	0	2	0	0	0	12	0	3	16	2	5:39 AM HOUR OF SUNRISE	
737	5/1/2016 7:00	1866	324	125	236	568	2969	201	705	6,994	874	HOUR AFTER HOUR OF SUNRISE	1
738	5/1/2016 8:00	5851	765	419	457	1272	11296	686	2339	23,085	2886	2 HOURS AFTER HOUR OF SUNRISE	2
748	5/1/2016 18:00	5439	365	196	196	545	6064	673	1117	14,596	1825	2 HOURS BEFORE HOUR OF SUNSET	
749	5/1/2016 19:00	1993	384	184	122	487	2702	167	329	6,367	796	HOUR BEFORE THE HOUR OF SUNSET	
750	5/1/2016 20:00	200	19	22	15	58	246	12	6	578	72	7:48 PM, HOUR OF SUNSET	
751	5/1/2016 21:00	0	0	0	0	0	0	0	0	-	0	HOUR AFTER HOUR OF SUNSET	
752	5/1/2016 22:00	0	0	0	0	0	0	0	0	-	0		
1478	6/1/2016 4:00	0	0	0	0	0	0	0	0	-	0		
1479	6/1/2016 5:00	0	0	0	0	0	0	0	0	-	0	0 HOUR BEFORE THE HOUR OF SUNRISE	
1480	6/1/2016 6:00	643	45	0	119	4	559	29	189	1,587	198	5:09 AM HOUR OF SUNRISE	
1481	6/1/2016 7:00	6892	304	24	892	542	5039	167	1998	15,859	1982	HOUR AFTER HOUR OF SUNRISE	3
1482	6/1/2016 8:00	17498	2552	244	1836	2300	12960	290	5760	43,441	5430	2 HOURS AFTER HOUR OF SUNRISE	2

DE 18-____, Clifton Below, 3/1/18, ATTACHMENT p. 14
 Motion to Correct Errors in PUC Determination of Avoided Costs

