

**CITY OF STURGIS**

**RENEWABLE ENERGY PLAN  
U-15883**

**APRIL 3, 2009**

- Based on this Renewable Energy Plan (REP) the City of Sturgis (City) will have the required Renewable Energy Credits (RECs) for the REP time period of 2012-2029 thereby complying with PA 295.
- The primary source of RECs is the City's existing hydro electric generation, hydro power purchased under an existing purchased power agreement, and purchased RECs.
- The City will have excess RECs to sell 2012 and 2013. 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 once the Michigan REC market is designed and implemented.
- The City will have a REC deficit starting in 2014 and beyond. This deficit of RECs will be covered by the purchase of RECs.
- The City will not exceed the renewable energy surcharge caps specified in PA 295 in the event such surcharges are even used.
- The financial impact of this REP to the City's customers will be minimized.
- 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.

ATTACHMENT C - RENEWABLE ENERGY PLAN SURCHARGE SUMMARY FOR MUNICIPAL UTILITIES

ITEM	Units	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
<b>Sales Forecast - 3 yr running average</b>	MWH	241,124	239,760	233,204	228,183	229,324	230,471	231,623														
10% Compliance Factor					0.10	0.10	0.10	0.10														
RPS Requirement	MWH	-	-	-	22,818	22,932	23,047	23,162	23,162	23,162	23,162	23,162	23,162	23,162	23,162	23,162	23,162	23,162	23,162	23,162	23,162	23,162
RPS Required RECs	RECS	-	-	-	22,818	22,932	23,047	23,162	23,162	23,162	23,162	23,162	23,162	23,162	23,162	23,162	23,162	23,162	23,162	23,162	23,162	23,162
(-) RECs from Existing Renew. Energy Supply (pre-RPS)	RECS	11,232	11,232	11,232	11,232	11,232	11,232	11,232	11,232	11,232	11,232	11,232	11,232	11,232	11,232	11,232	11,232	11,232	11,232	11,232	11,232	11,232
<b>RECS - Incremental Difference</b>	RECS	(11,232)	(11,232)	(11,232)	11,586	11,700	11,815	11,930	11,930	11,930	11,930	11,930	11,930	11,930	11,930	11,930	11,930	11,930	11,930	11,930	11,930	11,930
<b>FACTOR</b>					0.20	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
<b>Required New RECS</b>	RECS	-	-	-	2,317	3,861	5,908	11,930	11,930	11,930	11,930	11,930	11,930	11,930	11,930	11,930	11,930	11,930	11,930	11,930	11,930	11,930
<b>RPS Renewable Energy Credit Compliance</b>																						
Required New RECs	RECS	-	(11,232)	(11,232)	2,317	3,861	5,908	11,930	11,930	11,930	11,930	11,930	11,930	11,930	11,930	11,930	11,930	11,930	11,930	11,930	11,930	11,930
RECs Obtained from New Resources	RECS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RECs Over / (Short) without carryover	RECS	-	11,232	11,232	(2,317)	(3,861)	(5,908)	(11,930)	(11,930)	(11,930)	(11,930)	(11,930)	(11,930)	(11,930)	(11,930)	(11,930)	(11,930)	(11,930)	(11,930)	(11,930)	(11,930)	(11,930)
REC Purchases / (Sales)	RECS	-	-	-	(8,915)	(7,371)	(5,908)	(11,930)	(11,930)	(11,930)	(11,930)	(11,930)	(11,930)	(11,930)	(11,930)	(11,930)	(11,930)	(11,930)	(11,930)	(11,930)	(11,930)	(11,930)
Cumulative RECs Compliance Balance	RECS	-	11,232	22,464	11,232	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Incremental Compliance with New RECs	%	NA	NA	NA	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Compliance % with Cumulative REC Balance	%	NA	NA	NA	585%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
<b>Revenue Requirements for New Renewables</b>																						
Build	\$	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
PPA	\$	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
REC Purchases (Sales)	\$	\$ -	\$ -	\$ -	\$ (6,864)	\$ (9,287)	\$ 11,224	\$ 22,310	\$ 33,524	\$ 34,598	\$ 35,314	\$ 37,580	\$ 44,142	\$ 45,466	\$ 46,830	\$ 48,235	\$ 49,682	\$ 51,173	\$ 52,708	\$ 54,289	\$ 55,918	\$ 57,595
<b>Total</b>	\$	\$ -	\$ -	\$ -	\$ (6,864)	\$ (9,287)	\$ 11,224	\$ 22,310	\$ 33,524	\$ 34,598	\$ 35,314	\$ 37,580	\$ 44,142	\$ 45,466	\$ 46,830	\$ 48,235	\$ 49,682	\$ 51,173	\$ 52,708	\$ 54,289	\$ 55,918	\$ 57,595
<b>New RECs Obtained</b>																						
Generation Based																						
