

## **TRAVERSE CITY LIGHT & POWER**

### **RENEWABLE ENERGY PLAN U-16635**

**JUNE, 2013**

- Based on this Renewable Energy Plan (REP) Traverse City Light & Power (City) will have the required Renewable Energy Credits (RECs) for the REP time period of 2013-2029 thereby complying with PA 295.
- The primary source of RECs is participation in the Michigan Public Power Agency (MPPA) Granger and North American Natural Resources (NANR) Projects. These projects will utilize landfill gas for electric power generation from a variety of locations in Michigan and possibly in neighboring states.
- The City will have excess RECs to sell during various time periods throughout the REP planning period. Selling of RECs represents a source of income to the City which will reduce overall power supply costs. The cost per REC will be determined to a large extent by market forces in the Michigan REC market. This REP assumes the sale of some of the excess RECs keeping the balance in reserve.
- The City will comply with Section 45 of PA 295 which refers to methods of notification to customers charges, if any, for costs associated with its REP.
- The City had a pre-existing policy in place to develop and include renewable energy project costs with their power supply cost recovery, therefore, there are no incremental costs of compliance. If RECs were to be purchased at some point in the future then there would be an incremental cost of RECs for the additional RECs purchased and would be included in a surcharge accordingly.

	A	B	C	I	J	K	L	M	N	O	P	Q	R	S	T
1	<b>TRAVERSE CITY</b>														
2															
3	<b>GRANGER</b>														
4				<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>	<b>2024</b>
5															
6															
7	NET GENERATION	MWH	***	7,584	7,843	8,871	9,644	9,644	9,644	9,644	9,644	9,644	9,644	9,644	9,644
8	CAPACITY	MW	***	0.959	1.089	1.220	1.350	1.350	1.350	1.350	1.350	1.350	1.350	1.350	1.350
9															
10	RENEWABLE ENERGY CREDITS														
11	BASE GENERATION	RECS		7,584	7,843	8,871	9,644	9,644	9,644	9,644	9,644	9,644	9,644	9,644	9,644
12	ON-PEAK & MICH INCENT RECS	RECS	***	1,479	1,529	1,730	1,880	1,880	1,880	1,880	1,880	1,880	1,880	1,880	1,880
13															
14	TOTAL	RECS		9,063	9,372	10,601	11,524	11,524	11,524	11,524	11,524	11,524	11,524	11,524	11,524
15															
16															
17	GRANGER UNIT COST	\$/ kWh		\$ 0.08486	\$ 0.08698	\$ 0.08916	\$ 0.09139	\$ 0.09367	\$ 0.09601	\$ 0.09841	\$ 0.10087	\$ 0.10340	\$ 0.10598	\$ 0.10863	\$ 0.11135
18	O & M	\$/ kWh		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
19	ADMIN	\$/ kWh		\$ 0.00181	\$ 0.00185	\$ 0.00190	\$ 0.00195	\$ 0.00200	\$ 0.00205	\$ 0.00210	\$ 0.00215	\$ 0.00220	\$ 0.00226	\$ 0.00231	\$ 0.00237
20	WDS CHARGES	\$/ kWh		\$ 0.00001	\$ 0.00001	\$ 0.00001	\$ 0.00001	\$ 0.00001	\$ 0.00001	\$ 0.00001	\$ 0.00001	\$ 0.00001	\$ 0.00001	\$ 0.00001	\$ 0.00001
21	INCREMENTAL UNIT COST	\$/ REC		\$ 0.08668	\$ 0.08885	\$ 0.09107	\$ 0.09334	\$ 0.09568	\$ 0.09807	\$ 0.10052	\$ 0.10303	\$ 0.10561	\$ 0.10825	\$ 0.11096	\$ 0.11373
22	TOTAL INCREMENTAL COST	\$		\$ 657,380	\$ 696,788	\$ 807,857	\$ 900,180	\$ 922,685	\$ 945,753	\$ 969,397	\$ 993,632	\$ 1,018,474	\$ 1,043,936	\$ 1,070,035	\$ 1,096,787
23	WITH PILT	\$	1.04	\$ 683,676	\$ 724,659	\$ 840,171	\$ 936,187	\$ 959,592	\$ 983,583	\$ 1,008,173	\$ 1,033,378	\$ 1,059,213	\$ 1,085,694	\$ 1,112,837	\$ 1,140,658
