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November 7, 2018

Mr. Patrick Wruck
Commission Secretary and Manager
BC Utilities Commission
6th Floor 900 Howe Street
Vancouver, BC V6Z 2N3

Re: FortisBC 2017 Cost of Service Analysis and Rate Design Application.

Enclosed, please find Final Argument submitted by Resolution Electric Ltd.

I would like to thank the British Columbia Utilities Commission for providing me with the opportunity to share some concerns and highlight some of the possible consequences to reverting back to a flat rate. I would also like to thank FortisBC for providing detailed responses to information request during this proceeding.

Regards,

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With respect to the British Columbia Utilities Commission Order G-180-18 identifying the final stages of these proceedings, please find the Final Argument respectfully submitted by Resolution Electric Ltd.

With consideration to the matter of reverting back from the Residential Conservation Rate to a flat rate as proposed by FortisBC, Resolution Electric Ltd urges the British Columbia Utilities Commission to reject the proposal of a flat rate and to remain with the present Residential Inclining Block, the following reasons for this request are detailed as follows;

1. **Energy Conservation Opportunities**

In the FortisBC final submission it is suggested that returning to a flat rate residential rate is justified due to the "low hanging fruit" conservation measure having already been taken. These "low hanging fruit" measures which include lighting technology upgrades, replacing incandescent lighting bulbs to compact fluorescent units and then progressing to light emitting diode (LED) technology.

These lighting energy saving measures are effective and easy to execute (unscrewing a light bulb), however considering the energy use in residential lighting account s for only five percent of the total energy consumed, the measures barely scratch the surface for the potential energy savings in residential properties.

The energy to provide domestic hot water accounts for around twenty to twenty-five percent of residential energy, technologies such as solar hot water and heat-pump water heater technologies are advancing and show great promise. Deployment of these technologies are more challenging than changing light bulbs and require a significant upfront investment from the home owner. Financial assistance in the form of low interest loans and grants would facilitate a greater take-up of these technologies, providing even greater energy saving measures to the home owner.

The continuation of the residential conservation rate is entirely justified, and with the two tier billing structure providing the financial stimulus required to encourage the consumer to greater energy efficiency, these advancing technologies can be exploited with easier access to financial mechanisms for the residential customer.

FortisBC stating that energy saving measures are of diminishing returns and suggesting further measures are unrealistic or futile, is really quite a sad viewpoint considering the junction we are approaching with electrification of transport and the need for greater sustainability.

2. **Impact to Low Energy Users**

The impact of removing the residential inclining block rate will adversely affect a significant number of FortisBC low energy consuming customers, these customers who presently consume energy at the tier one rate will see their bills increase by nearly nineteen percent, this increase would be in addition to the annual percentage increase imposed due to system upgrades and cost of living inflationary rates.

Other FortisBC customers who have made significant financial investments in technology which reduce their household annual energy requirement and who have based investment decisions on the monetary savings of reducing the energy consumed which is charged at the tier-two rate will see their savings potential diminish. An example of this cost impact to a small solar customer was presented in the evidence submitted by Resolution Electric (see table below). Moving to a flat rate will send the wrong signals for encouraging energy conservation.

3. **Revenue Benefits for Winter Peaking Loads**

The present residential inclining block provides a fair and appropriate mechanism for collecting revenues to cover a portion of the costs associated with distribution network capacity upgrades. The FortisBC system peak demand occurs in the winter months, with residential resistive loads imposing a significant energy demand during the cold December /January billing period.
The premium cost for energy charged at this tier two tariff results in high seasonal energy users being charged more during this seasonal period than a customer who experiences a lower seasonal energy usage at the tier 1 threshold.

The RIB billing mechanism provides a quasi-seasonal charging mechanism which is of great value for recovering costs from customers with low summer and high winter energy profiles, examples of this type of customer were covered in the evidence submitted by Resolution Electric (see page 3). In the case of Big White the $20.3M system capacity upgrade infrastructure costs where absorbed by the rate base, if the energy charging mechanism proposed by FortisBC is accepted then a substantial number of Big White residences will see their utility bills dramatically reduced, which seems a little unfair for the low energy users who live in less energy intensive buildings and who remain under the tier 1 threshold.

4. **Fixed Cost Recovery from Disruptive Technologies.**

The concerns and challenges of fixed cost recovery from emerging self-generation technologies as explored in Resolution Electric IR#1 will become more relevant and accentuated as solar, micro hydro and wind become more popular.

