



Letter of Comment

In accordance with the Commission's Rules of Practice and Procedure, to submit a letter of comment concerning an application currently before the Commission, please provide a completed form to commission.secretary@bcuc.com. If email is unavailable, please mail the form to the address above. By doing so, you acknowledge that all letters of comment are published with the author's name as part of the public evidentiary record, both in print copy and on the Commission's website. All personal contact information provided on this page is removed before posting to the website. Forms must be received by the Commission by the last filing date included in the proceeding's regulatory timetable before final arguments.

Proceeding name

Are you currently registered as an intervener or interested party?

Name (first and last)

City Province

Email Phone number

Letter of Comment

Name (first and last)

James Cox

Date:

18-Aug-16

Comment: Please specify the reasons for your interest in the proceeding, your views concerning the proceeding, any relevant information that supports or explains your views, the conclusion you support and any recommendations. The Commission may disallow comments that do not comply with the Rules of Practice and Procedure.

As an energy engineer and a home owner that does not have access to natural gas or other energy source, I believe that the BC Hydro and FortisBC Residential Inclining Block Rate (Conservation Rate) does not accomplish all that it was originally designed to do, but penalizes certain rate payers while benefiting others.

The RIB rate was put in place for a number of reasons, including reducing electricity use amongst individual residential users and to raise revenues to partially finance new infrastructure and replace/update aging infrastructure.

Tiered rates have been used for many years in the industrial sector to great effect. However they are implemented differently and in a more equitable manner than how the RIB was implemented. When placing a large industrial customer onto a tiered electricity rate, the Electrical Utility will look at the Customer's Base Load (CBL). This CBL is essentially an average electricity usage over a period of time. Once the CBL is determined for the customer, the Electrical Utility will then determine the tiers for that particular customer (i.e. Tier-one = 80% of historical CBL, Tier-two = the remaining 20% of historical CBL). Once the tiered rate is implemented, it encourages the industrial customer, no matter how large or small, to reduce their electricity usage to avoid paying the higher electricity rate in tier-two. This benefits the Electrical Utility in that they have extra electricity available to sell to other customers, reduces new demand, and saves cost on increasing system capacity. The industrial customer implements projects and methods of work that make them more electricity efficient and if enough electricity is saved, can potentially decrease their electricity costs.

When the Electrical Utility brought the RIB tiered rate to the residential sector I believe they did it in an inequitable manner. The Electrical Utility looked at the average CBL for all residential customers (those who heat with electricity, those who heat with another source, those who live in the North, those who live in apartments, those who live in larger houses...). They came up with a blanket tier-one cutoff electricity usage of 22.1918kWh/day. This rate only partially accomplishes what their rate was set out to do, and upon the backs of only some residential customers.

An apartment owner who uses, for example, 16kWh/day will remain in tier-one, and enjoy the lesser rate, without doing any energy conservation measures. In fact, the apartment owner could start leaving lights on all day and still remain within tier-one - paying the lower rate. The apartment owner reaps the benefits of the lower incentive rate without doing anything. This does not benefit the Electrical Utility in that they are not saving any electricity on this customer and are potentially losing revenue were the tier-one cutoff calculated differently.

A house owner who only has access to electricity would use a great deal more electricity than 22.1918kWh/day. This is not because they are choosing to be inefficient but the reality of their situation. Perhaps they used 40kWh/day and, realizing that this was costing them a great deal in electricity, wished to implement energy saving measures (i.e. replacing windows, increasing insulation, installing energy efficient lighting...). After these measures were implemented they may have reduced their electricity usage by 25%, down to 30kWh/day. This benefits the Electrical Utility in that they have saved electricity from this customer. The customer has reduced their bill, but only in the tier-two rate category - they are still paying the higher tier-two rate amount and are still subsidizing the apartment owner.

The Electrical Utility choosing a single blanket tier-one cutoff electricity usage of 22.1918kWh/day is inequitable to residential customers of BC. The cutoff rate should have better reflected past electricity usage (i.e. a CBL) for each residential customer, or at the very least a residential customer type (ie. apartment owner, medium house with natural gas, townhouse...).

Please refer to the following analysis of my personal house electricity history (I chose my personal residence as I have full electricity and billing history over the past nine years. However, this analysis could just as easily be done with much the same results on any other residence in the same situation as myself):

I purchased my house in Nanaimo on October 26th, 2007, almost exactly a year before the residential two-tiered rate was introduced. We have an average sized house (2,200ft²) built in 1975 and no access to natural gas. Although Nanaimo does have natural gas service, there are no natural gas lines on my street. Our only source of heat is electrical baseboards or a wood insert. During this first year of ownership I did very little to reduce electricity usage as I was busy with a new job and a new baby - electricity was not a top priority. On October 1st, 2008, BC Hydro introduced their two-tier rate. I immediately started implementing energy saving measures (programmable thermostats, energy efficient appliances, compact fluorescents, and using a wood insert for heat). Since that time, I have upgraded insulation, installed new exterior doors, and installed an efficient hot water tank. More insulation and new windows are on the list as time and money allow in the next few years. Please refer to the "CUSUM" worksheet in the attached "Degree Day and CUSUM Analysis" MS Excel workbook for the full history of energy savings at my house.

BC Hydro got what they wished from me - reduced electricity usage. However, my electricity usage still remains in tier two all year round - including the middle of summer when no heat is used.

Now, had BC Hydro looked at my electricity usage during the period before the two tier rate was introduced and determined my CBL, they could have chosen a more appropriate tier-one cutoff electricity usage of say 80% of my personal CBL. This would still encourage me to save electricity and would also reward me for doing so and BC Hydro would still get the reduced electricity savings. This would also obviously be applied to all residential customers equitably based on their individual CBLs. (i.e. lower electricity users would have a tier-one cutoff of 80% of their lower CBL).

Referring to the attached Excel workbook "Electricity Bill Analysis" you will notice a complete billing history of my house in the worksheet "Actual Bills." You can visually see the reduced electricity usage in the graph "Energy History." In worksheet "CBL" I calculate my house's CBL from actual electricity use for a complete year: Nov 10, 2007 to Nov 7, 2008 - the year before tiered-rates were introduced. From this data we get a CBL for my house of 66.5797kWh/day. Now, instead of choosing a tier-one cutoff based on the average residential customer in BC, we can choose an individualized cutoff for my house, say 80%, which would give a tier-one cutoff of 53.2637kWh/day for my house.

Using a tier one cut off of 53.2637kWh/day I have recalculated what an adjusted BC Hydro electricity bill would look like as can be seen in worksheet "Bills based on 80% of CBL." Referring to the worksheet "Summary", what this means is that although I have saved 37% in my annual electricity use I am not being rewarded fully and am still in tier-two every single month of the year. Since the day I have moved into my house, almost nine years ago, I have paid over \$15,500 to BC Hydro for electricity. Whereas, had BC Hydro chosen a personalized CBL reduction of 20% (ie. 80% of historical CBL before tiered rates were introduced) instead of a BC residential average, I would have paid \$13,500 to BC Hydro over the past 9 years. The difference of \$2,000 is me paying for the non-action of many other BC residential customers who are heated by natural gas or live in smaller dwellings.

I recommend the following:

- 1 - Change the tier-one cutoff to a more equitable individualized amount. Preferably every residential customer would have their own personalized tier-one cutoff; or at the very least, categorize residential customers and assign each category an averaged tier-one cutoff.
- 2 - Provide rebates to those residential customers who have been adversely affected by the RIB over the past eight years.

Please feel free to contact me for any clarification of other information that I can provide.