



## Letter of Comment to BCUC regarding RIB Rate Reports provided by BC Hydro & FortisBC November 18, 2016

The Regional District of Mount Waddington (RDMW) is pleased that the BC Utilities Commission has provided the public with another opportunity to comment on the reports by BC Hydro and Fortis defending their reclining incline block (RIB) rate application. The RDMW has previously provided two submissions about the impact of the RIB rate on our residents. The first supported a resolution, co-sponsored by the District of Port Hardy, to the Association of Vancouver Island and Coastal Communities (AVICC). A letter of comment was also provided on August 12, 2016 which supported the case for the Regional District to be declared as a stakeholder.

Because of this review opportunity, the RDMW has re-examined the case for the RIB structure. The RDMW was somewhat disappointed by the reports from both BC Hydro and Fortis as they failed to adequately address or even acknowledge the discriminatory aspects of the RIB rate structure that we and many others addressed in letters of comments. The RDMW stands by its original submission that the two-tiered rate structure does not meet the BCUC requirement that rates must be “fair, just and not unduly discriminatory” (Utilities Commission Act, s59), because the two-tiered rate discriminates against all non-farm residents living in primarily rural areas that have no natural gas service. Supported by further evidence provided by stakeholders Marty, de Cock and others, we believe that the case for price discrimination is strong enough to not just raise the second-tier threshold as we previously suggested but rather to eliminate the RIB structure entirely and revert to an equivalent flat rate system. We have presented our arguments to specifically address the Minister’s questions from the RDMW’s perspective, below.

### 1) *Do the residential inclining block rates cause cross-subsidy between customers with and without access to natural gas?*

The Regional District of Mount Waddington does not concur with BC Hydro’s conclusion that it “*does not find a cross-subsidy caused by the residential inclining block rate between customers with and without access to natural gas*” despite the results [of its study] “*show that under both approaches the revenue to cost ratio for customers without access to natural gas is greater than for customers with access to natural gas, particularly if they are heated by using natural gas*”. They came to their conclusion despite showing a revenue to cost ratio 7% higher for customer accounts with no access to gas. They claimed that this result is not substantive while concluding elsewhere that the RIB rate structure had resulted in a ‘substantial’ conservation of between only 0.5% and 1.2%.

In 2014, BC Hydro was kind enough to provide the Regional District with consumption data for one of its communities, Port McNeill. The data shows average monthly hydro consumption of residential households for four types of housing units: apartments, mobile homes, row houses and single family dwellings. While the total accounts were not shown, we used 2006 and 2011 census data to determine approximate total usage and cost at the RIB levels for the approximate 1000 households. Given the similar climatic conditions found in all our communities and that low cost natural gas is not available in any of our communities, we extrapolated these findings to the entire region’s housing mix, with approximately 4900 households. The BC Hydro study does not state what the theoretical flat rate would be today so we assumed that it would be like the 2008 differential of 105% higher than their base rate. Our findings show that, at current rates with similar consumption patterns to 2013, this year our residents will be collectively paying almost \$1,000,000 more than they would have been paying with a flat rate. Given that the rates are structured to re-distribute the extra funds from higher users to lower users, this is certainly a subsidy from customers without access to natural gas to those who are utilizing natural gas. There is no reason why BC Hydro could not do a similar analysis across its entire customer base. We are certain that such a study would confirm our findings that the predominantly rural customers without the option of burning natural gas are subsidizing predominantly urban customers who utilize natural gas for home heating and hot water.

2) *What evidence is available about high bill impacts (greater than 10 percent as a result of the adoption of the residential inclining block rates) on low income customers?*

The BC Hydro report does not distinguish the type of housing units its low-income sample occupy. Province wide, it is probable that the evident assumption that most of the low-income household dwellings are *not* single family households may be valid for the average customer but this assumption is not valid for rural areas. For example, Metro Vancouver makes up 52% of BC Hydro’s residential customers and only 10% of rental units there are single family and very few single-family renters there would be considered low income. It is therefore likely that a large proportion of the low-income households in BC Hydro’s sample are in apartments which use far less electricity than single family houses so the absolute value of the RIB impact on these customers is relatively low. In the RDMW, only 9% of households are in apartments and they use an average of only 37% of the electricity of single family households which make up 77% of the RDMW housing stock (vs 34% in Metro). Due to a variety of factors, including the lack of apartments in many of its communities, the RDMW low income households are likely distributed similarly to the overall housing type distribution meaning that it is likely that 91% of the low-income households in the RDMW are *worse* off with the RIB rate structure compared to a flat rate structure. Again, the actual impact will be dependent on housing type...low income customers in single family households will pay an average of 13% higher than what they would have under a flat rate. In addition, low income customers have far less ability to mitigate the impact of high bill impacts from such measures as replacing windows and improving insulation. Many of the low-income customers that are impacted are seniors who have chosen to ‘age in place’ and may no longer be able to do these sorts of projects without the assistance of expensive contractors.

