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BY ELECTRONIC FILING

British Columbia Utilities Commission
6th floor, 900 Howe Street
Vancouver, BC V6Z 2N3
Attention: Patrick Wruck
Commission Secretary and Manager Regulatory Services

Dear Mr. Wruck:

Re: British Columbia Hydro and Power Authority (BC Hydro)
Application to Amend Net Metering Service under Rate Schedule 1289 ~ Project No. 1599004
Net Metering Ratepayers Group
Responses to CEC Information Request No. 1

We are writing on behalf of our clients the Net Metering Ratepayers Group (NMRG) to file Responses to CEC Information Request No. 1.

Yours truly,

Fred J. Weisberg
Weisberg Law Corporation
Counsel to Net Metering Ratepayers Group

British Columbia Hydro and Power Authority (BC Hydro)
Application to Amend Rate Schedule (RS) 1289 for
Net Metering Service
Project No. 1599004

NET METERING RATEPAYERS GROUP
RESPONSES TO INFORMATION REQUEST NO. 1 FROM
COMMERCIAL ENERGY CONSUMERS ASSOCIATION OF BRITISH COLUMBIA

Exhibit C23-7, NMRPG page 4 and page 14

> 5. The Net Metering Ratepayers Group (NMRG) is an ad hoc association of six individuals who own and operate five different net metering facilities and two individuals designing and developing a hydro generation project as prospective Net Metering customers. All NMRG members will be directly and significantly harmed if the BCUC approves BC Hydro's Application in this proceeding.
>
> 45. The particular circumstances of NMRG members provide compelling reasons for the BCUC to maintain its view that the capacity of a Net Metering installation should not be driven by a theoretical maximum that a homeowner may require. Rather, the capacity of such facilities should be driven by considerations of economically available clean energy as the 2012 Panel stated. Imposing arbitrary limits (e.g. 110% of customer's energy consumption) would reverse a key finding of Order G-57-12 and raise barriers to participation in the Net Metering Program. In the case of a hydro generation project, any such capacity limit would almost certainly make it uneconomical.
> BC Hydro has previously acknowledged that an increase in the allowable generator size to 100 kW may lessen the barriers for some customers seeking to take service under RS 1289 by allowing for improved economies of scale for net metering installations.

1.1. Does the owner/operator have two net metering facilities? Please rationalize the statement that there are six individuals in the group, but five operators and two developing customers.

No, a single owner/operator does not have two net metering facilities. One of the five operating micro-hydro projects is co-owned by two individual NMRG members. Thus six owners, five operating projects. One proposed project, obviously not operating, is co-owned and developed by two individual NMRG members.

1.2. Please provide the size of the net metering facilities ***proposed*** by each individual, the customer class and the year they were installed. There is no need to identify the individual which can be identified as customer a, b, c, etc. (emphasis added to the Request for clarity)

RESPONSE:

Only a single project is currently proposed by an NMRG member, and it has not yet been constructed or installed. The contemplated size under the current rules is 100 kW, but if BC Hydro's proposed changes are adopted it may not be financially viable. When and if the project is constructed and installed will depend on the outcome of this proceeding.

1.3. Please provide the average and/or forecast net payouts experienced or forecast for each individual. There is no need to identify the individual by name; please use the same identifiers as those in 1.3.

RESPONSE:

NMRG Member A
Current Project Size: 100kwh.
Year of installation: First 50 kwh build and installation between 2011 to December 2013. Second 50kwh built between 2014 to March 2017.

Actual annual gross payout prior to GST and without Rate Rider.

50 kWh	
2014 year	**$44,680**
2015 year	**$46,106**
2016 year	**$58,529**
100 kWh	
2017 year	**$72,997**
2018 year	**$72,052**

NMRG notes that such payouts are *net* only relative to individual BC Hydro accounts (e.g. greater outflow than inflow). They are not *net* in the sense of being in excess of recovery of the initial capital investment, carrying costs and operating and maintenance costs.

