

**Renewable Energy Plan**  
**Holland Board of Public Works**  
**U-16617**  
**JUNE 2013**

This filing by the Holland Board of Public Works (HBPW) complies with Public Act 295 of 2008 (the Act) and the related December 4, 2008 Michigan Public Service Commission Order (MPSC Case No. U-15800).

Part 2, Section 25, of the Act requires municipal utilities to file a twenty year plan to achieve renewable energy credit portfolio standards that are specified in Section 27. The plan must be filed with the MPSC within 120 days of the MPSC's temporary order, issued pursuant to Section 191. Each electric providers plan must do the following:

- (b.) Describe how the provider will meet the RPS standards;
- (c.) Specify whether the number of megawatt hours used in the calculation of the RPS requirement will be weather normalized or based on the average number of megawatt hours of electricity sold by the provider annually during the previous 3 years;
- (d.) Provide expected incremental cost of compliance with the RPS requirement;
- (e.) Describe the manner in which the provider will allocate costs.

This document and its attachments satisfy all of the requirements of Section 25 (2) for the REP planning period 2013 to 2029.

**Background**

HBPW had a renewable energy plan prior to the enactment of PA 295. This pre-PA 295 plan provides for all of the Renewable Energy Credits (RECs) required by HBPW for the 2012-2029 time period. Part of this plan called for the collection of a fee from its customers to help pay for the renewable power. Therefore, there are no incremental costs associated with the renewable sources planned for since HBPW is already collecting from its customers and a plan was in place. If RECs were to be required at some point in the future because the pre-PA 295 planned RECs were insufficient to meet requirements, then there would be an incremental cost of RECs for the additional RECs required.

The City will have excess RECs to sell 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 financial impact of this REP is expected to be minimized for the City's customers and 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.

**Section 25 (2) (a) "Describe how the provider will meet the renewable energy standards"**

The HBPW developed a two phase approach to meeting the standards. Phase I addresses the compliance years 2012 through 2015 and Phase II addresses the years running from 2016 to 2029.

Phase I – Phase I renewable energy sources include generation derived from a biomass fueled power plant, several landfill gas facilities and one wind project. "Banked" Renewable Energy Credits (REC) from these renewable energy sources for the years 2010-2015 (in accordance with Section 29 (3) (c) of PA 295), when combined with their expected generation during the Phase I years of 2012-2015 provides the HBPW with an inventory of RECs sufficient to allow the HBPW to meet the PA 295 standards through 2015. See *Attachment A – Renewable Energy Facilities* for further details on the specific sites and Holland's REP spreadsheet for REP details.

Phase II –The HBPW, through the Michigan Public Power Agency, is currently pursuing a wind farm project that has the potential to come on line in early 2015. This facility, in combination with the facilities listed on Attachment A, will provide the HBPW the renewable energy generation required on a go forward basis to meet the PA 295 standards. See Attachment B – *Renewable Energy Facilities Under Development* for further details.

**Section 25 (2) (b) "Specify whether the number of megawatt hours of electricity used in the calculation of the renewable energy credit portfolio will be weather-normalized or based on the average number of megawatt hours of electricity sold by the electric provider annually during the previous 3 years to retail customers I this state."**

The HBPW will be calculating its renewable energy credit portfolio requirements based on the average number of megawatt hours of electricity sold by the HBPW annually during the previous 3 years to its retail customers in the state.

**Section 25 (2) (c) "Include the expected incremental cost of compliance with the renewable energy standards."**

Following the Filing Requirements and Instructions for Renewable Energy Plans for Municipally-Owned Electric Utilities provided in Attachment C of the MPSC Order to implement PA 295, the HBPW has provided Attachment C – Renewable Energy Plan Summary as well as a “RECS” sheet in Holland’s REP spreadsheet providing the accounting of expected RECs. Please see this attachment for further details. In summary, there will be no incremental cost of compliance as Holland’s plan and rate structure to support this plan were in place prior to the passage of PA 295.

**Section 25 (2) (d) *“Describe the manner in which the provider will allocate costs”***

Based on the response above, there are no incremental costs of compliance under this REP.