24															
25	INTERCONNECTION COSTS	\$	***	\$ -	\$ 12,195	\$ 10,163	\$ 15,203	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
26	WITH PILT	\$	1.04	\$ -	\$ 12,683	\$ 10,569	\$ 15,811	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
27															
28	GRANGER ENERGY COST	\$		683,676	724,659	840,171	936,187	959,592	983,583	1,008,173	1,033,378	1,059,213	1,085,694	1,112,837	1,140,658
29	GRANGER INTERCONN COST	\$		-	12,683	10,569	15,811	-	-	-	-	-	-	-	-
30	GRANGER TOTAL COST	\$		683,676	737,342	850,740	951,999	959,592	983,583	1,008,173	1,033,378	1,059,213	1,085,694	1,112,837	1,140,658
31															
32	GRANGER TOTAL COST	\$/ MWH		90.14	94.02	95.90	98.72	99.50	101.99	104.54	107.15	109.83	112.58	115.39	118.28

	A	B	C	U	V	W	X	Y
1	<b>TRAVERSE CITY</b>							
2								
3	<b>GRANGER</b>							
4				<b>2025</b>	<b>2026</b>	<b>2027</b>	<b>2028</b>	<b>2029</b>
5								
6								
7	NET GENERATION	MWH	***	9,644	9,644	9,644	9,644	9,644
8	CAPACITY	MW	***	1,350	1,350	1,350	1,350	1,350
9								
10	RENEWABLE ENERGY CREDITS							
11	BASE GENERATION	RECS		9,644	9,644	9,644	9,644	9,644
12	ON-PEAK & MICH INCENT RECS	RECS	***	1,880	1,880	1,880	1,880	1,880
13								
14	TOTAL	RECS		11,524	11,524	11,524	11,524	11,524
15								
16								
17	GRANGER UNIT COST	\$/ kWh		\$ 0.11413	\$ 0.11698	\$ 0.11991	\$ 0.12290	\$ 0.12598
18	O & M	\$/ kWh		\$ -	\$ -	\$ -	\$ -	\$ -
19	ADMIN	\$/ kWh		\$ 0.00243	\$ 0.00249	\$ 0.00255	\$ 0.00262	\$ 0.00268
20	WDS CHARGES	\$/ kWh		\$ 0.00001	\$ 0.00001	\$ 0.00001	\$ 0.00001	\$ 0.00002
21	INCREMENTAL UNIT COST	\$/ REC		\$ 0.11657	\$ 0.11949	\$ 0.12247	\$ 0.12554	\$ 0.12868
22	TOTAL INCREMENTAL COST	\$		\$ 1,124,207	\$ 1,152,313	\$ 1,181,121	\$ 1,210,650	\$ 1,240,917
23	WITH PILT	\$	1.04	\$ 1,169,175	\$ 1,198,405	\$ 1,228,366	\$ 1,259,076	\$ 1,290,554
24								
25	INTERCONNECTION COSTS	\$	***	\$ -	\$ -	\$ -	\$ -	\$ -
26	WITH PILT	\$	1.04	\$ -	\$ -	\$ -	\$ -	\$ -
27								
28	GRANGER ENERGY COST	\$		1,169,175	1,198,405	1,228,366	1,259,076	1,290,554
29	GRANGER INTERCONN COST	\$		-	-	-	-	-
30	GRANGER TOTAL COST	\$		1,169,175	1,198,405	1,228,366	1,259,076	1,290,554
31								
32	GRANGER TOTAL COST	\$/ MWH		\$ 121.24	\$ 124.27	\$ 127.37	\$ 130.56	\$ 133.82

	A	B	C	I	J	K	L	M	N	O	P	Q	R	S
1	<b>TRAVERSE CITY</b>													
2	<b>OTHER LANDFILL - ALL SITES</b>													
3														
4				<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>
5														
6														
7	NETGENERATION	MWH	***	1,543	3,776	5,142	5,142	5,142	5,142	5,142	5,142	5,142	5,142	5,142
8	CAPACITY	MW	***	0.650	0.650	0.650	0.650	0.650	0.650	0.650	0.650	0.650	0.650	0.650
9														
10	RENEWABLE ENERGY CREDITS													
11	BASE GENERATION	RECS		1,543	3,776	5,142	5,142	5,142	5,142	5,142	5,142	5,142	5,142	5,142
12	ON-PEAK & MICH INCENT RECS	RECS	***	301	736	1,003	1,003	1,003	1,003	1,003	1,003	1,003	1,003	1,003
13														
14	TOTAL	RECS		1,843	4,513	6,144	6,144	6,144	6,144	6,144	6,144	6,144	6,144	6,144
15														
16														
17	OTHER LANDFILL UNIT COST	\$/ kWh		\$ 0.08400	\$ 0.08518	\$ 0.08636	\$ 0.08788	\$ 0.08976	\$ 0.09187	\$ 0.09408	\$ 0.09635	\$ 0.09869	\$ 0.10108	\$ 0.10353
18	O & M	\$/ kWh		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
19	ADMIN	\$/ kWh		\$ 0.00179	\$ 0.00181	\$ 0.00184	\$ 0.00187	\$ 0.00191	\$ 0.00196	\$ 0.00200	\$ 0.00205	\$ 0.00210	\$ 0.00215	\$ 0.00221
