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VIA E-FILE

July 17, 2019

Attention: Mr. Fred James
British Columbia Hydro and Power Authority
333 Dunsmuir Street,
Vancouver BC V6B 5R3

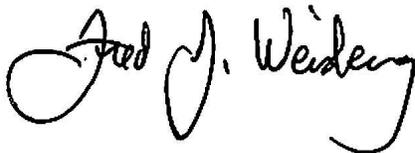
Dear Mr. James:

**RE: British Columbia Hydro and Power Authority
Project No. 1599004
Application to Amend Net Metering Service under Rate Schedule 1289
Net Metering Ratepayers Group (“NMRG”)
Information Request No. 1 to BC Hydro**

In accordance with the Regulatory Timetable established by British Columbia Utilities Commission Order G-103-19A (Exhibit A-2-1), we enclose Information Request No. 1 to BC Hydro on behalf of NMRG.

If further information or clarification is required, please contact the writer.

Yours truly,



Fred J. Weisberg
Barrister & Solicitor
Weisberg Law Corporation
Counsel to the Net Metering Ratepayers Group

NET METERING RATEPAYERS GROUP
INFORMATION REQUEST NO. 1 TO BRITISH COLUMBIA HYDRO and POWER AUTHORITY

JULY 17, 2019

BC Hydro Application to Amend Net Metering Service under Rate Schedule 1289

1.0 Topic: Magnitude of the Proposed Rate Reduction for Net Metering Generation

Reference: Exhibit B-1, PDF 5.

Preamble: The Application states that the most recent price increase for Net Metering generation was from 8.16 cents/kWh to 9.99 cents/kWh in 2012.

1.1 Please confirm that BC Hydro's proposal to grandfather the current net metering generation rate for five years at 9.99 cents/kWh (or expressed as \$99.90/MWh) and then drop that price to 3.0 cents/kWh (or expressed as \$30.00/MWh) would result in a price reduction of approximately 70% (rounded up from 69.97%).

1.2 To provide another perspective please confirm that BC Hydro's current net metering generation rate of 9.99 cents/kWh is 330% higher than the proposed dropped rate of 3.0 cents/kWh.

1.3 Please confirm that both the proposed rate drop of approximately 70% and the relative rate difference of 330% (i.e. current 9.99 cents/kWh vs. proposed 3.0 cents/kWh) would be even greater if adjusted for the effects of inflation during the proposed five-year grandfathering period.

1.4 Please provide BC Hydro's assumptions for Canadian inflation for each year 2020 through 2029.

1.5 Using Bank of Canada inflation numbers please confirm that 9.99 cents in 2012 is equivalent to 11.20 cents in 2019, or if not please explain. Does that mean that net metering customers have already sustained what amounts to a rate reduction of 12.09% due to the effects of inflation over the period 2012 to 2019? If not, please explain and provide the effective reduction in the rate paid by BC Hydro to net metering customers over that period.

1.6 Please confirm that over the same period Residential rates in RS 1101 have risen from 6.80 cents/kWh low tier and 10.19 cents/kWh high tier (675 kWh threshold) in 2012

to 9.45 cents/kWh low tier and 14.17 cents/kWh high tier (same threshold) in 2019. Please confirm that equates to rate increases of approximately 28% and 33% respectively or approximately 30% on average.

1.7 Please explain the rationale for the rate paid by BC Hydro to net metering customers effectively going down even though the rate paid by Residential customers has gone sharply up over the same period.

1.8 To enable a more informed comparison between the current rate of 9.99 cents/kWh and the proposed dropped rate of 3.0 cents/kWh please provide the Net Present Value (NPV) of 3.0 cents in 2025 and each of the subsequent five years.

1.9 Has BC Hydro at any time in its history reduced a Rate Schedule for any service by 70% or more? If not, please identify and provide details of the five largest reductions ever made in BC Hydro Rate Schedules. Please include the Rate Schedule number, the rates before and after a reduction, the percentage of the reduction, the effective date and whether the rate reduction was phased in or included grandfathering for then existing customers of that Rate Schedule.

2.0 Topic: Amendments to Energy Price

Reference: Exhibit B-1, PDF 5.

2.1 In developing the proposed rate for net metering generation how did BC Hydro reflect and fully account for the fact that BC Hydro incurred no costs for the design and building of participants' net metering projects nor any costs for ongoing maintenance and supervision of those projects?

2.2 Please reconcile the portions of BC Hydro's evidence that discuss a number of apparently conflicting methods to determine the appropriate net metering generation rate, including discussion of market prices, retail electricity rates, spot market, etc.