3) *What evidence is available about factors that lead to high energy use and, therefore, bill impacts for customers without access to natural gas, including low income customers?*

The BC Hydro study identified many factors that would lead to high energy use but did little geographical analysis, instead identifying the obvious electric baseboard utilization as well as factors that would normally be associated with higher incomes such as larger dwelling size, and higher ownership of high intensity appliances such as swimming pools and hot tubs (even though the BC Hydro Report (app.C, pg 4) found no incidence of hot tub or pool ownership in non-gas areas in their survey sample). Table 1 shows a more appropriate geographical analysis in keeping with the question. Due to having few other viable options such as natural gas service, RDMW households have a much higher incidence of electricity used for heating, hot water heating and cooking than the BC Hydro average. According to the BC Hydro report (their table 4), these uses would typically account for 66% of a household’s electricity use. Relatively low winter temperatures (compared to average BC Hydro customers) are not a significant factor in driving up energy costs in the RDMW but they would be in many of the other rural parts of the Province, likely causing a reduced reliance on electricity where natural gas is available (such as Prince George). Similarly, the age of RDMW dwellings, household size and incidence of high intensity appliances is not likely significantly different than the average for BC Hydro customers. However, many rural areas have significantly higher vacancy rates than the average (ie RDMW is about 18% vs 1.2% in Metro). This means that in rural areas the electricity consumption is relatively higher for occupied units than the average would indicate. For example, in the RDMW sample, the lowest quartile for apartment dwellings (which have the lowest occupancy rates for RDMW housing stock) use only 41% electricity of the average of RDMW apartments.

Table 1 : Factors Leading to Higher Average Residential Electricity Usage, by geography

High Consumption Factors	RDMW Occurrence	Rural* BC Average Occurrence	BC Hydro Service area Average Occurrence
No Natural Gas Service Available	VERY HIGH (100%)	MEDIUM	LOW
Primary Electric Heat	VERY HIGH	HIGH	LOW
Electric Hot Water	VERY HIGH	HIGH	LOW
Single Family Dwelling	HIGH (77%)	HIGH	MEDIUM (~43%)
Mobile Home	MEDIUM-Low (5%)	MEDIUM-Low	LOW (~2%)
Electric Stoves & Ovens	VERY HIGH	HIGH	MEDIUM
Lower Winter Temperatures	LOW (3.3°C January Port Hardy)	HIGH (-9.6°C Jan. Prince George)	LOW (4.8°C January Vancouver)

\*Rural is considered areas outside of the lower mainland and southern Vancouver I.

The housing mix of the RDMW is predominantly single family dwellings (77%) which use on average 269% more electricity than apartments which make up only 9% of the housing mix (vs 40% of Metro Vancouver). Mobile homes are also more prevalent in the RDMW and rural areas (5% in RDMW vs ~2% in BC Hydro service area). Table 2 shows the bill impacts of the RIB rate on electric customers in the RDMW living in different types of housing, all of which do not have access to natural gas. The average household in the RDMW paid an extra \$204 per year for electricity because of the RIB rate compared to what they would have paid on a flat rate.