20	WDS CHARGES	\$/ kWh		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
21	INCREMENTAL UNIT COST	\$/ REC		\$ 0.08579	\$ 0.08699	\$ 0.08820	\$ 0.08976	\$ 0.09167	\$ 0.09382	\$ 0.09608	\$ 0.09840	\$ 0.10079	\$ 0.10324	\$ 0.10573
22	TOTAL INCREMENTAL COST	\$		\$ 132,331	\$ 328,500	\$ 453,490	\$ 461,516	\$ 471,344	\$ 482,428	\$ 494,037	\$ 505,962	\$ 518,241	\$ 530,819	\$ 543,658
23	WITH PILT	\$	1.04	\$ 137,624	\$ 341,640	\$ 471,630	\$ 479,976	\$ 490,198	\$ 501,725	\$ 513,799	\$ 526,200	\$ 538,970	\$ 552,052	\$ 565,404
24														
25	INTERCONNECTION COSTS	\$	***	\$ 21,707	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
26	WITH PILT	\$	1.04	\$ 22,576	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
27														
28	OTHER LANDFILL ENERGY COST	\$		137,624	341,640	471,630	479,976	490,198	501,725	513,799	526,200	538,970	552,052	565,404
29	OTHER LANDFILL INTERCONN COST	\$		\$ 22,576	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
30	OTHER LANDFILL TOTAL COST	\$		\$ 160,200	\$ 341,640	\$ 471,630	\$ 479,976	\$ 490,198	\$ 501,725	\$ 513,799	\$ 526,200	\$ 538,970	\$ 552,052	\$ 565,404
31														
32	OTHER LANDFILL TOTAL COST	\$/ MWH		\$ 103.85	\$ 90.47	\$ 91.72	\$ 93.35	\$ 95.33	\$ 97.58	\$ 99.92	\$ 102.34	\$ 104.82	\$ 107.36	\$ 109.96

	A	B	C	T	U	V	W	X	Y	Z
1	<b>TRAVERSE CITY</b>									
2	<b>OTHER LANDFILL - ALL SITES</b>									
3										
4				<b>2024</b>	<b>2025</b>	<b>2026</b>	<b>2027</b>	<b>2028</b>	<b>2029</b>	
5										
6										
7	NETGENERATION	MWH	***	5,142	5,142	5,142	5,142	5,142	5,142	
8	CAPACITY	MW	***	0.650	0.650	0.650	0.650	0.650	0.650	
9										
10	RENEWABLE ENERGY CREDITS									
11	BASE GENERATION	RECS		5,142	5,142	5,142	5,142	5,142	5,142	
12	ON-PEAK & MICH INCENT RECS	RECS	***	1,003	1,003	1,003	1,003	1,003	1,003	1002.544
13										
14	TOTAL	RECS		6,144	6,144	6,144	6,144	6,144	6,144	
15										
16										
17	OTHER LANDFILL UNIT COST	\$/ kWh		\$ 0.10602	\$ 0.10858	\$ 0.11121	\$ 0.11392	\$ 0.11671	\$ 0.11961	
18	O & M	\$/ kWh		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
19	ADMIN	\$/ kWh		\$ 0.00226	\$ 0.00231	\$ 0.00237	\$ 0.00243	\$ 0.00249	\$ 0.00255	
20	WDS CHARGES	\$/ kWh		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
21	INCREMENTAL UNIT COST	\$/ REC		\$ 0.10828	\$ 0.11089	\$ 0.11358	\$ 0.11635	\$ 0.11920	\$ 0.12216	
22	TOTAL INCREMENTAL COST	\$		\$ 556,758	\$ 570,201	\$ 584,024	\$ 598,231	\$ 612,909	\$ 628,130	
23	WITH PILT	\$	1.04	\$ 579,028	\$ 593,009	\$ 607,385	\$ 622,160	\$ 637,426	\$ 653,255	
24										
25	INTERCONNECTION COSTS	\$	***	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
26	WITH PILT	\$	1.04	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
27										
28	OTHER LANDFILL ENERGY COST	\$		579,028	593,009	607,385	622,160	637,426	653,255	
29	OTHER LANDFILL INTERCONN COST	\$		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
30	OTHER LANDFILL TOTAL COST	\$		\$ 579,028	\$ 593,009	\$ 607,385	\$ 622,160	\$ 637,426	\$ 653,255	
31										
32	OTHER LANDFILL TOTAL COST	\$/ MWH		\$ 112.61	\$ 115.33	\$ 118.13	\$ 121.00	\$ 123.97	\$ 127.05	

	A	B	C	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y
1	<b>TRAVERSE CITY</b>																			
2			<b>TOTAL</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>	<b>2024</b>	<b>2025</b>	<b>2026</b>	<b>2027</b>	<b>2028</b>	<b>2029</b>
3	<b>REQUIRED RECS</b>																			