2. Reference: Exhibit C23-7, NMRPG page 22

77. Upgrading a smaller hydro plant to 100 kW can easily take two years or more, require additional or larger poles, transformers and conductors, necessitate permits, environmental studies, water licences, hydrology reports, financial service requirements, construction and materials ($475,000 range) and time and labour ($385,000 range).

78. The extent of investments made by Net Metering customers is not trivial. The investments are material, significant amounts. NMRG members, in reliance on BC Hydro's statements and communications regarding Net Metering, have made or intend to make large investments – in some cases in the $800,000 to $900,000 range per project. Their investments have included or are intended to include their own significant time, labor and opportunity cost of foregoing other opportunities in order to develop a Net Metering project.

79. NMRG members and other participating customers have not made their respective investments (or in some cases, prospective investments they wish to make) recklessly or spontaneously. Rather, their investments were made in good faith reliance on BC Hydro's communications, information, marketing and promotions, and with the confidence that the BCUC would ensure fair treatment of participating customers.

80. Beyond the initial development and construction costs, NMRG members typically have significant ongoing costs arising from their hydro projects including:

a. annual insurance/liability and licences (e.g. approximately $1,800/year);
b. maintenance and repairs (e.g. approximately $3,000/year);
c. income taxes on any net payment received from BC Hydro; and
d. interest charges on loans taken to finance the hydroelectric projects.

2.1 Approximately what size of plant would be expected to cost $800,000 to $900,000?

RESPONSE:

Depending on a number of variables, including project site, a 100 kW micro-hydro project may require a capital investment approximately in the range of $500,000 to $900,000.

Some examples of actual ongoing costs for a 100 Kw micro-hydro project:

- **Annual insurance $6,243**
- **Annual Crown Land Licence $1,200**
- **Annual Water Licence $400**

A portion of that NMRG member's project is on crown land and under the required agreement, have a minimum level of insurance to carry, which is much more than the $1,800 stated in the quoted section of NMRG's Written Evidence.

The same NMRG member attempts to constantly improve the NM project and access to it. Without considering their own time, they estimate ongoing maintenance to be at least $5,000-$6,000 per year. If they were to contract out the work they personally do and supervision of the project which is most of each day particularly in the winter, then the annual cost would easily be in the $20,000 range.

For more context regarding that project, it requires a very steep climb to hike in order to access the intake and a creek to cross. The NM customer has had visitors stop by who are unable to hike up. Sections of the hike have ropes to assist in the hike. Most material, concrete bags, plywood, lumber and tools were carried on the NM customer's back throughout the years to the intake. The round trip hike from the NM customer's house to the intake is at least one hour without stops to rest and at a good pace. The powerhouse is approximately a fifteen minute walk. The NM customer monitors the powerhouse almost daily, and also go to the intake regularly. Hiring someone to keep an eye on things and hike up and down regularly would definitively increase the annual operating and maintenance costs.

2.2 Were the investments that exceed $200,000 expected to return a profit?

RESPONSE:

Like any investment, the NMRG members who currently operate NM micro-hydro projects, and the members who propose to build a new NM micro-hydro project, are focussed on and reasonably hoped and expected to achieve full recovery of their initial capital investment, carrying costs and operating and maintenance costs. Only after those components are fully recovered is there any potential for a "profit" – a monetary return on the investment and follow-on costs. Approval of BC Hydro's proposed changes to the Net Metering Program would almost certainly make such recovery impossible within a reasonable period, and would likely make all proposed micro-hydro NM projects financially unsound. If the Application is approved, "profit" in any form will be unachievable within a reasonable timeframe.

2.3 Please confirm or otherwise explain that the NMRPG do not guarantee a minimum level of energy contribution to BC Hydro.

RESPONSE:

NMRG members do not guarantee a minimum level of energy contribution to BC Hydro, just as BC Hydro does not *guarantee* minimum levels of energy delivered to its residential customers. Presumably BC Hydro has the proper incentives in place to do their best to provide energy to their customers as reliably as possible. NMRG members simply want to continue to reasonable incentives for them to deliver their excess generation from their micro-hydro facilities to BC Hydro for the use and benefit of its non-participating customers.