Table 2: Average Cost/Benefit of RIB rate structure for RDMW Residential Dwelling Types

Housing Type	%	Annual Electrical Cost @ RIB*	Annual Cost @ flat rate*	Savings or (Cost) @ RIB	% Saved or (cost) @ RIB
Single Family	77%	\$1895	\$1641	(\$254)	(13%)
Mobile Home	5%	\$1360	\$1249	(\$111)	(8%)
Apartment	9%	\$ 566	\$ 611	\$45	8%
Row House	9%	\$1291	\$1193	(\$98)	(8%)

Consumption Data is from BC Hydro Port McNeill Data \*Tier1@ \$0.087; Tier2@ \$0.13/kwh \*\* @ \$0.095/kwh (all are 2016 rates including 5% rate rider)

As noted earlier, it is likely that the low-income customers likely have a similar distribution to the average RDMW housing mix, with a perhaps slightly lower portion in single family homes. Given no evidence to the contrary, it can be concluded that almost all low-income households in the RDMW pay more for their electrical costs than they would have paid under a flat rate structure. Given that the average cost for occupied apartments is higher than stated, the limited RIB savings for apartment dwellers are even less than shown. The key beneficiaries of the RIB rates in the RDMW are non-resident property owners who have purchased dwellings for seasonal use as summer cottages; these customers could hardly be described as ‘low-income’.

4) *What is the potential for existing or additional Demand Side Management programs to mitigate the (high bill) impacts?*

Given that electrical space and hot water heating are the predominant factors for determining electrical consumption, significant (ie more than 25% of the costs) subsidies for heat pumps and on-demand and solar assisted hot water tanks could assist customers mitigate high bills caused by the RIB rate structure. If the current unfair RIB rate structure was for some reason to be extended, this sort of subsidy would be appropriate given the amount that rural customers have already been penalized for where they have chosen to live.

5) *Within the current regulatory environment, what options are there for additional Demand Side Management programs, including low income programs?*

BC Hydro states that “our current residential demand-side management programs already provide support and coverage for high electricity users that address the factors that lead to high electricity use”. Our contention is that for RDMW customers the major factors relating to high electricity use are due to geography (no access to natural gas service and a higher incidence of single family housing due to lower property values, and thus lower wealth) for which BC Hydro has no ability to address directly. However, there is still an opportunity to target their DSM programs to benefit this category of customers, as noted in response to question 4.

## *Conclusions:*

While BC Hydro claims that the “*RIB has been successful in delivering conservation*” by 0.5% to 1.2% (2013 Powersmart “Evaluation of the Residential Inclining Block Rate F2009- F2012), this standard of success is much lower than the “not substantive” 7% higher revenue (.89/.83 revenue to cost ratio pg 18) from customers without access to gas service, leading to their dismissal of the fact that access to natural gas is a cross-subsidy from customers without access to those with natural gas service. The RDMW analysis shows that there has been significant flow of funds from our no gas-serviced area to the predominantly urban areas that are served by natural gas.

Neither BC Hydro nor Fortis made any effort in showing whether their “conservation rates” led to lower total energy usage, including fossil fuel use. While Fortis stated that they did not have the resources to determine whether the higher tier-two rates had caused customers to switch from electricity to natural gas, it would have been very simple for them to simply count any 2009 electric utility customers who had since have had gas services installed in their residences. By comparing the change of those customers’ electric consumption, it would be reasonably simple to determine what proportion of the ‘conservation savings’ were simply residents shifting from clean electrical generation to high carbon natural gas use. Unfortunately, it would be much more difficult to determine additional energy consumption caused by increased wood or other fuel burning that may have been induced by the two-tiered rate. In addition, neither utility addressed what the impact could have been if the whole customer base had been subjected to an average increase of 51% since 2008 instead of as low as 32% for low use customers and up to as much as 98% increase for the targeted 5% high use customers.

The RDMW contends that the RIB structure is indeed discriminatory to BC residents who live in rural areas, particularly those who live in areas where natural gas service is not available. Furthermore, neither BC Hydro nor Fortis have provided any evidence that the RIB “conservation” rate structure led to any net decreases in electricity consumption compared to what would have been the case had a flat rate been applied to the entire residential customer base. In fact, there is much evidence provided by other submissions that the BC Energy Plan goal of low carbon electrification has been damaged by the RIB structure, including by the removal of Fortis’ optional time of use charges in favour of a RIB structure. Using energy pricing policy is a very poor way of attempting to provide relief for low income households; while it may marginally help some of the targeted households, we have demonstrated that it will hurt many others to a greater degree. In conclusion, the RDMW requests that the BCUC direct BC Hydro to return to a flat rate for residential hydro electricity consumption with an optional time of use rate.

Attached App 1: Mean Monthly Hydro Consumption in Port McNeill in 2013 with RDMW estimate.