4	RETAIL SALES	***		328,748	332,035	335,355														
5	LOAD - 3 YEAR AVERAGE	***		321,717	325,503	328,758														
6	FACTOR			0.10	0.10	0.10														
7	<b>RECS - REQUIRED</b>		589,678	32,172	32,550	32,876	32,876	32,876	32,876	32,876	32,876	32,876	32,876	32,876	32,876	32,876	32,876	32,876	32,876	32,876
8																				
9	RECS - PRE-REP RECS (BASELINE)	***		778	778	778	778	778	778	778	778	778	778	778	778	778	778	778	778	778
10	RECS - INCREMENTAL DIFFERENCE			31,394	31,772	32,098	32,098	32,098	32,098	32,098	32,098	32,098	32,098	32,098	32,098	32,098	32,098	32,098	32,098	32,098
11																				
12	FACTOR			0.33	0.50	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
13	<b>RECS - NEW REQUIRED</b>			10,360	15,886	32,098	32,098	32,098	32,098	32,098	32,098	32,098	32,098	32,098	32,098	32,098	32,098	32,098	32,098	32,098
14																				
15	<b>NEW REQUIRED RECS</b>		513,922	10,360	15,886	32,098	32,098	32,098	32,098	32,098	32,098	32,098	32,098	32,098	32,098	32,098	32,098	32,098	32,098	32,098
16	<b>TOTAL RECS (BASELINE PLUS NEW)</b>			11,138	16,664	32,876	32,876	32,876	32,876	32,876	32,876	32,876	32,876	32,876	32,876	32,876	32,876	32,876	32,876	32,876
17																				
18																				
19	<b>SOURCES</b>																			
20	<b>EXISTING RENEWABLE SOURCES</b>																			
21	DIFFERENTIAL FROM BASELINE	RECS	***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
22		RECS	***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23	<b>TOTAL EXISTING</b>	RECS		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24																				
25																				
26	<b>NEW RENEWABLES SOURCES:</b>																			
27	GRANGER (THROUGH MPPA)	RECS	***	9,063	9,372	10,601	11,524	11,524	11,524	11,524	11,524	11,524	11,524	11,524	11,524	11,524	11,524	11,524	11,524	11,524
28	OTHER LANDFILL (THROUGH MPPA)	RECS	***	1,843	4,513	6,144	6,144	6,144	6,144	6,144	6,144	6,144	6,144	6,144	6,144	6,144	6,144	6,144	6,144	6,144
29	STONEY CORNERS (WIND)	RECS	***	27,000	27,000	27,000	27,000	27,000	27,000	27,000	27,000	27,000	27,000	27,000	27,000	27,000	27,000	27,000	27,000	27,000
30		RECS	***																	
31		RECS	***																	
32		RECS	***																	
33		RECS	***																	
34	<b>TOTAL NEW RENEWABLES</b>	RECS	***	37,906	40,884	43,745	44,669	44,669	44,669	44,669	44,669	44,669	44,669	44,669	44,669	44,669	44,669	44,669	44,669	44,669
35																				
36																				
37	<b>TOTAL SOURCES</b>			<b>37,906</b>	<b>40,884</b>	<b>43,745</b>	<b>44,669</b>	<b>44,669</b>	<b>44,669</b>	<b>44,669</b>	<b>44,669</b>	<b>44,669</b>	<b>44,669</b>	<b>44,669</b>	<b>44,669</b>	<b>44,669</b>	<b>44,669</b>	<b>44,669</b>	<b>44,669</b>	<b>44,669</b>
38																				
39																				
40	<b>USES</b>																			
41																				
42	<b>RPS RENEWABLE ENERGY CREDIT COMPLIANCE</b>																			
43	RECS CARRIED OVER			71,218	48,764	23,763	5,410	1,981	1,051	1,022	993	963	934	905	875	846	817	787	758	729
44	RECS OBTAINED (NEW)			37,906	40,884	43,745	44,669	44,669	44,669	44,669	44,669	44,669	44,669	44,669	44,669	44,669	44,669	44,669	44,669	44,669
45	RECS OBTAINED (BASELINE PLUS DIFFERENTIAL, IF ANY)			778	778	778	778	778	778	778	778	778	778	778	778	778	778	778	778	778
46	REC PURCHASES / (SALES) FROM OTHER SOURCES			(50,000)	(50,000)	(30,000)	(16,000)	(13,500)	(12,600)	(12,600)	(12,600)	(12,600)	(12,600)	(12,600)	(12,600)	(12,600)	(12,600)	(12,600)	(12,600)	(12,600)
