

Manitoba Hydro Undertaking #128

RCM/TREE/MH/PRE-ASK-8

For the following rate alternatives, please calculate the residential rate design that would collect the Company's total residential revenue request for the 2011/12 fiscal year:

- a) Case 1: a \$6.85 customer charge and a flat energy rate.
- b) Case 2: the Company's originally filed rate design (provided in Appendix 10.4), with a \$4.85 customer charge, 6.47¢/kW.h for the first 900 kW.h (the first block), and 7.23¢/kW.h over 900 kW.h (second block).
- c) Case 3: a \$4.85 customer charge and a flat energy rate.
- d) Case 4: the same two energy blocks, with a \$6.85 customer charge and the first block charge 0.74¢/kW.h lower than second block charge.
- e) Case 5: a two-block rate with the first block set at 1,800 kW.h/month in the winter months (December–March), and remaining at 900 kW.h/month for all other months; a \$6.85 customer charge; and the second block priced at 7.23¢/kW.h for all months.

ANSWER:

The following rates have been determined based on the criteria specified above, adjusted where needed so as to collect the appropriate residential revenue requested for the 2011/12 fiscal year.

- a) Case 1: Basic Charge: \$6.85
 Energy Charge: 6.62¢

- b) Case 2: Basic Charge: \$4.85
 1st 900 kWh 6.42¢
 Balance of kWh 7.17¢

* note that the rates specified in b) above of 6.47¢ and 7.23¢ generated approximately \$4 million more revenue than required. The rates were therefore adjusted downward so as to collect the required revenue.

c)	Case 3:	Basic Charge:	\$4.85
		Energy Charge:	6.78¢
d)	Case 4:	Basic Charge:	\$6.85
		1 st 900 kWh	6.27¢
		Balance of kWh	7.01¢
e)	Case 5:	<u>Summer</u>	
		Basic Charge:	\$6.85
		1 st 900 kWh	6.25¢
		Balance of kWh	7.23¢
		<u>Winter</u>	
		Basic Charge:	\$6.85
		1 st 1,800 kWh	6.25¢
		Balance of kWh	7.23¢

Manitoba Hydro Undertaking #128

RCM/TREE/MH/PRE-ASK-9

For each of the rate designs calculated in response to Pre-Ask 8, please provide customer bills for 250, 750, 900, 1,500, 2,000, 3,000 and 5,000 kW.h/month (for winter and non-winter months separately, in the case of Case 5),

ANSWER:

Consumption

Level	Case 1	Case 2	Case 3	Case 4	Case 5 Summer	Case 5 Winter
250	\$ 23.40	\$ 20.90	\$ 21.80	\$ 22.53	\$ 22.48	\$ 22.48
750	\$ 56.50	\$ 53.00	\$ 55.70	\$ 53.88	\$ 53.73	\$ 53.73
900	\$ 66.43	\$ 62.63	\$ 65.87	\$ 63.28	\$ 63.10	\$ 63.10
1,500	\$ 106.15	\$ 105.65	\$ 106.55	\$ 105.34	\$ 106.48	\$ 100.60
2,000	\$ 139.25	\$ 141.50	\$ 140.45	\$ 140.39	\$ 142.63	\$ 133.81
3,000	\$ 205.45	\$ 213.20	\$ 208.25	\$ 210.49	\$ 214.93	\$ 206.11
5,000	\$ 337.85	\$ 356.60	\$ 343.85	\$ 350.69	\$ 359.53	\$ 350.71

Manitoba Hydro Undertaking #128

RCM/TREE/MH/PRE-ASK-10

For the Case 2, Case 3 and Case 4 rates, please provide the crossover point, in other words, the kW.h/month at which the customer monthly bill would be the same as in the Case 1 rate.

ANSWER:

The crossover points would be:

- CASE 1 versus CASE 2: 1,591 kWh
- CASE 1 versus CASE 3: 1,249 kWh
- CASE 1 versus CASE 4: 1,707 kWh

Bill calculations are shown below:

Case 1 = Case 2

		Diff	\$ -
<u>Case 1</u>			
	kW.h	1,591	
Basic Charge:			\$ 6.85
Energy Charge (kW.h):	\$ 0.0662		\$105.32
Total			\$112.17

Case 1 = Case 3

		Diff	\$ -
<u>Case 1</u>			
	kW.h	1,249	
Basic Charge:			\$ 6.85
Energy Charge (kW.h):	\$ 0.0662		\$ 82.68
Total			\$ 89.53

Case 2

	kW.h		1,591	
Basic Charge:				\$ 4.85
Energy Charge (kW.h):				
First Block	900	\$ 0.0642		\$ 57.78
Balance		\$ 0.0717		\$ 49.54
Total				\$112.17