2.3 Please discuss the relative merits of two approaches taken by BC Hydro:

1. In 2014, basing the net metering generation energy price on relatively simple assumptions and calculations that could be easily verified by participating or non-participating customers and the BCUC; and

2. Going forward, basing the net metering energy price on calculations using the "average of the daily average Mid-Columbia market prices over the previous calendar year" which appears complex and not easily verifiable.

2.4 Does BC Hydro believe that the proposed change in how it calculates the net metering energy price will tend to make it easier or more difficult to understand the rate and consider whether it is appropriate?

2.5 Please confirm that the Application does not contain a clear example of how the proposed energy price of 3.00 cents/kWh would be calculated.

2.6 Did BC Hydro intend the link to a website where a request for reports needs to be made via subscribing to a private data service company to be an appropriate substitute for providing a clear example of the rate calculation?

3.0 Topic: Innovative Technologies

Reference: *Clean Energy Act*

Preamble: Section 2 of the Clean Energy Act sets out British Columbia's energy objectives, which include:

“to use and foster the development in B.C. of innovative technologies that support energy conservation and efficiency and the use of clean or renewable resources.”

3.1 Does BC Hydro believe that the Net Metering Program and micro hydroelectric generating facilities represent important steps toward meeting this objective? Please explain.

3.2 If BC Hydro believes that the Net Metering Program and micro hydroelectric generating facilities don't represent important steps toward meeting this objective, please identify the innovative technologies and clean or renewable resources that would represent better steps toward this objective.

4.0 Topic: Whether Mid C Pricing is Appropriate for Net Metering Generation

Reference: **Exhibit B-1**

4.1 Please confirm that electricity exported from British Columbia goes to California where it is sold into the California ISO market, not the Mid C market.

4.2 Please confirm that in 2010 approximately 43% of all electricity exported from British Columbia went to California where it was sold into the California ISO market.

4.3 Please confirm that in 2016 approximately 79% of all electricity exported from British Columbia went to California where it was sold into the California ISO market.

4.4 Please provide the percentages of all electricity exported from British Columbia

that went to California for 2017, 2018 and 2019 (estimate).

4.5 Does electricity exported from British Columbia and sold into the California ISO market typically trade at a premium to electricity sold into the Mid C market? Please provide further detail of the price premium, if any, and explain why there is typically a price difference between those two electricity markets.

4.6 Please describe if, how and to what extent California zero emissions requirements and [Renewables Portfolio Standard](#) may make electricity from British Columbia more desirable or necessary for export to California. Please also comment on whether current or anticipated emissions standards and renewables portfolio standards in other neighbouring or nearby jurisdictions (e.g. Alberta, Washington, Oregon) are likely to contribute to demand for electricity from net metering generation in British Columbia.

4.7 Does BC Hydro have some reason to believe that California demand for electricity exported from British Columbia will decrease over the next 10 years? Please explain, including discussion of how California's [Renewables Portfolio Standard](#) is likely to impact such imports and related pricing.

4.8 Does net metering generation from hydro projects tend to help BC Hydro to achieve positive net electricity exports – energy and revenue – due to the additional ability to export electricity from British Columbia during higher priced periods, particularly at night, from August onwards until the US gets cooler temperatures and in winter when demand is high in Canada? Please explain.

4.9 Please describe how net metering hydro generation may provide BC Hydro with a greater ability to implement British Columbia's electricity trade strategy of taking advantage of opportunities to “buy low and sell high”.

5.0 Topic: Price Typically Received by BC Hydro for Net Metering Generation

Reference: Exhibit B-1

5.1 Please confirm that all net metering generation is typically used by the producing customer or sold locally at full retail rates to BC Hydro customers.

5.2 Please confirm that BC Hydro's operates its grid in a manner that has all electricity generated used in priority sequence dictated by the shortest distance from generation. For example, would the most local load for a net metering customer's generation be their own load, then the next nearest BC Hydro customer such as a neighbor, and so on by distance?

5.3 If BC Hydro's grid was not operated in the manner described in IR 5.2 above, would the bi-directional kWh meters supplied to net metering customers by BC Hydro operate

properly or would they show an infinite amount of kWh in both feed in and feed out directions? Please explain.

5.4 Please confirm that BC Hydro is required to meet local load in British Columbia before exporting electricity.

5.5 To the extent that net metering generation meets local load, doesn't that enable BC Hydro to store more water to enable more generation during high price periods thus giving it the opportunity to achieve the most lucrative electricity exports?

5.6 Please confirm that local use of electricity from net metering generation ensures that electricity will always be sold at full retail rates, and never at wholesale or discounted rates. Please explain.