47	<b>TOTAL RECS SOURCES</b>			59,902	40,427	38,286	34,857	33,927	33,898	33,868	33,839	33,810	33,780	33,751	33,722	33,692	33,663	33,634	33,604	33,575
48																				
49	RECS REQUIRED (BASELINE PLUS NEW)			11,138	16,664	32,876	32,876	32,876	32,876	32,876	32,876	32,876	32,876	32,876	32,876	32,876	32,876	32,876	32,876	32,876
50	RECS CUMULATIVE BALANCE			48,764	23,763	5,410	1,981	1,051	1,022	993	963	934	905	875	846	817	787	758	729	699
51																				
52																				
53	<b>ATTACHMENT C INFORMATION</b>																			
54																				
55	<b>RPS RENEWABLE ENERGY CREDIT COMPLIANCE</b>																			
56	RECS CARRIED OVER	RECS		71,218	48,764	23,763	5,410	1,981	1,051	1,022	993	963	934	905	875	846	817	787	758	729
57	RECS OBTAINED (NEW)	RECS		37,906	40,884	43,745	44,669	44,669	44,669	44,669	44,669	44,669	44,669	44,669	44,669	44,669	44,669	44,669	44,669	44,669
58	RECS OBTAINED (BASELINE PLUS DIFFERENTIAL, IF ANY)	RECS		778	778	778	778	778	778	778	778	778	778	778	778	778	778	778	778	778
59	REC PURCHASES / (SALES) FROM OTHER SOURCES	RECS		(50,000)	(50,000)	(30,000)	(16,000)	(13,500)	(12,600)	(12,600)	(12,600)	(12,600)	(12,600)	(12,600)	(12,600)	(12,600)	(12,600)	(12,600)	(12,600)	(12,600)
60	<b>TOTAL RECS SOURCES</b>			59,902	40,427	38,286	34,857	33,927	33,898	33,868	33,839	33,810	33,780	33,751	33,722	33,692	33,663	33,634	33,604	33,575
61																				
62	REQUIRED RECS (BASELINE PLUS NEW)	RECS		11,138	16,664	32,876	32,876	32,876	32,876	32,876	32,876	32,876	32,876	32,876	32,876	32,876	32,876	32,876	32,876	32,876
63	RECS CUMULATIVE BALANCE	RECS		48,764	23,763	5,410	1,981	1,051	1,022	993	963	934	905	875	846	817	787	758	729	699
64																				
65	Incremental Compliance with New RECs	%		366%	257%	136%	139%	139%	139%	139%	139%	139%	139%	139%	139%	139%	139%	139%	139%	139%
66	Compliance % with Cumulative REC Balance	%		538%	243%	116%	106%	103%	103%	103%	103%	103%	103%	103%	103%	102%	102%	102%	102%	102%
67																				
68																				
69	<b>CROSS CHECK WITH ATTACH C</b>			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
70																				

	A	B	C	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y
1	<b>TRAVERSE CITY</b>																			
2			TOTAL	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
71																				
72	<b>TRAVERSE CITY</b>																			
73																				
74																				
75	<b>PURCHASES / SALES</b>																			
76																				
77	REC PRICE - MICHIGAN	\$ / MWH	\$	3.00	\$ 3.08	\$ 3.15	\$ 3.23	\$ 3.31	\$ 3.39	\$ 3.48	\$ 3.57	\$ 3.66	\$ 3.75	\$ 3.84	\$ 3.94	\$ 4.03	\$ 4.14	\$ 4.24	\$ 4.34	\$ 4.45
78	REC PRICE - ESCALATOR			1.025	1.025	1.025	1.025	1.025	1.025	1.025	1.025	1.025	1.025	1.025	1.025	1.025	1.025	1.025	1.025	1.025
79																				
80	TOTAL SALES	RECS		(50,000)	(50,000)	(30,000)	(16,000)	(13,500)	(12,600)	(12,600)	(12,600)	(12,600)	(12,600)	(12,600)	(12,600)	(12,600)	(12,600)	(12,600)	(12,600)	(12,600)
81	TOTAL PURCHASES	RECS		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
82	OTHER PURCHASES	RECS		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
83	NET PURCHASES/SALES			(50,000)	(50,000)	(30,000)	(16,000)	(13,500)	(12,600)	(12,600)	(12,600)	(12,600)	(12,600)	(12,600)	(12,600)	(12,600)	(12,600)	(12,600)	(12,600)	(12,600)