	A	B	C	D	E	F	G	H	I	K	M	N	O
1	Actual Solar Production		CORRECTED: By shifting all production data up one row to adjust from source data time stamped as HOUR BEGINNING to HOUR ENDING format										
1493	6/1/2016 19:00	12503	449	387	339	1529	7295	201	2133	24,836	3105	2 HOURS BEFORE HOUR OF SUNSET	
1494	6/1/2016 20:00	2203	117	119	132	407	2507	75	610	6,170	771	HOUR BEFORE THE HOUR OF SUNSET	
1495	6/1/2016 21:00	41	2	1	3	15	75	0	10	148	19	8:20 PM, HOUR OF SUNSET	
1496	6/1/2016 22:00	0	0	0	0	0	0	0	0	-	0	HOUR AFTER HOUR OF SUNSET	
1497	6/1/2016 23:00	0	0	0	0	0	0	0	0	-	0		
2942	8/1/2016 4:00	0	0	0	0	0	0	0	0	-	0		
2943	8/1/2016 5:00	0	0	0	0	0	0	0	0	-	0	HOUR BEFORE THE HOUR OF SUNRISE	
2944	8/1/2016 6:00	0	0	0	0	0	36	0	0	36	5	5:37 AM HOUR OF SUNRISE	
2945	8/1/2016 7:00	1097	165	0	70	122	856	80	426	2,817	352	HOUR AFTER HOUR OF SUNRISE	9
2946	8/1/2016 8:00	3907	1036	423	392	1566	3303	238	2113	12,978	1622	2 HOURS AFTER HOUR OF SUNRISE	4
2957	8/1/2016 19:00	1660	138	101	108	285	492	68	258	3,110	389	2 HOURS BEFORE HOUR OF SUNSET	
2958	8/1/2016 20:00	34	14	15	12	46	131	13	53	318	40	HOUR BEFORE THE HOUR OF SUNSET	
2959	8/1/2016 21:00	0	0	0	0	0	0	0	0	-	0	8:07 PM, HOUR OF SUNSET	
2960	8/1/2016 22:00	0	0	0	0	0	0	0	0	-	0	HOUR AFTER HOUR OF SUNSET	
2961	8/1/2016 23:00	0	0	0	0	0	0	0	0	-	0		
3686	9/1/2016 4:00	0	0	0	0	0	0	0	0	-	0		
3687	9/1/2016 5:00	0	0	0	0	0	0	0	0	-	0		
3688	9/1/2016 6:00	0	0	0	0	0	0	0	0	-	0	HOUR BEFORE THE HOUR OF SUNRISE	
3689	9/1/2016 7:00	108	38	0	17	16	377	31	46	634	79	6:11 AM HOUR OF SUNRISE	
3690	9/1/2016 8:00	1638	381	182	263	744	2770	200	1430	7,607	951	HOUR AFTER HOUR OF SUNRISE	1
3691	9/1/2016 9:00	5644	516	548	518	1316	6299	717	2723	18,282	2285	2 HOURS AFTER HOUR OF SUNRISE	1
3700	9/1/2016 18:00	7962	508	284	297	645	4945	365	3283	18,289	2286	2 HOURS BEFORE HOUR OF SUNSET	
3701	9/1/2016 19:00	2639	269	132	121	328	1649	172	745	6,055	757	HOUR BEFORE THE HOUR OF SUNSET	
3702	9/1/2016 20:00	65	9	6	2	10	72	2	19	185	23	7:20 PM, HOUR OF SUNSET	
3703	9/1/2016 21:00	0	0	0	0	0	0	0	0	-	0	HOUR AFTER HOUR OF SUNSET	
3704	9/1/2016 22:00	0	0	0	0	0	0	0	0	-	0		
4167	9/21/2016 5:00	0	0	0	0	0	0	0	0	-	0		
4168	9/21/2016 6:00	0	0	0	0	0	0	0	0	-	0	HOUR BEFORE THE HOUR OF SUNRISE	
4169	9/21/2016 7:00	0	1	0	24	0	392	3	19	440	55	6:33 AM HOUR OF SUNRISE	
4170	9/21/2016 8:00	1371	0	14	1154	177	7860	119	2649	13,344	1668	HOUR AFTER HOUR OF SUNRISE	1
4171	9/21/2016 9:00	5593	2013	915	2144	885	17402	256	7391	36,598	4575	2 HOURS AFTER HOUR OF SUNRISE	1
4179	9/21/2016 17:00	11167	744	593	807	3476	14863	632	5459	37,741	4718	2 HOURS BEFORE HOUR OF SUNSET	
4180	9/21/2016 18:00	5494	362	294	296	1423	6253	277	2454	16,853	2107	HOUR BEFORE THE HOUR OF SUNSET	
4181	9/21/2016 19:00	759	46	39	40	187	759	37	313	2,180	272	6:44 PM, HOUR OF SUNSET	
4182	9/21/2016 20:00	0	0	0	0	0	0	0	0	-	0	HOUR AFTER HOUR OF SUNSET	
4183	9/21/2016 21:00	0	0	0	0	0	0	0	0	-	0		
5248	11/5/2016 6:00	0	0	0	0	0	0	0	0	-	0		
5249	11/5/2016 7:00	0	0	0	0	0	0	0	0	-	0	HOUR BEFORE THE HOUR OF SUNRISE	
5250	11/5/2016 8:00	7	2	0	0	0	300	2	10	321	40	7:27 AM HOUR OF SUNRISE	
5251	11/5/2016 9:00	1451	184	101	175	316	3324	64	399	6,015	752	HOUR AFTER HOUR OF SUNRISE	1
5252	11/5/2016 10:00	6126	384	158	238	504	4608	493	989	13,501	1688	2 HOURS AFTER HOUR OF SUNRISE	0.4
5258	11/5/2016 16:00	7537	565	514	751	2698	17716	858	2819	33,458	4182	2 HOURS BEFORE HOUR OF SUNSET	
5259	11/5/2016 17:00	1879	142	102	150	372	4477	173	744	8,040	1005	HOUR BEFORE THE HOUR OF SUNSET	
5260	11/5/2016 18:00	402	3	3	7	12	109	0	41	577	72	5:32 PM, HOUR OF SUNSET	
5261	11/5/2016 19:00	0	0	0	0	0	0	0	0	-	0	HOUR AFTER HOUR OF SUNSET	
5262	11/5/2016 20:00	0	0	0	0	0	0	0	0	-	0		
5263	11/5/2016 21:00	0	0	0	0	0	0	0	0	-	0		