Build	MWH	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PPA	MWH	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal	MWH	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Purchase (Sold) From New RECS	RECS	-	-	-	(8,915)	(7,371)	5,908	11,930	11,930	11,930	11,930	11,930	11,930	11,930	11,930	11,930	11,930	11,930	11,930	11,930	11,930	11,930
Incentive (SB 213 Sec 39 (2))	RECS	-	-	-	(8,915)	(7,371)	5,908	11,930	11,930	11,930	11,930	11,930	11,930	11,930	11,930	11,930	11,930	11,930	11,930	11,930	11,930	11,930
<b>Total</b>	RECS	-	-	-	(8,915)	(7,371)	5,908	11,930	11,930	11,930	11,930	11,930	11,930	11,930	11,930	11,930	11,930	11,930	11,930	11,930	11,930	11,930
<b>Forecasted Transfer Price per MWH - SUGGESTED</b>	\$/MWH	52	59	62	81	86	92	100	103	105	108	113	117	122	158	134	141	143	148	154	164	171
<b>Amount recovered through PSQR</b>																						
Transfer price x volume of energy	\$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Incremental Cost of Compliance</b>	\$	\$ -	\$ -	\$ -	\$ (6,864)	\$ (9,287)	\$ 11,224	\$ 22,310	\$ 33,524	\$ 34,598	\$ 35,314	\$ 37,580	\$ 44,142	\$ 45,466	\$ 46,830	\$ 48,235	\$ 49,682	\$ 51,173	\$ 52,708	\$ 54,289	\$ 55,918	\$ 57,595
<b>Non-Volumetric Surcharge</b>																						
<b>Meter (or customer) Forecast (Number)</b>																						
Residential	No.	6,050	6,050	6,050	6,050	6,050	6,056	6,062	6,068	6,074	6,080	6,086	6,092	6,099	6,105	6,111	6,117	6,123	6,129	6,135	6,141	6,148
Secondary (Commercial)	No.	937	940	945	945	945	945	945	945	945	945	945	945	945	945	945	945	945	945	945	945	945
Primary (Industrial)	No.	51	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
<b>Total</b>	No.	7,038	7,040	7,045	7,045	7,045	7,051	7,057	7,063	7,069	7,075	7,081	7,087	7,094	7,100	7,106	7,112	7,118	7,124	7,130	7,136	7,143
<b>Maximum Surcharge (all rate classes at caps)</b>																						
Residential	\$/MO	\$ 3.00	\$ -	\$ 217,800	\$ 217,800	\$ 217,800	\$ 217,800	\$ 218,018	\$ 218,236	\$ 218,454	\$ 218,673	\$ 218,891	\$ 219,110	\$ 219,329	\$ 219,549	\$ 219,768	\$ 219,988	\$ 220,208	\$ 220,428	\$ 220,648	\$ 220,869	\$ 221,090
Commercial	\$/MO	\$ 16.58	\$ -	\$ 187,022	\$ 188,017	\$ 188,017	\$ 188,017	\$ 188,017	\$ 188,017	\$ 188,017	\$ 188,017	\$ 188,017	\$ 188,017	\$ 188,017	\$ 188,017	\$ 188,017	\$ 188,017	\$ 188,017	\$ 188,017	\$ 188,017	\$ 188,017	\$ 188,017
Industrial	\$/MO	\$ 187.50	\$ -	\$ 112,500	\$ 112,500	\$ 112,500	\$ 112,500	\$ 112,500	\$ 112,500	\$ 112,500	\$ 112,500	\$ 112,500	\$ 112,500	\$ 112,500	\$ 112,500	\$ 112,500	\$ 112,500	\$ 112,500	\$ 112,500	\$ 112,500	\$ 112,500	\$ 112,500
Streightlights	\$/MO	\$ 0.60	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Unmetered	\$/MO	\$ 0.60	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Total</b>	\$/MO	\$ -	\$ 517,322	\$ 518,317	\$ 518,317	\$ 518,317	\$ 518,535	\$ 518,753	\$ 518,971	\$ 519,190	\$ 519,408	\$ 519,627	\$ 519,846	\$ 520,066	\$ 520,285	\$ 520,505	\$ 520,725	\$ 520,945	\$ 521,166	\$ 521,386	\$ 521,607	\$ 521,828
<b>Planned Surcharge</b>																						
Residential	\$	\$ 0.15	\$ -	\$ 10,890	\$ 10,890	\$ 10,890	\$ 10,890	\$ 10,901	\$ 10,912	\$ 10,923	\$ 10,934	\$ 10,945	\$ 10,956	\$ 10,966	\$ 10,977	\$ 10,988	\$ 10,999	\$ 11,010	\$ 11,021	\$ 11,032	\$ 11,043	\$ 11,054
Commercial	\$	\$ 0.90	\$ -	\$ 10,152	\$ 10,206	\$ 10,206	\$ 10,206	\$ 10,206	\$ 10,206	\$ 10,206	\$ 10,206	\$ 10,206	\$ 10,206	\$ 10,206	\$ 10,206	\$ 10,206	\$ 10,206	\$ 10,206	\$ 10,206	\$ 10,206	\$ 10,206	\$ 10,206
Industrial	\$	\$ 8.25	\$ -	\$ 4,950	\$ 4,950	\$ 4,950	\$ 4,950	\$ 4,950	\$ 4,950	\$ 4,950	\$ 4,950	\$ 4,950	\$ 4,950	\$ 4,950	\$ 4,950	\$ 4,950	\$ 4,950	\$ 4,950	\$ 4,950	\$ 4,950	\$ 4,950	\$ 4,950
Streightlights	\$	\$ 0.20	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Unmetered	\$	\$ 0.30	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Total</b>	\$	\$ -	\$ 25,992	\$ 26,046	\$ 26,046	\$ 26,046	\$ 26,057	\$ 26,068	\$ 26,079	\$ 26,090	\$ 26,101	\$ 26,112	\$ 26,122	\$ 26,133	\$ 26,144	\$ 26,155	\$ 26,166	\$ 26,177	\$ 26,188	\$ 26,199	\$ 26,210	\$ 26,222