6.0 Topic: Other Benefits of Local Generation

Reference: Exhibit B-1

6.1 Does BC Hydro tend to experience more low voltage and imbalance problems in rural or otherwise identifiable areas? Please describe how net metering generation situated in those areas may contribute to addressing those problems.

6.2 Please discuss whether BC Hydro studied and considered the savings to BC Hydro and its non-participating customers made possible by avoiding the costs of upgrading or building and maintaining new infrastructure in areas that have experienced low voltage and imbalance problems? Please provide sources of supporting data.

7.0 Topic: Magnitude of Private Investments Made in Reliance on Net Metering Pricing Approved by the BCUC

Reference: Exhibit B-1

7.1 Please provide the total amount of private investment made by current net metering ratepayers in planning, designing, building, purchasing and operating generation facilities or equipment in British Columbia for each year since Net Metering was approved by the BCUC in 2003 through 2018. Please include the source(s) of that data.

7.2 Please provide a graph showing the distribution of net metering ratepayer's investments in their own generation facilities or equipment and identify the average investment amount. Please include the source(s) of the underlying data.

7.3 Please provide the total amount of private investment that BC Hydro estimates is likely to be made by current or prospective net metering ratepayers in planning,

designing, building, purchasing and operating generation facilities or equipment in British Columbia for each year 2019 through 2029 assuming that BC Hydro's Application *is approved*, specifically *including* the proposed grandfathering period pricing and the subsequent energy price drop for net metering. Please explain the basis for those estimates and the source(s) of underlying data, if any.

7.4 Please provide the total amount of private investment that BC Hydro estimates is likely to be made by ratepayers in planning, designing, building, purchasing and operating generation facilities or equipment in British Columbia for each year 2019 through 2029 assuming that BC Hydro's Application is *not* approved, specifically *rejecting* the proposed grandfathering period pricing and the subsequent energy price drop. Please explain the basis for those estimates and the source(s) of underlying data, if any. Please also indicate any assumptions made by BC Hydro regarding the length of the grandfathering period, the net metering generation energy price during the grandfathering period, and energy price beyond the grandfathering period.

8.0 Topic: Grandfathering Term and Pricing Required to Provide Reasonable Prospect of Net Metering Ratepayers Recovering Their Investment

Reference: Exhibit B-1

8.1 Please describe the steps taken by BC Hydro, including the method of analysis, any assumptions and calculations, to determine what length of the grandfathering term (e.g. how many years) and the energy price applied during and after the grandfathering term, will ensure a reasonable opportunity for net metering ratepayers to recover their own investments?

8.2 If BC Hydro did not conduct analysis or calculations of the type referenced in IR 8.1 above, please explain why.

8.3 Prior to the filing of the Application, what steps did BC Hydro take to contact existing and prospective net metering customers to ensure BC Hydro had at least a reasonable understanding of magnitude of net metering ratepayers' investments, and the energy price scheme necessary to provide a reasonable prospect of those ratepayers recovering their investments?

8.4 Please describe all circumstances under which BC Hydro's position would be that net metering ratepayers should not be provided with a reasonable prospect of recovering their investments.

8.5 Please provide BC Hydro's expectations for the useful life of a net metering hydro plant, describe the underlying assumptions and provide the sources of data supporting those expectations.

8.6 Does BC Hydro expect that net metering hydro plants will have a relatively longer useful life than net metering solar generation equipment? Does BC Hydro expect that the time period required for recovery of the initial investment will be relatively longer for net metering hydro plants than for net metering solar equipment. Please explain and quantify any such difference.

9.0 Topic: Prospect of Achieving a Reasonable Return on Ratepayer Net Metering Investments

Reference: Exhibit B-1

9.1 Please describe the steps taken by BC Hydro, including the method of analysis, any assumptions and calculations, to determine what length of the grandfathering term (e.g. how many years) and the pricing level applied during and after the grandfathering term, will ensure a reasonable opportunity for net metering ratepayers to recover their own investments *and to realize a return on those investments?*

9.2 If BC Hydro did not conduct analysis or calculations of the type referenced in IR 9.1 above, please explain why.

9.3 Prior to the filing of the Application, what steps did BC Hydro take to contact existing and prospective net metering customers to ensure BC Hydro had at least a reasonable understanding of magnitude of net metering ratepayers' expectations of a reasonable opportunity to realize a return on those investments?

9.4 Please describe all circumstances under which BC Hydro's position would be that net metering ratepayers should not be provided with a reasonable prospect to realize a return on their investments.

9.5 As a regulated utility does BC Hydro expect and regularly apply to the BCUC for approval of a Revenue Requirements Application that includes a significant component reflecting a return on investments made by BC Hydro? Please explain.