DE 18-_____, Clifton Below, 3/1/18, ATTACHMENT p. 15
 Motion to Correct Errors in PUC Determination of Avoided Costs

	A	B	C	D	E	F	G	H	I	K	M	N	O
1	Actual Solar Production	CORRECTED: By shifting all production data up one row to adjust from source data time stamped as HOUR BEGINNING to HOUR ENDING format											
5264	11/5/2016 22:00	0	0	0	0	0	0	0	0	-	0		
5265	11/5/2016 23:00	0	0	0	0	0	0	0	0	-	0		
5266	11/6/2016 0:00	0	0	0	0	0	0	0	0	-	0		
5267	11/6/2016 1:00	0	0	0	0	0	0	0	0	-	0		
5268	11/6/2016 2:00	0	0	0	0	0	0	0	0	-	0	End of DST, there should be an extra hour ending 2 pm here	
5269	11/6/2016 3:00	0	0	0	0	0	0	0	0	-	0		
5270	11/6/2016 4:00	0	0	0	0	0	0	0	0	-	0		
5271	11/6/2016 5:00	0	0	0	0	0	0	0	0	-	0		
5272	11/6/2016 6:00	0	0	0	0	0	0	0	0	-	0	0 HOUR BEFORE THE HOUR OF SUNRISE	
5273	11/6/2016 7:00	50	21	0	0	0	27	0	52	149	19	6:28 AM HOUR OF SUNRISE	
5274	11/6/2016 8:00	5672	426	18	44	209	663	156	2145	9,333	1167	HOUR AFTER HOUR OF SUNRISE	1
5275	11/6/2016 9:00	9337	1415	555	947	1201	8996	1012	3676	27,139	3392	2 HOURS AFTER HOUR OF SUNRISE	1
5281	11/6/2016 15:00	13180	786	482	469	1354	4756	208	7075	28,311	3539	2 HOURS BEFORE HOUR OF SUNSET	
5282	11/6/2016 16:00	7256	215	191	184	839	1401	235	1005	11,326	1416	HOUR BEFORE THE HOUR OF SUNSET	
5283	11/6/2016 17:00	461	22	1	3	31	171	4	88	781	98	4:31 PM, HOUR OF SUNSET	
5284	11/6/2016 18:00	0	0	0	0	0	0	0	0	-	0	0 HOUR AFTER HOUR OF SUNSET	
5285	11/6/2016 19:00	0	0	0	0	0	0	0	0	-	0		
5872	12/1/2016 6:00	0	0	0	0	0	0	0	0	-	0	0 HOUR BEFORE THE HOUR OF SUNRISE	
5873	12/1/2016 7:00	0	0	0	0	0	0	0	0	-	0	0 6:59 AM HOUR OF SUNRISE	
5874	12/1/2016 8:00	999	917	47	122	110	390	44	1013	3,642	455	HOUR AFTER HOUR OF SUNRISE	1
5875	12/1/2016 9:00	4106	2477	319	1626	1298	5400	501	4194	19,923	2490	2 HOURS AFTER HOUR OF SUNRISE	1
5881	12/1/2016 15:00	2925	488	269	832	2727	11595	349	5357	24,542	3068	2 HOURS BEFORE HOUR OF SUNSET	
5882	12/1/2016 16:00	1708	182	78	179	623	1528	37	1181	5,515	689	HOUR BEFORE THE HOUR OF SUNSET	
5883	12/1/2016 17:00	0	0	0	2	3	12	0	3	20	2	4:12 PM, HOUR OF SUNSET	
5884	12/1/2016 18:00	0	0	0	0	0	0	0	0	-	0	0 HOUR AFTER HOUR OF SUNSET	
5885	12/1/2016 19:00	0	0	0	0	0	0	0	0	-	0		
6616	1/1/2017 6:00	0	0	0	0	0	0	0	0	-	0		
6617	1/1/2017 7:00	0	0	0	0	0	0	0	0	-	0	0 HOUR BEFORE THE HOUR OF SUNRISE	
6618	1/1/2017 8:00	0	0	0	9	19	1536	1	0	1,564	195	7:18 AM HOUR OF SUNRISE	
6619	1/1/2017 9:00	0	0	0	791	416	13642	70	0	14,919	1865	HOUR AFTER HOUR OF SUNRISE	1
6620	1/1/2017 10:00	41	3	0	1087	946	14166	260	0	16,502	2063	2 HOURS AFTER HOUR OF SUNRISE	1
6625	1/1/2017 15:00	396	72	303	1147	3479	19365	610	38	25,410	3176	2 HOURS BEFORE HOUR OF SUNSET	
6626	1/1/2017 16:00	88	29	85	280	1633	8928	168	11	11,221	1403	HOUR BEFORE THE HOUR OF SUNSET	
6627	1/1/2017 17:00	0	0	3	7	145	113	5	0	273	34	4:22 PM, HOUR OF SUNSET	
6628	1/1/2017 18:00	0	0	0	0	0	0	0	0	-	0	0 HOUR AFTER HOUR OF SUNSET	
6629	1/1/2017 19:00	0	0	0	0	0	0	0	0	-	0		
7360	2/1/2017 6:00	0	0	0	0	0	0	0	0	-	0		
7361	2/1/2017 7:00	0	0	0	0	0	0	0	0	-	0	HOUR BEFORE THE HOUR OF SUNRISE	
7362	2/1/2017 8:00	70	0	0	0	0	0	0	0	70	9	7:01 AM HOUR OF SUNRISE	
7363	2/1/2017 9:00	262	16	0	0	0	0	0	0	278	35	HOUR AFTER HOUR OF SUNRISE	0
7364	2/1/2017 10:00	295	49	0	1	0	24	19	117	506	63	2 HOURS AFTER HOUR OF SUNRISE	0.01
7369	2/1/2017 15:00	20073	644	429	808	2178	15688	1042	4909	45,770	5721	2 HOURS BEFORE HOUR OF SUNSET	
7370	2/1/2017 16:00	11962	353	172	269	906	9264	384	3285	26,594	3324	HOUR BEFORE THE HOUR OF SUNSET	
7371	2/1/2017 17:00	1103	77	17	39	554	2233	81	456	4,559	570	4:59 PM, HOUR OF SUNSET	
7372	2/1/2017 18:00	0	0	0	0	0	0	0	0	-	0	0 HOUR AFTER HOUR OF SUNSET	
7373	2/1/2017 19:00	0	0	0	0	0	0	0	0	-	0	Snow in the morning and above freezing >noon of 2/1	
8031	3/1/2017 5:00	0	0	0	0	0	0	0	0	-	0		