	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
1	STURGIS																									
2	REQUIRED RECS	RECS		2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029		
3			***	241,124	239,760	233,204	228,183	229,324	230,471	231,623																
4	LOAD - 3 YEAR AVERAGE																									
5	FACTOR						0.10	0.10	0.10	0.10																
6	RECS - REQUIRED						22,818	22,932	23,047	23,162	23,162	23,162	23,162	23,162	23,162	23,162	23,162	23,162	23,162	23,162	23,162	23,162	23,162	23,162	23,162	
7																										
8	RECS - PRE-REP RECS (BASELINE)			11,232	11,232	11,232	11,232	11,232	11,232	11,232	11,232	11,232	11,232	11,232	11,232	11,232	11,232	11,232	11,232	11,232	11,232	11,232	11,232	11,232	11,232	
9	RECS - INCREMENTAL DIFFERENCE						11,586	11,700	11,815	11,930	11,930	11,930	11,930	11,930	11,930	11,930	11,930	11,930	11,930	11,930	11,930	11,930	11,930	11,930	11,930	
10																										
11	FACTOR						0.20	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	1.00	
12	RECS - NEW REQUIRED						2,317	3,861	5,908	11,930	11,930	11,930	11,930	11,930	11,930	11,930	11,930	11,930	11,930	11,930	11,930	11,930	11,930	11,930	11,930	
13																										
14																										
15	SOURCES			2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029		
16																										
17	EXISTING RENEWABLE SOURCES																									
18	ADDITIONS	RECS																								
19	XXX	RECS																								
20	XXX	RECS																								
21	TOTAL	RECS																								
22																										
23																										
24																										
25																										
26																										
27	NEW RENEWABLES:																									
28	SOURCE A	RECS																								
29	NEW SOURCE	RECS																								
30		RECS																								
31	TOTAL NEW RENEWABLES	RECS																								
32																										
33	TOTAL SOURCES																									
34																										
35																										
36																										
37																										
38																										
39	USES		TOTAL																							
40	EXISTING SITE - 2009	RECS																								
41	EXISTING SITE - 2010	RECS					2,317																			
42	EXISTING SITE - 2011	RECS							3,861																	
43																										
44	SOURCE A - 2010	RECS																								
45	SOURCE A - 2011	RECS																								
46	SOURCE A - 2012	RECS																								
47	SOURCE A - 2013	RECS																								
48	SOURCE A - 2014	RECS																								
49	SOURCE A - 2015	RECS																								
50	SOURCE A - 2016	RECS																								
51	SOURCE A - 2017	RECS																								
52	SOURCE A - 2018	RECS																								
53	SOURCE A - 2019	RECS																								
54	SOURCE A - 2020	RECS																								
55	SOURCE A - 2021	RECS																								
56	SOURCE A - 2022	RECS																								
57	SOURCE A - 2023	RECS																								
58	SOURCE A - 2024	RECS																								
59	SOURCE A - 2025	RECS																								
60	SOURCE A - 2026	RECS																								
61	SOURCE A - 2027	RECS																								
62	SOURCE A - 2028	RECS																								
63	SOURCE A - 2029	RECS																								
64	TOTAL USES	RECS	6,178				2,317	3,861																		
65	REMAINING NEEDED								5,908	11,930	11,930	11,930	11,930	11,930	11,930	11,930	11,930	11,930	11,930	11,930	11,930	11,930	11,930	11,930	11,930	
66																										
67																										
68	NEW SOURCE - 2010	RECS																								
69	NEW SOURCE - 2011	RECS																								
70	NEW SOURCE - 2012	RECS																								
71	NEW SOURCE - 2013	RECS																								
72	NEW SOURCE - 2014	RECS																								
73	NEW SOURCE - 2015	RECS																								
74	NEW SOURCE - 2016	RECS			</																					