## **Attachment A – Renewable Energy Facilities**

**Grayling Generating Station** – Grayling Generation Station Limited Partnership entered into a contract to provide up to 1.8 MW of power, around the clock, for the HBPW through 2014. This power is provided by a biomass fueled power plant located at 4400 Four Mile Road in Grayling, MI. The facility is expected to produce approximately 13,240 megawatt hours annually.

**Granger and North American Natural Resources Landfill Energy** – The HBPW, through the Michigan Public Power Agency (MPPA), has entered into a long term contract with Granger and North American Natural Resources (NANR) to provide 16.26% of the power generated at several projects owned by Granger and NANR. Ownership will increase from 488 KW in 2010 to approximately 3.480 MW in 2014.

**North American Natural Resources Landfill Energy** – The HBPW has entered into a long term contract with NANR to provide energy from the SE Berrien landfill gas project. The project began with 3.8 MW in 2010 with an expected final capacity of approximately 6 MW in 2020. This project will provide approximately 34,000 megawatt hours of energy annually from 2020 through 2029.

**EON Windfarm** - The HBPW has entered into a long term contract with EON to provide energy from Wildcat Wind farm. The project began in January 2013 and the HBPW's portion of this project is 15 MW. This project will provide approximately 50,000 megawatt hours of energy annually from 2013 through 2022.

