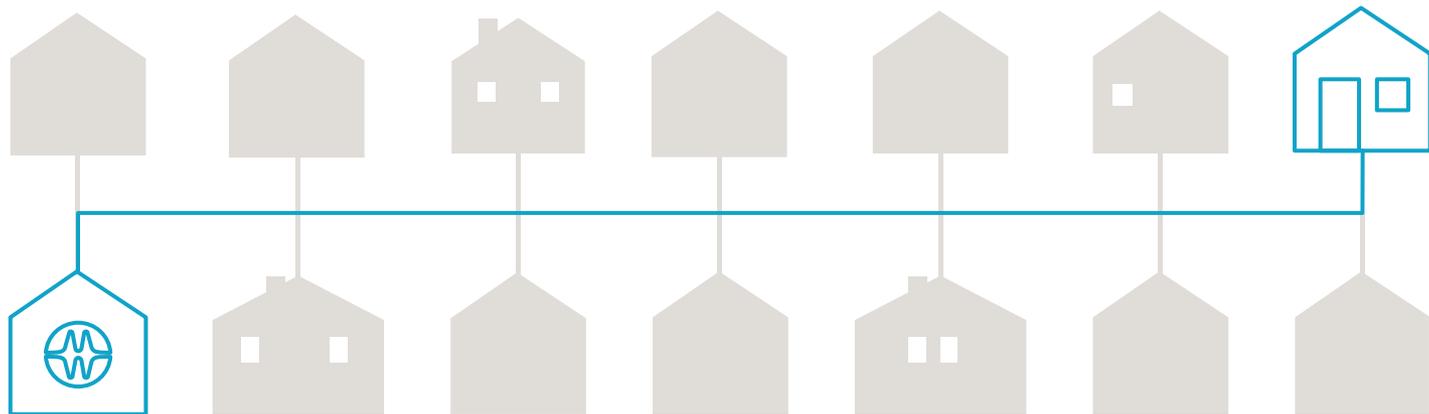


CEC Interruptible Rate Proposal

November 8, 2016



Background

- CEC filed intervener evidence on May 10, 2016 which proposed a non-firm or interruptible rate pilot for MGS and LGS customers (Exhibit C1-10)
- Commission Order G-128-16 directed BC Hydro to commence in October 2016, stakeholder consultation with the CEC with respect to its rate pilot proposal
- The Order directed BC Hydro to consider the evidence filed by CEC in Module 1 and if appropriate, this evidence can be brought forward in Module 2

CEC Interruptible Rate Proposal

- Target greenhouse growers, flood pumping agencies, forestry manufacturing
- Proposed LGS tariff
 - An administrative charge of \$150/month
 - No change in basic charge (24.29 cents/day)
 - No change in energy rate (5.56 cents/kWh)
 - Demand charge reduced by 65% (\$11.21/kW to \$3.92/kW)
- Terms and Conditions
 - Service is non-firm and only available when BC Hydro has energy and capacity available
 - No limitations on frequency and duration of electricity supply interruptions, except to limit them in avoiding the electric system coincident peak
 - Non-firm customers are responsible for incremental distribution infrastructure associated with non-firm service per existing distribution extension policy

CEC Interruptible Rate Proposal

Other Proposed Features

- Combined base and interruptible service – customers can designate all or part of their service as non-firm/interruptible and arrange to have this load separately metered
- Customer can migrate to firm service if capacity is available
- Metering – undertaken separately for the firm and non-firm portion of the customer load
- Staying off BC Hydro peak could involve approximately 5 days of interruption typically no more than twice per year (Exhibit C1-10, page 8, lines 111-119)

BC Hydro analysis

Demand charge discount

CEC proposes a demand charge discount based on the percentage of embedded generation and transmission cost.

However, the demand charge is intended to recover BC Hydro's fixed costs of providing service. If BC Hydro is not able to recover its fixed costs of providing service then other ratepayers may be harmed.