DE 18-____, Clifton Below, 3/1/18, ATTACHMENT p. 16
 Motion to Correct Errors in PUC Determination of Avoided Costs

	A	B	C	D	E	F	G	H	I	K	M	N	O
1	Actual Solar Production	CORRECTED: By shifting all production data up one row to adjust from source data time stamped as HOUR BEGINNING to HOUR ENDING format											
8032	3/1/2017 6:00	0	0	0	0	0	0	0	0	0	0	0 HOUR BEFORE THE HOUR OF SUNRISE	
8033	3/1/2017 7:00	5	0	0	0	0	77	5	2	89	11	6:22 AM HOUR OF SUNRISE	
8034	3/1/2017 8:00	572	120	0	61	196	1630	96	477	3,152	394	HOUR AFTER HOUR OF SUNRISE	0
8035	3/1/2017 9:00	2130	373	227	243	747	3932	311	839	8,802	1100	2 HOURS AFTER HOUR OF SUNRISE	0.4
8042	3/1/2017 16:00	7963	1085	625	566	1952	6581	1076	2083	21,930	2741	2 HOURS BEFORE HOUR OF SUNSET	
8043	3/1/2017 17:00	2485	308	193	220	625	3093	307	954	8,185	1023	HOUR BEFORE THE HOUR OF SUNSET	
8044	3/1/2017 18:00	122	31	19	25	78	188	15	87	565	71	5:36 PM, HOUR OF SUNSET	
8045	3/1/2017 19:00	0	0	0	0	0	0	0	0	-	0	HOUR AFTER HOUR OF SUNSET	
8046	3/1/2017 20:00	0	0	0	0	0	0	0	0	-	0		
8271	3/11/2017 5:00	0	0	0	0	0	0	0	0	-	0		
8272	3/11/2017 6:00	0	0	0	0	0	0	0	0	-	0	0 HOUR BEFORE THE HOUR OF SUNRISE	
8273	3/11/2017 7:00	0	72	0	17	0	2411	0	551	3,051	381	6:05 AM HOUR OF SUNRISE	
8274	3/11/2017 8:00	100	529	43	652	0	13129	1	5774	20,228	2529	HOUR AFTER HOUR OF SUNRISE	1
8275	3/11/2017 9:00	609	1247	284	1112	13	22554	54	7072	32,944	4118	2 HOURS AFTER HOUR OF SUNRISE	1
8282	3/11/2017 16:00	4252	703	121	1094	1229	19359	694	5980	33,431	4179	2 HOURS BEFORE HOUR OF SUNSET	
8283	3/11/2017 17:00	2259	300	30	406	391	8849	160	1703	14,100	1762	HOUR BEFORE THE HOUR OF SUNSET	
8284	3/11/2017 18:00	355	44	0	55	56	1231	15	377	2,132	266	5:48 PM, HOUR OF SUNSET	
8285	3/11/2017 19:00	0	0	0	0	0	0	0	0	-	0	HOUR AFTER HOUR OF SUNSET	
8286	3/11/2017 20:00	0	0	0	0	0	0	0	0	-	0		
8290	3/12/2017 0:00	0	0	0	0	0	0	0	0	-	0		
8291	3/12/2017 1:00	0	0	0	0	0	0	0	0	-	0		
