BCUC Stepped Rate Report Recommendations

Issue

In 2009, the British Columbia Utilities Commission (Commission) reviewed the Transmission Service Rate (TSR), and recommended that it be revisited and potentially revised in order to achieve provincial energy efficiency and conservation (EEC) objectives.

Background

The 2002 Energy Plan included a policy action to require the Commission to develop recommendations for an inclining block, or stepped, rate for BC Hydro's large electricity consumers. The objective was to encourage customers to meet part of their electricity needs through EEC by charging a rate that reflected the cost of new supply for higher consumption (Tier 2), combined with a lower rate that reflected embedded costs (Tier 1).

The stepped rate proposal was subject to detailed consideration by the Commission and stakeholders in 2003. Overall, there was support for the concept provided that it was revenue neutral with the prior industrial flat rate (RS 1821) at 100 percent of customer-specific baseline consumption. In its final report, the Commission made nine recommendations including:

- the Tier 2 rate should reflect the long-term opportunity cost of new supply;
- the quantity of power being sold to industrial customers at Tier 1 should be initially set at 90 percent of their historical base load,;
- the Tier 1 rate should be derived from the Tier 2 rate and the Tier1/Tier2 Split to achieve, to the extent reasonably possible, revenue neutrality; and
- the Customer Baseline Load (CBL) used for applying stepped rates should be based on past experience adjusted for anomalies, reviewed annually and reset if customers drop below 90 percent or above 110 percent of their CBL).

Government responded to the Commission's report with Heritage Special Direction (HC2). which directs the Commission to ensure that TSR's are designed in accordance with the Commission's recommendations. BC Hydro introduced RS 1823 in spring of 2006.

In 2009, the Commission conducted an evaluation of the stepped rate. They found that the rate was generally successful in that it incented industrial customers to reduce electricity consumption, but its design limited incentives for further reductions. The Commission highlighted three design issues: (1) the TSR structure only provided incentives to reduce electricity purchases to the rate threshold (2) given revenue neutrality requirements, the Tier 2 could not be modified to provide a higher price signal without reducing Tier 1 – which risks transferring costs to other classes; and (3) uncertainty around the CBL reset and adjustment policy may have had a chilling effect on EEC investment.

The Commission recommended that HC2 be changed to remove the principle that the rate threshold be set at 90 percent of CBL and the principle that the two tiers be set to achieve revenue neutrality. However, they recommended that no change should be made until economic conditions improved.. The Commission also recommended that if the TSR is revised at a future time, changes should be considered to help account for firms with variable production and reward energy intensity improvements.

Discussion

According to BC Hydro, approximately two thirds of the energy savings attributed to the TSR resulted from reported and verified EEC measures undertaken in response to the rate, while a third of the savings were attributed to unreported EEC measures deemed to have been taken in response to the rate. The Commission noted it is plausible that reduced energy consumption during this period was due to decreased production. Uncertainty in attributing unverified energy savings highlights the limitations of using changes to energy consumption alone.

Accordingly, the commission recommended that BC Hydro develop cost-effective performance measurements such as energy use per unit of output (energy intensity) to be incorporated in an amended TSR. The challenge of this approach, is that there is no standard on which to compare energy use per unit between firms in different industries or between different products.

A primary challenge for the TSR is the disincentive the current Tier 1 energy cap creates for future investment in EEC measures. The Tier 2 price provides a financial incentive to reduce energy purchases .. Below 90 percent, customers purchase Tier 1 energy at a lower cost and have a much reduced price signal to adopt EEC measures. Similarly, industrial firms are protective of their CBL as consumption below 90 percent could trigger a reset resulting in increased exposure to the Tier 2 rate. As most transmission service customers are at or near 90 percent of their CBL, the effectiveness of the Tier 1/Tier 2 split has arguably run its course.

The Commission also recommended that the Tier 1/Tier 2 90/10 split and revenue neutrality be eliminated. This would allow rate design to incent further EEC without having to risk shifting costs to other customer classes. Changes to the principles alone would not have an immediate impact on industrial stakeholders but would likely produce a rate structure that would require EEC investments to avoid increased energy bills.

Finally, the Commission observed that uncertainty around CBL reset and adjustment policy may have had a chilling effect on customer-funded EEC investment. Industrial firms have noted difficulty in quantifying the impact of EEC measures on their CBL under the CBL Determination Guidelines, TS74.. As well, there has been uncertainty around the accepted duration of energy savings resulting from particular EECs. In 2012, BC Hydro made amendments to TS74 to try to clarify the eligibility criteria and CBL treatment for customer reported EEC measures. Of note, the duration of energy savings resulting from EEC measures, formerly know as “energy savings persistence,” has been replaced with “project duration.” Project duration is a fixed, predetermined value intended to provide greater investment certainty.