	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	
1	STURGIS				REP RETAIL SALES																					
2																										
3																										
4																										
5																										
6		2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	
7																										
8																										
9																										
10	STURGIS				241,124	239,760	233,204	228,183	229,324	230,471	231,623															
11	3-YEAR AVERAGE																									
12																										
13																										
14																										
15	ESCALATOR																									
16																										
17																										
18																										
19	FROM																									
20	STURGIS	231,138	247,849	244,383	227,046	228,181	229,322	230,469	231,621	232,779	233,943															
21																										
22																										
23																										
24																										
25																										
26	RESIDENTIAL	-	-	6,050	6,050	6,050	6,050	6,050	6,056	6,062	6,068	6,074	6,080	6,086	6,092	6,099	6,105	6,111	6,117	6,123	6,129	6,135	6,141	6,148		
27	COMMERCIAL	-	-	937	940	945	945	945	945	945	945	945	945	945	945	945	945	945	945	945	945	945	945	945	945	
28	INDUSTRIAL	-	-	51	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	
29	STREETLIGHTS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
30	UNMETERED	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
31	TOTAL	-	-	7,038	7,040	7,045	7,045	7,045	7,051	7,057	7,063	7,069	7,075	7,081	7,087	7,094	7,100	7,106	7,112	7,118	7,124	7,130	7,136	7,143		