8292	3/12/2017 2:00	0	0	0	0	0	0	0	0	-	0	Start of DST, hour ending 2 pm should be skipped	
8293	3/12/2017 3:00	0	0	0	0	0	0	0	0	-	0		
8296	3/12/2017 6:00	0	0	0	0	0	0	0	0	-	0		
8297	3/12/2017 7:00	0	0	0	0	0	0	0	0	-	0	0 HOUR BEFORE THE HOUR OF SUNRISE	
8298	3/12/2017 8:00	664	333	0	363	4	3322	14	741	5,441	680	7:03 AM HOUR OF SUNRISE	
8299	3/12/2017 9:00	5299	2069	283	2008	198	15559	73	6095	31,585	3948	HOUR AFTER HOUR OF SUNRISE	1
8300	3/12/2017 10:00	12131	4909	1003	3133	830	26539	413	11298	60,255	7532	2 HOURS AFTER HOUR OF SUNRISE	1
8307	3/12/2017 17:00	17856	752	711	1045	3563	22594	1843	8740	57,103	7138	2 HOURS BEFORE HOUR OF SUNSET	
8308	3/12/2017 18:00	9114	352	241	277	1838	9487	560	3688	25,558	3195	HOUR BEFORE THE HOUR OF SUNSET	
8309	3/12/2017 19:00	710	76	47	51	175	1722	109	397	3,287	411	6:49 PM, HOUR OF SUNSET	
8310	3/12/2017 20:00	0	0	0	0	0	0	0	0	-	0	HOUR AFTER HOUR OF SUNSET	
8311	3/12/2017 21:00	0	0	0	0	0	0	0	0	-	0		
8751	3/31/2017 5:00	0	0	0	0	0	0	0	0	-	0		
8752	3/31/2017 6:00	0	0	0	0	0	0	0	0	-	0	HOUR BEFORE THE HOUR OF SUNRISE	
8753	3/31/2017 7:00	21	8	0	1	0	195	21	13	260	32	6:29 AM HOUR OF SUNRISE	
8754	3/31/2017 8:00	958	240	164	130	441	2268	292	770	5,263	658	HOUR AFTER HOUR OF SUNRISE	12
8755	3/31/2017 9:00	2395	705	485	478	1334	5896	734	1602	13,628	1704	2 HOURS AFTER HOUR OF SUNRISE	6
8756	3/31/2017 10:00	3903	768	635	551	1530	9034	1088	2830	20,340	2542		
8763	3/31/2017 17:00	66	63	11	125	24	3619	465	424	4,796	600		
8764	3/31/2017 18:00	0	1	0	11	0	2019	240	21	2,292	286	2 HOURS BEFORE HOUR OF SUNSET	
8765	3/31/2017 19:00	0	0	0	0	0	401	39	0	440	55	HOUR BEFORE THE HOUR OF SUNSET	
8766	3/31/2017 20:00	0	0	0	0	0	0	0	0	-	0	7:12 PM, HOUR OF SUNSET	
8767	3/31/2017 21:00	0	0	0	0	0	0	0	0	-	0	HOUR AFTER HOUR OF SUNSET	
8768	3/31/2017 22:00	0	0	0	0	0	0	0	0	-	0	<i>There was snow on the afternoon & eve.</i>	
8769	3/31/2017 23:00	0	0	0	0	0	0	0	0	-	0	<i>of 3/31/17 in NH</i>	
8770		0	0	0	0	0	0	0	0	-	0		

