1 Q.   Hydro has stated on page 6, line 19, that only generation facilities owned by the

2   customer with a total capacity of no more than 100kW and located on the

3   customer's own property are eligible for the Net Metering Program.

4

5   (a)   Please calculate for such a hypothetical customer with a total generation

6   capacity of 100 kW, currently consuming 2000 kWh per month, at an energy

7   rate of $0.10 per kWh. What will be credited per month (savings/input) in

8   the Net Metering Program as proposed for such a customer.

9   (b)   Please provide the basis for the calculation.

10   (c)   Please do a similar calculation for a hypothetical customer using 3000 kWh

11   per month at an energy rate of $0.10 per kWh.

12   (d)   Please do a similar calculation for a hypothetical customer using 4000 kWh

13   per month at an energy rate of $0.10 per kWh.

14

15

16 A.   (a)   Hydro will limit the size of a customer installed generation system to be

17   consistent with the Net Metering Exemption Order and the policy objectives as set

18   out by the Province in the Net Metering Framework to ensure that a customer's

19   proposed generation is not sized to exceed the customer's own energy usage and to

20   ensure that the customer's generating system will not have a negative impact on

21   other customers. Therefore, it is likely that Hydro would not approve an installed

22   generation capacity of 100 kW for a customer with an average consumption of 2000

23   kWh a month as the installed generation would greatly exceed the customer's own

24   energy usage.

25

26   Under the terms of the Net Metering Program, a customer's generating facility

27   must produce electricity from renewable energy sources and must be designed not

1 to exceed the customer's annual energy requirements in kWh or 100 kW of

2 capacity.[1] This means that if a customer consumes an average of 2000 kWh per

3 month then their generation must be sized to produce an average of 2000 kWh a

4 month.

5

6 For a generator with a capacity of 100 kW it would have to operate at a capacity

7 factor of 2.7 % to produce an average of 2000 kWh a month. Typically a 100 kW

8 photovoltaic system in this province would operate at a capacity factor of 12.5%.

9 Wind generation systems operate at a capacity factor between 20% to 35%.

10

11 If the size of a customer's installed generation system was not limited based on

12 their load requirements, then the amount credited per month would be as follows:

13

14 For a 100 kW customer with a total generation capacity of 100 kW, an assumed

15 capacity factor of 20%, currently consuming 2000 kWh per month, and an energy

16 rate of $0.10 per kWh, the credit per month would be $1,260:

17

18

    (b)   Annual Generation   =   Generation Capacity * Hours in a Year * Capacity Factor

                                =   100 kW * 8760 hours * 20%

                                =   175.2 MWh per year

        Average Monthly Generation   =   Annual Generation / #Months in a year

                                =   175.2 MWh / 12

                                =   14 600 kWh per month

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[1] Please refer to page 7 of Schedule 1 to Hydro's Application.

Monthly Credit   =   Monthly Generation – Monthly Consumption

            =   (14 600 kWh – 2 000 kWh) = 12 600 kWh @ $0.10 per kWh

            = $1 260.00 per month

1

2   (c)   Similarly, for a 100 kW customer with a total generation capacity of 100 kW,

3   an assumed capacity factor of 20%, currently consuming 3000 kWh per month, and

4   an energy rate of $0.10 per kWh, the credit per month would be $1 160.00 per

5   month.

6

7   (d)   Finally, for a 100 kW customer with a total generation capacity of 100 kW,

8   an assumed capacity factor of 20%, currently consuming 4000 kWh per month, and

9   an energy rate of $0.10 per kWh, the credit per month would be: $1 060.00 per

10   month.