84	<b>COST / (REVENUE)</b>	\$	\$	(150,000)	\$ (153,750)	\$ (94,556)	\$ (51,691)	\$ (44,704)	\$ (42,767)	\$ (43,836)	\$ (44,932)	\$ (46,056)	\$ (47,207)	\$ (48,387)	\$ (49,597)	\$ (50,837)	\$ (52,108)	\$ (53,410)	\$ (54,746)	\$ (56,114)

	A	B	C	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W
1	<b>TRAVERSE CITY</b>																	
2	<b>ATTACHMENT C - RENEWABLE ENERGY PLAN SURCHARGE SUMMARY FOR MUNICIPAL UTILITIES</b>																	
3	<b>ITEM</b>	<b>Units</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>	<b>2024</b>	<b>2025</b>	<b>2026</b>	<b>2027</b>	
4	Sales Forecast - 3 yr running average	MWH	321,717	325,503	328,758													
5	10% Compliance Factor		0.10	0.10	0.10													
6	RPS Requirement	MWH	32,172	32,550	32,876	32,876	32,876	32,876	32,876	32,876	32,876	32,876	32,876	32,876	32,876	32,876	32,876	32,876
7																		
8	RECS - RPS Required	RECS	32,172	32,550	32,876	32,876	32,876	32,876	32,876	32,876	32,876	32,876	32,876	32,876	32,876	32,876	32,876	32,876
9	RECS - PRE-REP (BASELINE)	RECS	778	778	778	778	778	778	778	778	778	778	778	778	778	778	778	778
10	RECS - Incremental Difference	RECS	31,394	31,772	32,098	32,098	32,098	32,098	32,098	32,098	32,098	32,098	32,098	32,098	32,098	32,098	32,098	32,098
11																		
12	FACTOR		0.33	0.50	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
13	Required New RECS	RECS	10,360	15,886	32,098	32,098	32,098	32,098	32,098	32,098	32,098	32,098	32,098	32,098	32,098	32,098	32,098	32,098
14																		
15	<b>RPS RENEWABLE ENERGY CREDIT COMPLIANCE</b>																	
16	RECS CARRIED OVER	RECS	71,218	48,764	23,763	5,410	1,981	1,051	1,022	993	963	934	905	875	846	817	787	758
17	RECS OBTAINED (NEW)	RECS	37,906	40,884	43,745	44,669	44,669	44,669	44,669	44,669	44,669	44,669	44,669	44,669	44,669	44,669	44,669	44,669
18	RECS OBTAINED (BASELINE PLUS DIFFERENTIAL, IF ANY)	RECS	778	778	778	778	778	778	778	778	778	778	778	778	778	778	778	778
19	REC PURCHASES / (SALES) FROM OTHER SOURCES	RECS	(50,000)	(50,000)	(30,000)	(16,000)	(13,500)	(12,600)	(12,600)	(12,600)	(12,600)	(12,600)	(12,600)	(12,600)	(12,600)	(12,600)	(12,600)	(12,600)
20	TOTAL RECS SOURCES		59,902	40,427	38,286	34,857	33,927	33,898	33,868	33,839	33,810	33,780	33,751	33,722	33,692	33,663	33,634	33,604
21																		
22	REQUIRED RECS (BASELINE PLUS NEW)	RECS	11,138	16,664	32,876	32,876	32,876	32,876	32,876	32,876	32,876	32,876	32,876	32,876	32,876	32,876	32,876	32,876
23	RECS CUMULATIVE BALANCE	RECS	48,764	23,763	5,410	1,981	1,051	1,022	993	963	934	905	875	846	817	787	758	728
24																		
25	Incremental Compliance with New RECS	%	366%	257%	136%	139%	139%	139%	139%	139%	139%	139%	139%	139%	139%	139%	139%	139%
26	Compliance % with Cumulative REC Balance	%	538%	243%	116%	106%	103%	103%	103%	103%	103%	103%	103%	103%	103%	102%	102%	102%
27																		
28	<b>Revenue Requirements for New Renewables</b>																	
29	Build (see project sheets for information)	\$	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
30	PPA	\$	\$ 843,875	\$ 1,078,983	\$ 1,322,370	\$ 1,431,975	\$ 1,449,790	\$ 1,485,307	\$ 1,521,971	\$ 1,559,578	\$ 1,598,183	\$ 1,637,746	\$ 1,678,241	\$ 1,719,687	\$ 1,762,184	\$ 1,805,791	\$ 1,850,526	\$ -
31	REC Purchases (Sales)	\$	\$ (150,000)	\$ (153,750)	\$ (94,556)	\$ (51,691)	\$ (44,704)	\$ (42,767)	\$ (43,836)	\$ (44,932)	\$ (46,056)	\$ (47,207)	\$ (48,387)	\$ (49,597)	\$ (50,837)	\$ (52,108)	\$ (53,410)	\$ -