Case 3

	kW.h		1,249	
Basic Charge:				\$ 4.85
Energy Charge (kW.h):				
		\$ 0.0678		\$ 84.68
Total				\$ 89.53

Case 1 = Case 4

		Diff	\$ -
Case 1			
	kW.h		1,446
Basic Charge:			\$ 6.85
Energy Charge (kW.h):	\$ 0.0662		\$ 95.73
Total			\$102.58

Case 4		kW.h	1,446
Basic Charge:			\$ 6.85
Energy Charge (kW.h):			
First Block	900	\$ 0.0625	\$ 56.25
Balance		\$ 0.0723	\$ 39.48
Total			\$102.58

Manitoba Hydro Undertaking #128

RCM/TREE/MH/PRE-ASK-11

For the Case 5 rate, please provide the crossover point (that is, the kW.h/month at which the customer monthly bill would be the same as in the Case 1 rate) separately for:

- a) Winter months
- b) Non-winter months

ANSWER:

The crossover points are:

Winter 2,891 kWh
 Non-winter 1,446 kWh

Bill calculations are provided below for verification:

Case 1 = Case 5 Summer

		Diff	\$ -
Case 1	kW.h	1,446	
Basic Charge:			\$ 6.85
Energy Charge (kW.h):	\$0.0662		\$ 95.73
Total			\$102.58

Case 1 = Case 5 Winter

		Diff	\$ -
Case 1	kW.h	2,891	
Basic Charge:			\$ 6.85
Energy Charge (kW.h):	\$0.0662		\$191.38
Total			\$198.23

Case 5 Summer

			kW.h	
Basic Charge:			1,446	\$ 6.85
Energy Charge (kW.h):				
First Block	900	\$0.0625		\$ 56.25
Balance		\$0.0723		\$ 39.48
Total				\$102.58

Case 5 Winter

			kW.h	
Basic Charge:			2,891	\$ 6.85
Energy Charge (kW.h):				
First Block	1800	\$0.0625		\$112.50
Balance		\$0.0723		\$ 78.88
Total				\$198.23

Manitoba Hydro Undertaking #128

RCM/TREE/MH/PRE-ASK-12

For the residential space heating customer, please provide:

- a) The typical or average annual usage of a space heating customer;
- b) The monthly usage pattern (percentage of annual usage) typical of heating customers.

ANSWER:

The table below provides the average annual usage of a residential space heating customer based on actual 2010/11 data.

	AVERAGE USE	%
APRIL	2,080	8.3%
MAY	1,498	6.0%
JUNE	1,132	4.5%
JULY	1,127	4.5%
AUGUST	1,171	4.7%
SEPTEMBER	1,065	4.3%
OCTOBER	1,233	4.9%
NOVEMBER	1,957	7.8%
DECEMBER	3,088	12.3%
JANUARY	3,918	15.7%
FEBRUARY	3,419	13.7%
MARCH	3,321	13.3%
ANNUAL	25,009	100.0%

Manitoba Hydro Undertaking #128

RCM/TREE/MH/PRE-ASK-13

For each component of each of the rate designs calculated in response to Pre-Ask 8, please calculate the percent of change from each of two base cases (a) the interim rates in effect from April 1, 2010 to March 31, 2011 and (b) the interim rates in effect from April 1, 2011.

ANSWER:

The percentage changes from April 1, 2010 rates and April 1, 2011 rates are shown below for each Case.

	April 1, 2010	April 1, 2011			
	Rates	Rates			
Basic Charge	\$ 6.85	\$ 6.85			
1st 900 kWh	0.0638	0.0662			
Balance kWh	0.0657	0.0662			

Case 1			Case 2		
Rate	% chg from 2010 Rates	% chg from 2011 Rates	Rate	% chg from 2010 Rates	% chg from 2011 Rates
\$ 6.85	0.0%	0.0%	\$ 4.85	-29.2%	-29.2%
0.0662	3.8%	0.0%	0.0642	0.6%	-3.0%
0.0662	0.8%	0.0%	0.0717	9.1%	8.3%

Case 3			Case 4		
Rate	% chg from 2010 Rates	% chg from 2011 Rates	Rate	% chg from 2010 Rates	% chg from 2011 Rates
\$ 4.85	-29.2%	-29.2%	\$ 6.85	0.0%	0.0%
0.0678	6.3%	2.4%	0.0627	-1.7%	-5.3%
0.0678	3.2%	2.4%	0.0701	6.7%	5.9%

Case 5

Rate	% chg from 2010 Rates	% chg from 2011 Rates
\$ 6.85	0.0%	0.0%
0.0625	-2.0%	-5.6%
0.0723	10.0%	9.2%