Avoided Cost Calculation for Puc 900 4-20-2017_CB edits, 4-15-2017 Avoided Costs CORRECT, 3/1/2018

CORRECTED 4-15-17 Calculation of Avoided Costs using PUC original calculation with correctly adjusted Actual Solar Data from Hour Beginning format to Hour Ending format

			Relevant Rule(s)	
Avoided Energy Cost (All but Solar PV)	\$ 34.13	MWh	Puc 903.02 (i)(2) & (i)(6) a.	(See "AC calc" tab)
Avoided Energy Cost (Solar PV)	\$ 34.90	MWh	Puc 903.02 (i)(2) & (i)(7) a.	(See "AC calc" tab)
Avoided Capacity Costs	\$ 2.583	kW-month	Puc 903.02 (i)(3)	(See "Capacity" tab)
Portion of Surplus Generation During Peak Hour (All but Solar PV)	0.011416%		Puc 903.02 (i)(6) b.	(See "Capacity" tab)
Portion of Surplus Generation During Peak Hour (Solar PV)	0.049063%		Puc 903.02 (i)(7) c.	(See "Capacity" tab)

Conversion of Capacity Avoided Cost as a % of total to kWh										Avoided Energy		Total Avoided Energy & Capacity Costs for Surplus Generation		
		% kWh at pl	MWh		kW-month	in \$/MWh/mo.		in \$/MWh/year		\$/MWh	=	\$/MWh	/kWh	
1000	x	0.011416%	0.114155	x	\$ 2.583	\$ 0.29	x	12	=	\$ 3.54	+	\$ 34.13	=	\$ 37.67
														\$ 0.03767 Total Non-PV
1000	x	0.049063%	0.490627	x	\$ 2.583	\$ 1.268	x	12	=	\$ 15.21	+	\$ 34.90	=	\$ 50.11
														\$ 0.05011 Total PV
PV/ Non-PV =										429.8%		102.3%		133.0% = PV/ Non-PV
Surplus Generation Valuation Example assuming					9.942	MWh of Surplus Generation					9.942		9.942	
												\$ 347.00		\$ 498.22
9,942	x	0.049063%	4.877816	x	\$ 2.583	\$ 12.60	x	12	=	\$ 151.22				\$ 498.22

DE 18-_____, Clifton Below, 3/1/18, ATTACHMENT p. 17
Motion to Correct Errors in PUC Determination of Avoided Costs