## **Attachment B – Renewable Energy Facilities Under Development**

**Beebe 1B Wind Farm** – MPPA is planning to enter into a long term purchased power agreement (PPA) with Beebe 1B Renewable Energy LLC. The project has a total capacity of 26.4 MW and the HBPW will be entitled to approximately 16.8 MW. Expected energy output is 55, 188 MWHs for Holland's share. The expected commercial operating date for the project is January 2015.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	
1	<b>HOLLAND</b>																					
2	<b>ATTACHMENT C - RENEWABLE ENERGY PLAN SURCHARGE SUMMARY FOR MUNICIPAL UTILITIES</b>																					
3		Units			2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	
4	Sales Forecast - 3 yr running average	MWH			945,650	996,992	1,029,236	1,056,489														
5	10% Compliance Factor				0.10	0.10	0.10	0.10														
6	RPS Requirement	MWH			94,565	99,699	102,924	105,549	105,549	105,549	105,549	105,549	105,549	105,549	105,549	105,549	105,549	105,549	105,549	105,549	105,549	
7																						
8	RECS - RPS Required	RECS			94,565	99,699	102,924	105,549	105,549	105,549	105,549	105,549	105,549	105,549	105,549	105,549	105,549	105,549	105,549	105,549	105,549	
9	RECS - PRE-REP (BASELINE)	RECS			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10	RECS - Incremental Difference	RECS			94,565	99,699	102,924	105,549	105,549	105,549	105,549	105,549	105,549	105,549	105,549	105,549	105,549	105,549	105,549	105,549	105,549	
11																						
12	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	
13	Required New RECS	RECS			18,913	32,901	51,482	105,549	105,549	105,549	105,549	105,549	105,549	105,549	105,549	105,549	105,549	105,549	105,549	105,549	105,549	
14																						
15	<b>RPS RENEWABLE ENERGY CREDIT COMPLIANCE</b>																					
16	RECS CARRIED OVER	RECS			-	140,004	74,918	827	860	940	901	881	919	956	994	932	869					
17	RECS OBTAINED (NEW)	RECS			-	117,814	123,771	170,183	172,029	172,029	172,029	172,029	172,029	172,029	180,087	180,087	180,087	180,087	180,087	180,087	180,087	
18	RECS OBTAINED (BASELINE)	RECS			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
19	REC PURCHASES / (SALES) FROM OTHER SOURCES	RECS			-	(150,000)	(146,400)	(64,800)	(66,400)	(66,500)	(66,500)	(66,500)	(66,500)	(74,500)	(74,500)	(74,500)	(74,500)	(74,800)	(74,800)	(74,800)	(74,800)	
20	TOTAL RECS SOURCES				107,818	52,288	106,409	106,489	106,470	106,540	106,540	106,540	106,540	106,488	106,505	106,543	106,481	106,418	106,356			
21																						
22	REQUIRED RECS (BASELINE PLUS NEW)	RECS			-	32,901	51,482	105,549	105,549	105,549	105,549	105,549	105,549	105,549	105,549	105,549	105,549	105,549	105,549	105,549	105,549	
23	RECS CUMULATIVE BALANCE	RECS	140,004		140,004	74,918	827	860	940	921	901	881	919	956	994	932	869					
24																						
25	Incremental Compliance with New RECs	%				358%	241%	161%	163%	163%	163%	163%	163%	171%	171%	171%	171%	171%	171%	171%	171%	
26	Compliance % with Cumulative REC Balance	%				328%	102%	101%	101%	101%	101%	101%	101%	101%	101%	101%	101%	101%	101%	101%	101%	
27																						
28	<b>Revenue Requirements for New Renewables</b>																					
29	Build (see project sheets for information)	\$			\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
30	PPA	\$			\$ 1,661,996	\$ 2,170,578	\$ 5,287,216	\$ 2,676,527	\$ 2,743,484	\$ 2,812,187	\$ 2,882,638	\$ 2,954,252	\$ 3,028,196	\$ 3,103,898	\$ 3,181,906	\$ 3,263,089	\$ 3,342,902					
31	REC Purchases (Sales)	\$			\$ (450,000)	\$ (450,160)	\$ (203,611)	\$ (214,517)	\$ (220,211)	\$ (225,716)	\$ (231,359)	\$ (235,671)	\$ (242,313)	\$ (249,121)	\$ (256,493)	\$ (263,645)	\$ (270,986)					