32	Total	\$	\$ 693,875	\$ 925,233	\$ 1,227,814	\$ 1,380,284	\$ 1,405,086	\$ 1,442,540	\$ 1,478,135	\$ 1,514,645	\$ 1,552,127	\$ 1,590,539	\$ 1,629,854	\$ 1,670,090	\$ 1,711,347	\$ 1,753,683	\$ 1,797,116	\$ -
33																		
34	<b>RECs Obtained</b>																	
35	<b>Generation Based</b>																	
36	Build (see project sheets for information)	MWH	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
37	PPA	MWH	36,127	38,619	41,013	41,786	41,786	41,786	41,786	41,786	41,786	41,786	41,786	41,786	41,786	41,786	41,786	41,786
38	Subtotal	MWH	36,127	38,619	41,013	41,786	41,786	41,786	41,786	41,786	41,786	41,786	41,786	41,786	41,786	41,786	41,786	41,786
39	Purchase (Sold) From New RECS	RECS	(50,000)	(50,000)	(30,000)	(16,000)	(13,500)	(12,600)	(12,600)	(12,600)	(12,600)	(12,600)	(12,600)	(12,600)	(12,600)	(12,600)	(12,600)	(12,600)
40	Incentive (SB 213 Sec 39 (2))	RECS	1,780	2,265	2,732	2,883	2,883	2,883	2,883	2,883	2,883	2,883	2,883	2,883	2,883	2,883	2,883	2,883
41	Total	RECS	(12,094)	(9,116)	13,745	28,669	31,169	32,069	32,069	32,069	32,069	32,069	32,069	32,069	32,069	32,069	32,069	32,069
42																		
43	Forecasted Transfer Price per MWH	\$/MWH	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
44																		
45	<b>Amount recovered through PSCR</b>																	
46	Transfer price x volume of energy (see INCR COST sheet)	\$	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
47																		
48	Incremental Cost of Compliance (see INCR COST sheet)	\$	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
49																		
50	Additional investment above PA 295 requirements	\$	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
51																		
52	<b>Non-Volumetric Surcharge</b>																	
53	<b>Meter (or customer) Forecast (Number)</b>																	
54	Residential	No.	8,712	8,738	8,764	8,791	8,817	8,844	8,870	8,897	8,923	8,950	8,977	9,004	9,031	9,058	9,085	9,112
55	Commercial	No.	2,963	2,972	2,980	2,989	2,998	3,007	3,016	3,025	3,035	3,044	3,053	3,062	3,071	3,080	3,090	3,099
56	Industrial	No.	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
57	Streetlights	No.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
58	Unmetered	No.	318	318	318	318	318	318	318	318	318	318	318	318	318	318	318	318
59	Total	No.	12,033	12,068	12,103	12,138	12,173	12,209	12,244	12,280	12,316	12,352	12,388	12,424	12,460	12,496	12,533	12,569
60																		
61	<b>Maximum Surcharge (all rate classes at caps)</b>																	
62	Residential	\$	\$ 313,633	\$ 314,574	\$ 315,518	\$ 316,465	\$ 317,414	\$ 318,366	\$ 319,321	\$ 320,279	\$ 321,240	\$ 322,204	\$ 323,170	\$ 324,140	\$ 325,112	\$ 326,088	\$ 327,066	\$ 328,046
63	Commercial	\$	\$ 589,458	\$ 591,226	\$ 593,000	\$ 594,779	\$ 596,563	\$ 598,353	\$ 600,148	\$ 601,949	\$ 603,755	\$ 605,566	\$ 607,382	\$ 609,205	\$ 611,032	\$ 612,865	\$ 614,704	\$ 616,548
64	Industrial	\$	\$ 90,000	\$ 90,000	\$ 90,000	\$ 90,000	\$ 90,000	\$ 90,000	\$ 90,000	\$ 90,000	\$ 90,000	\$ 90,000	\$ 90,000	\$ 90,000	\$ 90,000	\$ 90,000	\$ 90,000	\$ 90,000
65	Streetlights	\$	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
66	Unmetered	\$	\$ 2,290	\$ 2,290	\$ 2,290	\$ 2,290	\$ 2,290	\$ 2,290	\$ 2,290	\$ 2,290	\$ 2,290	\$ 2,290	\$ 2,290	\$ 2,290	\$ 2,290	\$ 2,290	\$ 2,290	\$ 2,290