Appendix 1:

Monthly Summary Consumption (kWh) for the Community of Port McNeill

Month	Mean Monthly kWh / Account for Port McNeill											
	APARTMENT SUITE	Cost @RIB rate	Cost @ Flat Rate	HOUSE, DUPLEX	Cost @RIB rate	Cost @ Flat Rate	MOBILE HOME	Cost @RIB rate	Cost @ Flat Rate	ROW HOUSE	Cost @RIB rate	Cost @ Flat Rate
JAN13	765	\$70	\$73	2,127	\$248	\$203	1,651	\$186	\$157	1,625	\$183	\$155
FEB13	702	\$62	\$67	1,810	\$207	\$173	1,387	\$152	\$132	1,371	\$150	\$131
MAR13	620	\$54	\$59	1,744	\$198	\$166	1,340	\$146	\$128	1,301	\$141	\$124
APR13	544	\$47	\$52	1,440	\$159	\$137	1,070	\$110	\$102	1,032	\$105	\$98
MAY13	427	\$37	\$41	1,213	\$129	\$116	904	\$89	\$86	873	\$85	\$83
JUN13	354	\$31	\$34	982	\$99	\$94	706	\$63	\$67	685	\$60	\$65
JUL13	312	\$27	\$30	871	\$84	\$83	654	\$57	\$62	582	\$51	\$55
AUG13	329	\$29	\$31	887	\$86	\$85	650	\$57	\$62	582	\$51	\$55
SEP13	410	\$36	\$39	1,036	\$106	\$99	737	\$67	\$70	642	\$56	\$61
OCT13	516	\$45	\$49	1,412	\$155	\$135	1,113	\$116	\$106	1,031	\$105	\$98
NOV13	680	\$59	\$65	1,708	\$194	\$163	1,308	\$141	\$125	1,270	\$136	\$121
DEC13	744	\$68	\$71	1,985	\$230	\$189	1,582	\$177	\$151	1,523	\$169	\$145
Total Cost (2016 rates)	6404	\$566	\$611	17216	\$1,895	\$1,641	13100	\$1,360	\$1,249	12517	\$1,291	\$1,193
Av. Benefit (+) of RIB	8%		\$45	-13%		-\$253	-8%		-\$111	-8%		-\$98
Number of Units/ ttl cost*	55	\$31,115	\$33,580	840	\$1,591,707	\$1,378,784	20	\$27,193	\$24,979	120	\$154,926	\$143,202
Prop of Unit s/ttl Ben RIB	5%		\$2,465	81%		-\$212,923	2%		-\$2,214	12%		-\$11,725
<b>RDMW Impact Estimate*</b>												
Number of Units/ ttl ben**	463	\$261,930	\$282,679	3742	\$7,090,675	\$6,142,156	233	\$316,803	\$291,006	452	\$583,556	\$539,393
Prop of Unit s/ttl Ben RIB	9%		\$20,749	77%		-\$948,519	5%		-\$25,797	9%		-\$44,163

Threshold for Tier 2= 675 kwh/month

2016 Rates	Total	base	Rate Rider
Tier 1 Equivalent	\$ 0.087	0.0829	5%
Tier 2 Equivalent	\$ 0.131	0.1243	5%
Flat Rate Equivalent=	\$ 0.095	0.0908	5%

Monthly bills over Current Tier 1 Level

Variable Cells

Total	RIB Cost	Flat Rate Cost	Average	Better off with tiered Rate=	Households	Impact
	\$1,804,941	\$1,580,545	\$1,527		55	5%
	-\$224,396	14%	\$1,744	Better off with Flat Rate=	980	95%
				Average Household Benefit with Flat Rate=	\$ 217	
				Better off with tiered Rate=	463	9%
	\$8,252,964	\$7,255,234	\$1,484	Better off with Flat Rate=	4427	91%
	-\$997,729	14%	\$1,688	Average Household Benefit with Flat Rate=	\$ 204	

\* It was assumed that the Hydro customers were based on occupied units counted from the 2011 census. Occupancy was 90.9 % in Port McNeill and only 81.7% in the RDMW as a whole. The BC Hydro study likely includes many unoccupied dwellings so actual impact to RDMW residents may be understated.

\*\* The total number of occupied units was from the 2011 census, but the distribution of dwelling type is from the 2006 census, which assumes the additional 4% of units added had a similar distribution.