32	Total	\$			\$ 1,211,996	\$ 1,720,398	\$ 5,083,605	\$ 2,462,010	\$ 2,523,273	\$ 2,586,471	\$ 2,651,279	\$ 2,718,581	\$ 2,785,883	\$ 2,824,765	\$ 2,895,423	\$ 2,967,444	\$ 3,041,816					
33																						
34	<b>RECS Obtained</b>																					
35	<b>Generation Based</b>																					
36	Build (see project sheets for information)	MWH																				
37	PPA	MWH			110,202	115,187	161,923	163,468	163,468	163,468	163,468	163,468	163,468	170,826	170,826	170,826	170,826	170,826	170,826	170,826	170,826	
38	Subtotal	MWH			110,202	115,187	161,923	163,468	163,468	163,468	163,468	163,468	163,468	170,826	170,826	170,826	170,826	170,826	170,826	170,826	170,826	
39	Purchase (Sold) From New RECS	RECS			(150,000)	(146,400)	(64,800)	(66,400)	(66,500)	(66,500)	(66,500)	(66,500)	(74,500)	(74,500)	(74,500)	(74,500)	(74,800)	(74,800)	(74,800)	(74,800)	(74,800)	
40	Incentive (SB 213 Sec 39 (2))	RECS			7,812	8,584	9,260	9,561	9,561	9,561	9,561	9,260	9,260	9,260	9,260	9,260	9,260	9,260	9,260	9,260	9,260	
41	Total	RECS			(32,188)	(22,629)	105,583	105,629	105,529	105,529	105,529	105,529	105,587	105,587	105,587	105,487	105,487	105,487	105,487	105,487	105,487	
42																						
43	Forecasted Transfer Price per MWH	\$/MWH			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
44																						
45																						
46	Amount recovered through PSCR																					
47	Transfer price x volume of energy (see INCR COST sheet)	\$			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
48																						
49	Incremental Cost of Compliance (see INCR COST sheet)	\$			\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
50																						
51	Additional investment above PA 295 requirements	\$																				
52																						
53	<b>Non-Volumetric Surcharge</b>																					
54	<b>Meter (or customer) Forecast (Number)</b>																					
55	Residential	No.			23,134	23,250	23,366	23,483	23,600	23,718	23,837	23,956	24,076	24,196	24,317	24,439	24,561					
56	Commercial	No.			4,379	4,379	4,379	4,379	4,379	4,379	4,379	4,379	4,379	4,379	4,379	4,379	4,379	4,379				
57	Industrial	No.			178	179	180	181	182	182	183	184	185	186	187	188	189					
58	Streetslights	No.			-	-	-	-	-	-	-	-	-	-	-	-	-					
59	Unmetered	No.			-	-	-	-	-	-	-	-	-	-	-	-	-					
60	Total	No.			27,691	27,808	27,925	28,042	28,161	28,280	28,399	28,519	28,640	28,761	28,883	29,006	29,129					
61																						
62	<b>Maximum Surcharge (all rate classes at caps)</b>																					
63	Residential	\$			\$ 836,988	\$ 841,173	\$ 845,379	\$ 849,606	\$ 853,854	\$ 858,123	\$ 862,414	\$ 866,726	\$ 871,059	\$ 875,415	\$ 879,792	\$ 884,191	\$ 888,612					
64	Commercial	\$			\$ 871,246	\$ 871,246	\$ 871,246	\$ 871,246	\$ 871,246	\$ 871,246	\$ 871,246	\$ 871,246	\$ 871,246	\$ 871,246	\$ 871,246	\$ 871,246	\$ 871,246	\$ 871,246				
65	Industrial	\$			\$ 402,503	\$ 404,515	\$ 406,538	\$ 408,570	\$ 410,613	\$ 412,666	\$ 414,730	\$ 416,803	\$ 418,887	\$ 420,982	\$ 423,087	\$ 425,202	\$ 427,328					
66	Streetslights	\$			\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -					
67	Unmetered	\$			\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -					
68	Total	\$			\$ 2,110,738	\$ 2,116,934	\$ 2,123,162	\$ 2,129,422	\$ 2,135,713	\$ 2,142,035	\$ 2,148,389	\$ 2,154,775	\$ 2,161,192	\$ 2,167,642	\$ 2,174,124	\$ 2,180,639	\$ 2,187,186					
69																						
70	<b>Planned Surcharge</b>																					
71	Residential	\$			\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -					
72	Commercial	\$			\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -					
73	Industrial	\$			\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -					
74	Streetslights	\$			\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -					
75	Unmetered	\$			\$ -	\$ -	\$ -															