67	Total	\$	\$ 995,381	\$ 998,090	\$ 1,000,808	\$ 1,003,533	\$ 1,006,267	\$ 1,009,009	\$ 1,011,759	\$ 1,014,518	\$ 1,017,284	\$ 1,020,059	\$ 1,022,842	\$ 1,025,634	\$ 1,028,434	\$ 1,031,243	\$ 1,034,059	\$ 1,036,883
68																		
69	<b>Planned Surcharge</b>																	
70	Residential	\$	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
71	Commercial	\$	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
72	Industrial	\$	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
73	Streetlights	\$	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
74	Unmetered	\$	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
75	Total	\$	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -



	A	B	C	X	Y	Z	AA
1	<b>TRAVERSE CITY</b>						
2							
3	<b>ITEM</b>	<b>Units</b>		<b>2028</b>	<b>2029</b>		
4	Sales Forecast - 3 yr running average	MWH					
5	10% Compliance Factor						
6	RPS Requirement	MWH		32,876	32,876		
7							
8	RECS - RPS Required	RECS		32,876	32,876		
9	RECS - PRE-REP (BASELINE)	RECS		778	778		
10	RECS - Incremental Difference	RECS		32,098	32,098		
11							
12	<b>FACTOR</b>			1.00	1.00		
13	Required New RECS	RECS		32,098	32,098		
14							
15	<b>RPS RENEWABLE ENERGY CREDIT COMPLIANCE</b>						
16	RECS CARRIED OVER	RECS		758	729		
17	RECS OBTAINED (NEW)	RECS		44,669	44,669		
18	RECS OBTAINED (BASELINE PLUS DIFFERENTIAL, IF ANY)	RECS		778	778		
19	REC PURCHASES / (SALES) FROM OTHER SOURCES	RECS		(12,600)	(12,600)		
20	TOTAL RECS SOURCES			33,604	33,575		
21							
22	REQUIRED RECS (BASELINE PLUS NEW)	RECS		32,876	32,876		
23	RECS CUMULATIVE BALANCE	RECS		729	699		
24							
25	Incremental Compliance with New RECS	%		139%	139%		
26	Compliance % with Cumulative REC Balance	%		102%	102%		
27							
28	<b>Revenue Requirements for New Renewables</b>						
29	Build (see project sheets for information)	\$	\$	-	-		
30	PPA	\$	\$	1,896,502	1,943,809		
31	REC Purchases (Sales)	\$	\$	(54,746)	(56,114)		
32	Total	\$	\$	1,841,756	1,887,695		
33							
34	<b>RECs Obtained</b>						
35	Generation Based						
36	Build (see project sheets for information)	MWH		-	-		
37	PPA	MWH		41,786	41,786		
38	Subtotal	MWH		41,786	41,786		
39	Purchase (Sold) From New RECS	RECS		(12,600)	(12,600)		
40	Incentive (SB 213 Sec 39 (2))	RECS		2,883	2,883		
41	Total	RECS		32,069	32,069		
42							
43	Forecasted Transfer Price per MWH	\$/MWH	\$	-	-		
44							
45	<b>Amount recovered through PSCR</b>						
46	Transfer price x volume of energy (see INCR COST sheet)	\$		-	-		
47							
48	Incremental Cost of Compliance (see INCR COST sheet)	\$	\$	-	-		
49							
50	Additional investment above PA 295 requirements	\$					
51							
52	<b>Non-Volumetric Surcharge</b>						
53	<b>Meter (or customer) Forecast (Number)</b>						
54	Residential	No.		9,112	9,140		
55	Commercial	No.		3,099	3,108		
56	Industrial	No.		40	40		
57	Streetlights	No.		-	-		
58	Unmetered	No.		318	318		
59	Total	No.		12,569	12,606		
60							
61	<b>Maximum Surcharge (all rate classes at caps)</b>						
62	Residential	\$	\$	328,047	329,031		
63	Commercial	\$	\$	616,548	618,398		
64	Industrial	\$	\$	90,000	90,000		
65	Streetlights	\$	\$	-	-		
66	Unmetered	\$	\$	2,290	2,290		
67	Total	\$	\$	1,036,885	1,039,719		
68							
69	<b>Planned Surcharge</b>						
70	Residential	\$	\$	-	-		
71	Commercial	\$	\$	-	-		
72	Industrial	\$	\$	-	-		
73	Streetlights	\$	\$	-	-		
74	Unmetered	\$	\$	-	-		
75	Total	\$	\$	-	-		