NMRG is not aware that BC Hydro has any concerns regarding the reliability of micro-hydro generation. Contrary to any concerns about not achieving enough excess generation (i.e. achieving a minimum level of energy contribution) BC Hydro is apparently focussed on Net

Metering customers somehow providing too much clean, local, reliable energy – a concept that baffles the NMRG.

3. Reference: Exhibit C23-7, NMRPG page 24

3.1 Please comment on the appropriateness of net metering customers contributing to the costs of BC Hydro infrastructure, and the level to which this should occur, if at all.

RESPONSE:

Unless Net Metering customers achieve a net account credit on an annual basis, they already do contribute to the costs of BC Hydro infrastructure through the rates they pay to BC Hydro. For the very few customers that are able to achieve a net account credit on an annual basis, they already very significantly contribute to the costs of BC Hydro infrastructure. If BC Hydro's proposed changes are approved by the BCUC, those NM customers will grossly *overcontribute* to the costs of BC Hydro infrastructure. They simply do so, and will do so, in a different way than the rates that the pay.

Net Metering customers in general, and micro-hydro NM customers in particular, provide critical, valuable infrastructure for the benefit of BC Hydro and its non-participating customers. Unlike BC Hydro, NM customers provide that infrastructure without a return component. BC Hydro's own evidence is that payback on a typical solar installation is over 20 years – no "return" is achievable before payback is complete. Micro-hydro projects typically have a longer payback period.

The success of net metering requires a rethinking of the electrical system paradigm – from a system benefit perspective it is inappropriate to distinguish BC Hydro's physical assets from those owned by Net Metering customers. They work together as a multiconnected infrastructure.

The only way that Net Metering customers can recover the costs of *their own* infrastructure is through the rate paid to them by BC Hydro for their excess generation – which of course is currently sold to non-participating customers at a profit for BC Hydro (e.g. the differential between the rates paid to BC Hydro by Residential customers and the rates paid by BC Hydro to NM customers).

If BC Hydro's proposed changes are approved Net metering customers, and particularly micro-hydro generators, will be significantly subsidizing BC hydro and its non-participating customers because they will be undercompensated by the much lower rate BC Hydro proposes to pay to NM customers for their excess generation.

4. Reference: Exhibit C23-7, NMRPG Page 25

> 95. If energy received by a customer is not attributed to a particular use then all electricity delivered to BC Hydro from a Net Metering customer or from any supply must be equally "not attributed" amongst all the other power. Following BC Hydro's logic, Net Metering energy would become indistinguishable to any other source of energy as soon as it leaves the Net Metering site. As all electricity in the system is deemed to be "not attributed a particular use" this means all must be equal. As all electricity is equal then all electricity must equally supply all loads. Therefore, it must be impossible for BC Hydro to attribute the energy supplied by a Net Metering customer to 100% export.

4.1 Please provide a discussion of how the seasonality of net metered energy corresponds with customer demand and other energy supply (e.g. energy generated during freshet).

RESPONSE:

There is not a specific seasonality to "net metered energy" generally. The profiles for solar, wind and micro-hydro are significantly different.

Please see NMRG Written Evidence (Exhibit C23-7), Figure 1 on page 24, that illustrates that it takes seven typical NM installations to supply the load of just one average size non-participating customer.

The nature of BC Hydro's system is that NM excess generation will serve the nearest (as determined through BC Hydro's lines, not simply physical proximity) load. That means that energy produced by NM customers will almost invariably be consumed by their neighbours situated closest to them on BC Hydro's system. Recognizing the number of non-participating customers vastly outnumber Net Metering customers, the amount of energy supplied by Net Metering customers is such a small proportion of the total energy required by BC Hydro that seasonal variances in Net Metering generation are immaterial.