	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	<b>HOLLAND</b>																								
2			<b>TOTAL</b>		<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</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	***			885,797	958,681	992,482	1,039,814	1,055,411	1,071,242	1,087,311														
5	LOAD - 3 YEAR AVERAGE	***			945,650	996,962	1,029,236	1,055,489																	
6	FACTOR				0.10	0.10	0.10	0.10																	
7	<b>RECS - REQUIRED</b>		1,880,422		94,565	99,699	102,924	105,549	105,549	105,549	105,549	105,549	105,549	105,549	105,549	105,549	105,549	105,549	105,549	105,549	105,549	105,549	105,549	105,549	105,549
8																									
9	RECS - PRE-REP RECS (BASELINE)	***																							
10	RECS - INCREMENTAL DIFFERENCE							94,565	99,699	102,924	105,549	105,549	105,549	105,549	105,549	105,549	105,549	105,549	105,549	105,549	105,549	105,549	105,549	105,549	105,549
11																									
12	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	1.00	1.00
13	<b>RECS - NEW REQUIRED</b>							18,913	32,901	51,462	105,549	105,549	105,549	105,549	105,549	105,549	105,549	105,549	105,549	105,549	105,549	105,549	105,549	105,549	105,549
14																									
15	<b>NEW REQUIRED RECS</b>		1,886,509		18,913	32,901	51,462	105,549	105,549	105,549	105,549	105,549	105,549	105,549	105,549	105,549	105,549	105,549	105,549	105,549	105,549	105,549	105,549	105,549	105,549
16	<b>TOTAL RECS (BASELINE PLUS NEW)</b>				18,913	32,901	51,462	105,549	105,549	105,549	105,549	105,549	105,549	105,549	105,549	105,549	105,549	105,549	105,549	105,549	105,549	105,549	105,549	105,549	105,549
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	***					18,126	19,744	21,202	23,048	23,048	23,048	23,048	23,048	23,048	23,048	23,048	23,048	23,048	23,048	23,048	23,048	23,048	23,048
28	OTHER LANDFILL (THROUGH MPPA)	RECS	***					3,687	9,025	12,289	12,289	12,289	12,289	12,289	12,289	12,289	12,289	12,289	12,289	12,289	12,289	12,289	12,289	12,289	12,289
29	BEEBE 1B	RECS	***					-	-	55,188	55,188	55,188	55,188	55,188	55,188	55,188	55,188	55,188	55,188	55,188	55,188	55,188	55,188	55,188	55,188
30	EON WINDFARM	RECS	***					49,275	49,275	49,275	49,275	49,275	49,275	49,275	49,275	49,275	49,275	49,275	49,275	49,275	49,275	49,275	49,275	49,275	49,275
31	GRAYLING BIOMASS	RECS	***					14,498	14,498																
32	NANR - BERRIEN	RECS	***					32,229	32,229	32,229	32,229	32,229	32,229	32,229	32,229	40,287	40,287	40,287	40,287	40,287	40,287	40,287	40,287	40,287	40,287
33		RECS	***																						
34	<b>TOTAL NEW RENEWABLES</b>	RECS	***					117,814	123,771	170,183	172,029	172,029	172,029	172,029	172,029	180,087	180,087	180,087	180,087	180,087	180,087	180,087	180,087	180,087	180,087
35																									
36																									
37	<b>TOTAL SOURCES</b>							117,814	123,771	170,183	172,029	172,029	172,029	172,029	172,029	180,087	180,087	180,087	180,087	180,087	180,087	180,087	180,087	180,087	180,087
38																									
39																									
40	<b>USES</b>																								
41																									
42	<b>RPS RENEWABLE ENERGY CREDIT COMPLIANCE</b>																								
43	RECS CARRIED OVER							140,004	74,918	827	860	940	921	901	881	919	956	994	932	869	807	744	682	620	
44	RECS OBTAINED (NEW)							117,814	123,771	170,183	172,029	172,029	172,029	172,029	180,087	180,087	180,087	180,087	180,087	180,087	180,087	180,087	180,087	180,087	
45	RECS OBTAINED (BASELINE)							-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
46	REC PURCHASES / (SALES) FROM OTHER SOURCES							(150,000)	(146,400)	(64,600)	(66,400)	(66,500)	(66,500)	(66,500)	(66,500)	(74,500)	(74,500)	(74,500)	(74,600)	(74,600)	(74,600)	(74,600)	(74,600)	(74,600)	
47	<b>TOTAL RECS SOURCES</b>							107,818	52,288	106,409	106,489	106,470	106,450	106,430	106,468	106,505	106,543	106,481	106,418	106,356	106,293	106,231	106,168	106,106	
48																									
49	RECS REQUIRED (BASELINE PLUS NEW)							32,901	51,462	105,549	105,549	105,549	105,549	105,549	105,549	105,549	105,549	105,549	105,549	105,549	105,549	105,549	105,549	105,549	
50	RECS CUMULATIVE BALANCE							140,004	74,918	827	860	940	921	901	881	919	956	994	932	869	807	744	682	620	
51																									
52																									
53	<b>ATTACHMENT C INFORMATION</b>																								
54																									
55	<b>RPS RENEWABLE ENERGY CREDIT COMPLIANCE</b>																								
56	RECS CARRIED OVER	RECS	-	-	-	-	-	140,004	74,918	827	860	940	921	901	881	919	956	994	932	869	807	744	682	620	
57	RECS OBTAINED (NEW)	RECS	-	-	-	-	-	117,814	123,771	170,183	172,029	172,029	172,029	172,029	180,087	180,087	180,087	180,087	180,087	180,087	180,087	180,087	180,087	180,087	
58	RECS OBTAINED (BASELINE)	RECS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
59	REC PURCHASES / (SALES) FROM OTHER SOURCES	RECS	-	-	-	-	-	(150,000)	(146,400)	(64,600)	(66,400)	(66,500)	(66,500)	(66,500)	(74,500)	(74,500)	(74,500)	(74,600)	(74,600)	(74,600)	(74,600)	(74,600)	(74,600)	(74,600)	
60	<b>TOTAL RECS SOURCES</b>							107,818	52,288	106,409	106,489	106,470	106,450	106,430	106,468	106,505	106,543	106,481	106,418	106,356	106,293	106,231	106,168	106,106	
61																									