The ability to collect revenue from residential power sales diminishes significantly with the increase in the size of the self-generation systems, as identified in the response to CEC information request on the Resolution evidence (page 4). The highlighted figures in the table below represent the anticipated revenues collected by FortisBC from annual energy sales for a dwelling fitted with an 8.5kWp solar photo-voltaic system; clearly there is no impact to the customer whichever rate is adopted.

Smaller 4kWp solar installs would be impacted under a flat rate, making it less financially beneficial to install. With the economies of scale favoring larger system installs, it would be reasonable to anticipate that under a flat rate tariff more medium to large systems would be favored.

Table taken from page 4 (highlights added)

PV System Size	Pre-solar $	Post-solar $	Annual Savings $	Ratio of annual savings Flat/RCR %
Small – under Flat	$2,702	$2,009	$693	77%
Small – under RCR	$2,983	$2,081	$902	
Medium – under Flat	$2,702	$1,271	$1,431	84%
Medium – under RCR	$2,983	$1,270	$1,713	
Large – under Flat	$2,702	-$72	$2,774	94%
Large – under RCR	$2,983	$37	$2,946	

Other methods of revenue collection should be explored for customers with Net Metered accounts, for example, a per kilo-watt hour charge for power exported to the grid from a solar array, micro hydro or wind technology. This approach would also provide an incentive along with a time of use tariff for consumers when determining cost analysis for installing a residential battery storage system, lithium batteries are another emerging technology which may change electrical consumption profiles. These exported kWh charges could provide some cost recovery solutions for the utility provider for taking the exported renewable power at the retail rate.

5. **No Evidence of Cross Subsidization**

Electric only residential dwellings in the FortisBC service territory which do not benefit from a natural gas service will most likely experience higher heating costs to heat their homes versus dwellings in urban area serviced by natural gas. It is understandable why these non-gas customers would favor a flat rate billing system over the present residential inclining block structure, however given the findings of the 2017 Utility Commission enquiry into whether a cross subsidy for consumer groups existed under the RIB system concluded that no subsidy was evident, it would be logical and reasonable to remain with the residential inclining block mechanism.

6. **Lifestyle Sustainability**

Customers, whose lifestyles require only a small amount of energy to run their homes while consuming energy at the tier 1 rate, living in energy efficient or smaller dwellings or apartments would experience significant increases to their annual energy costs. These flat rate pricing signals could deter investment into energy saving technologies and send the wrong message of how valuable electrical energy is.

7. **Benefit of Non Natural Gas Serviced Homes**

The financial evaluation of whether it would be economically viable to service more rural or difficult to reach areas with natural gas could imply that there is a potentially higher cost ratio per user for installing an electrical distribution feed to that area. The application of the postage stamp rates to the FortisBC system would imply a benefit of sort is experienced by a home owner living in a difficult to serve locations not serviced with natural gas.

The financial benefit of not having to pay a monthly standing charge for a natural gas metered service was reviewed in Resolution Electric IR#11 which identified an annual cost saving of $146.95, which would purchase 1,450 kWh of electricity at the tier one rate.

8. New Construction and Retrofit Technology Options

The initial home construction costs associated with building a dwelling with basic heating technology like electrical baseboard heaters is far less than for a home with a central air ducted system comprising of a heat pump or high efficiency gas furnace or boiler. A major consideration taken by home owners when building a new home is; how much will it cost to run the home on an annual basis?

Investments made up front at the construction stage in more expensive energy efficient technologies will be evaluated against the comfort and financial benefit that investment returns over the long term. The financial consideration could possibly be weakened for the case of adopting high efficient technologies under a flat rate due to financial payback being potentially longer.

For homes which have the option to be connected to a natural gas supply but require extensive work and investment in gas furnaces and hot water tanks as discussed in the FortisBC reply to Resolution IR# 11, may also experience a longer payback under a flat rate.

Environmental considerations and concerns over whether a home owner may opt for burning wood to provide heating instead of using electrical heating technology are insignificant in the larger scheme of things. Wood by definition is a renewable energy source and the carbon released into the atmosphere by combustion is insignificant compared to the amount of carbon release due to forest fires experienced in British Columbia each year.

I the matter of FortisBC opening up the Time of Use tariff, Resolution Electric view this as a positive step forward in encouraging consumers to alter their weekly energy profile. The only concern is with the proposed time of use periods and the kWh pricing structure not creating a significant savings potential for customers to switch.