

Generation Contribution Policy

Issue

BC Hydro's Tariff Supplement 6 (TS6) allocates embedded-cost resources to new industrial customers up to 149 megavolt amperes (MVA), but requires new industrial customers with loads of 150 MVA or higher to contribute the marginal cost of acquiring energy to serve them which represents a potential barrier to investment.

Background

New industrial customers were responsible for 100 percent of incremental transmission system reinforcement costs prior to the implementation of TS6 in 1991. However, these customers did not need to pay for the cost of new generation to serve their load. This policy encouraged electricity use during a time when BC Hydro had surplus energy.

Industrial customers are typically allocated the benefits of BC Hydro's embedded-cost resources based on the total cost of energy divided between all customers based on consumption. Their rates reflect the average cost of generation in BC rather than the higher cost of the incremental generation purchased to serve new load. BC Hydro recovers the total cost of generation via rates. Thus, new load increases rates for existing load.

The British Columbia Utilities Commission (Commission) signalled that BC Hydro's surplus would disappear in the 1990s. This led to renewed focus on electricity conservation activities as well as limiting the amount of marginal-cost supply acquired by BC Hydro to serve new load. TS6 included a 150 MVA threshold above which new industrial customers would be required to pay the incremental cost of new generation, rather than receiving embedded cost resources. The 150 MVA threshold was set based on the size cost of adding a new gas-fired generation plant to BC Hydro's resource stack.

To date, no projects above 150 MVA have been built in BC. However, it is possible that Liquefied Natural Gas plants and some large mining extraction/processing project proposals could surpass the threshold in the future.

Discussion

The rate impacts associated with interconnecting new industrial customers in jurisdictions where the average cost of service is relatively close to the marginal cost of supply are relatively low. The narrow gap can in fact create an incentive to interconnect new industrial loads, particularly in markets with multiple competing utilities. However, the incentives to interconnect new industrial load are different when there is a large gap between average cost and marginal cost of supply, such as in BC.

The BC Hydro system has a relatively low average cost of energy compared to most other North American jurisdictions. This has been a tremendous advantage in BC's industrial development. Every new customer adds to the cost of all ratepayers. This places largely unavoidable upward pressure on rates.

The inclusion of the 150 MVA threshold is an attempt to insulate existing ratepayers from large rate increases should an extremely large industrial customer interconnect to the BC Hydro system. The underlying rationale appears to be that the economic benefits of new industrial projects over the 150 MVA threshold does not outweigh the potential costs imposed on all BC Hydro ratepayers. However, attracting large industrial customers are a high priority for Government given their employment and revenue benefits. This raises the question of whether appropriate to safeguard existing ratepayers as the expense of large new industrial customers.

There is also the issue of the 150 MVA threshold itself. It is an arbitrary number set over 20 years ago in a very different economic context. The advantage of having a clear number is that it is simple to administer: either a customer is "in" or "out". However, it is difficult to justify why a hypothetical load of 149 MVA would receive access to embedded-cost resources while a 150 MVA load would pay the full costs. Updated application principles would be helpful to determine how to balance the interests of new versus existing industrial customers.

One approach to balancing these interests would be to have all new customers, regardless of load size, to pay their full cost of service. This would mitigate (although not eliminate) upward rate pressures on existing ratepayers. New customers would receive a much stronger signal to conserve electricity which would promote energy efficiency. They would also likely explore the viability of on-site self-generation rather than taking BC Hydro supply.

The marginal cost approach has risks. It could deter industries reliant on low-cost, utility electricity supply from investing in BC. It could also undermine BC's climate policy goals because increased self-generation would likely be gas-fired. It would also create an uneven playing field where existing customers had a weaker incentive to conserve electricity than new customers. Finally, it would represent a departure from the standard rate regulation principle of avoiding undue discrimination between customers.