- Stranded asset risk if customer migrates from firm to non-firm service

Pay per interruption

- Under incentive based curtailment programs, the customer receives a payment or bill credit for load reduction but still pays the full demand charge under the default tariff
- Load reduction payment or credit is based on the value of the curtailed load to BC Hydro i.e., marginal or avoided cost not embedded cost

System Capacity Need and Characteristics

- BC Hydro has sufficient planned capacity resources until F2029
- LRB uncertainties: Advancing Rev 6 as default, but also exploring other clean capacity options (e.g. load curtailment), particularly given 100% Clean Policy
- Currently load curtailment pilot to understand whether capacity (or savings) can be relied upon to defer incremental long term generation capacity resources.
- Minimum capacity characteristics to defer generation:
 - 16 hours/day, 6 days/week (Mon to Sat), three periods of 2 consecutive weeks anytime Oct thru Apr (totalling 576 hrs)
 - Operationally, BC Hydro should have the flexibility to call on these 36 days of interruptions (up to 16 hrs/d) anytime Oct thru Apr

BC Hydro Load Curtailment Pilot and CEC proposal

BC Hydro Load Curtailment Pilot

- Product: 4, 8 or 16 curtailable hours per day options
- Pricing:
 - \$75/KW-yr: Based on cost of gas peaker and recognizing curtailment is not available for the whole year
 - Straight proration down for product with fewer hours

CEC Proposal

- 50 hours of interruption (10 days of interruption, 5 hours/d)
- Value roughly $\$75 \times (5/16) \times (10/36) = \6.5 kW-yr (~\$39,000 for 6 MW)
- Compared to \$358,600 under CEC proposed pilot (revenue difference due to demand charge discount)

BC Hydro analysis

Non-firm service – CEC proposal

CEC proposes that the customer nominates the amount of non-firm load which is separately metered

- Non-firm electricity service is provided only if energy and capacity is available
- Non-firm load does not drive investment in G and T infrastructure
- Customer still pays for incremental distribution infrastructure through distribution extension policy

Under the proposed CEC rate pilot, in exchange for the right to interrupt the customer's non-firm load, the customer receives a discounted demand charge applied to its billing demand in every month

BC Hydro analysis

Non-firm service – features based on prior BC Hydro Price Dispatch Curtailment program

- Make payment or bill credit based on the value of reduced load to BC Hydro
- Let customer nominate a kW level below which service is as firm as the default LGS rate (referred to as the Firm Service Level (FSL)). The customer cannot take service above the FSL when BC Hydro has requested the customer to reduce load during an event.
- Measure load reduction and make payment based on the difference between the customer's peak kW load and the customer's nominated FSL. The customer's peak kW can be computed as a weighted average of the customer's hourly loads during the peak hours.

BC Hydro analysis

Other Issues

- How does BC Hydro know when to call an event if interruptions are based on peak days and times?
 - We will need to develop method to determine when system peaks likely to occur
- Metering
 - CEC propose that the non-firm load be separately metered
 - It may not be economic for customer to pay for separate metering, depending on the amount of customer benefit from the rate
 - Separate metering for non-firm load is not required to implement an interruptible rate

Discussion and Recommendations

- An interruptible rate that is designed according to BC Hydro's needs does not appear to provide these particular customers the same level of benefit estimated under the proposed CEC interruptible rate.
- We would like to understand the needs of these customers better. For example:
 - Are the customers' primary needs a method to reduce their demand charges? Are these low load factor customers that face minimum demand charges during the non-winter months?
 - What level and duration of interruptions can these customers take without facing adverse impacts on their production? What sources of back-up power do these customers have?
 - Would a time of use (TOU) rate match these customers' needs better?

Discussion and Recommendations

- To help meet these customers' needs, we recommend exploring a broader range of voluntary rate options for general service customers as part of 2015 RDA Module 2, including
 - Voluntary time of use (TOU) rate
 - Demand charge options
 - By time of use (e.g., billing demand established in HLH only)
 - Limited use of billing demand rate – offered by Manitoba Hydro to low load factor customers
 - Interruptible rates
 - Modified demand (like RS 1852)
 - Non-firm service for self-generator (like shore power)
 - Pay for interruption