10.0 Topic: Net Metering Practices at Other Utilities and in Other Jurisdictions

Reference: Exhibit B-1

5.1 Please describe the steps taken by BC Hydro to compare and evaluate its own net metering repricing proposal with approved or applied-for net metering pricing at other electric utilities in British Columbia as well as in other jurisdictions.

11.0 Topic: Size and Impact of the Net Metering Program

Reference: Exhibit B-1, PDF 6.

Preamble: “In 2003, when the Program was established, it was expected to be a very small program with just a handful of interested participants. More recently, the Program has been more successful than originally expected. At the end of March 2018, the Program had over 1,330 customers with 9,000 kW of total capacity. In the past 12 months alone, BC Hydro has received over 500 new Net Metering applications.”

11.1. Did BC Hydro expect “just a handful of interested participants” would be 5, 10 or some other number? What was the basis for that expectation? Please provide specific references to all BC Hydro materials related to the introduction and implementation of the Net Metering Program that expressly indicated such limited participation.

11.2. By what metric did BC Hydro consider Net Metering to be “a very small program”? Please provide specific examples of five other current programs that BC Hydro considers “very small” and provide the number of participating customers, total kW of capacity, and number of applications within the last 12 months.

11.3 Please provide references to all public statements by BC Hydro that established any upper limits for the number of participating customers, the total kW of capacity or the number of applicants annually.

11.4 Given BC Hydro’s recent assessment that the Net Metering Program has been “more successful than originally expected” what is the rationale for a proposed price freeze and subsequent drop that appears likely to undermine confidence in a successful program?

11.5 Does BC Hydro agree that with its over 4 million customers (as of 2017) the uptake of the Net Metering Program by 1,330 customers over more than a decade and a half since introduction in 2003 continues to be very small? Please explain.

11.6 Please confirm that assuming an annual growth rate of 500 new net metering applicants is sustained, and assuming zero attrition, after another five years less than 0.01% of BC Hydro customers would be participating in the Net Metering Program.

12.0 Topic: Suggested “Cost Shifting”

Reference: Exhibit B-1, PDF 9.

Preamble: “In this context, BC Hydro believes that annual surplus energy payouts ranging from \$10,000 to \$60,000 per customer, as discussed above, go far beyond the limited cost shifting that the Commission has previously stated is warranted to support the implementation of Net Metering and in fact represent substantial costs for both BC Hydro and its ratepayers.”

12.1 Does BC Hydro agree that any determination of “cost shifting” in this context requires not only looking at the quantum of payments **to** net metering customers but also at the value of the energy received **from** those same net metering customers? Please explain.

12.2 In assessing the value of the energy received **from** net metering customers please describe how BC Hydro:

1. has considered the increased value of the “steady” power produced by high capacity factor net metering participants;
2. has reflected that the net metering program does not include an inflationary rate adjustment;
3. determines the value of Net Metering power entering the grid and used locally with little transmission line loss; and
4. reflects that the Net Metering power entering the grid is most likely to be sold by BC Hydro to its retail customers at rates significantly higher than the rates paid to net metering participants.

13.0 Topic: “Oversized Generating Facilities”

Reference: Exhibit B-1, PDF 7.

Preamble: “The impact of these applications with oversized generating facilities is reflected in the annual energy surplus payout amounts. In 2017, 230 Net Metering customers received an annual energy surplus payout. The total annual payout amounts were approximately \$280,000 which would imply an average payout of approximately \$1,200 for each customer. However, of these 230 customers, six customers received approximately \$220,000 with individual annual payouts ranging from \$10,000 to \$60,000 per customer. This means that almost 80 per cent of the total annual payout was received by just 3 per cent of all Net Metering customers who received an annual energy surplus payout. BC Hydro estimates that there are approximately 12 customers with oversized generating facilities in the application review process at the time of this filing.”

13.1. Please confirm that BC Hydro has no objection to the concept of net metering participants receiving an annual energy surplus payout.

13.2. Does BC Hydro agree that absent the potential to receive an annual energy surplus payout Net Metering becomes simply metering, with no need for any “net” calculation or any Net Metering Program? Please explain.

13.3 Please confirm that BC Hydro's objection is limited to the amount of the individual annual payouts of just six existing and 12 prospective customers with "oversized generating facilities".

13.4 Is BC Hydro proposing to determine "oversized generating facilities" based on capacity, individual annual payout or some combination of both?

13.5 When did BC Hydro first introduce the term "oversized generating facilities" in the context of net metering? Where may ratepayers find the definition of "oversized generating facilities"?

13.6 What is BC Hydro's rationale for changing the energy price paid to **all** net metering participants to deal with a concern currently limited to just six customers?