

First Concern: TOU rates 'punish' small volume customers

The Hydro One pilot results and experience elsewhere indicate that TOU 'punishes' low volume users. About ½ of residential users and likely about 1/3 of farm users.

To address this TOU rates should be voluntary and consumers should have access to some fixed amount at a flat rate. It is likely that 30% plus of all customers would be treated unfairly under TOU because of their low volume. This would provide a hidden subsidy to other users and foster resentment against the LDC's and the government.

This default rate should be much as follows. (numbers are examples – but in the ballpark)

A rate that provides 12,000 kwh a year to all consumers on the basis of 750 kwh in the 6 warm months and 1,250 kwh a month in the 6 cool months at 6 ½ cents. This would allow all residents enough power for normal home use, some 'luxury' use and some home heating in winter. This level would also be sufficient for many farms and small businesses and likely all seasonal residences, pumps, etc.

Kwh's in excess of monthly base allotment would be at 9 cents a kWh. (just under peak cost)

If the annual allotment was exceeded, price would go to 12 cents a kWh (just over peak cost) for the rest of the year.

Designated users (including all farmers) would get their first 12,000 kwh at the fixed rate and any excess at the monthly average pass through price.

The 6½ cents is meant to cover costs. The higher rates are meant to discourage excessive use. The base rate in 20 years might be 10 cents or more and the premium rates still more.

Customers would see on their bills the cost for the allotment and any excess, **and** they would also see the cost they would pay if they were on a smart meter. Both. Once it was evident that they would be better off with a smart meter, they could voluntarily opt for TOU billing.

Flat rate billing with tiers for heavy use, and voluntary switching to TOU will be more acceptable to customers than compulsory TOU. If TOU works for people they will see that and switch to it.

It should be recognized that many customers will opt for fixed price contracts to avoid TOU billing. These people will almost certainly be paying more than they would under TOU billing and more than the suggested 6 ½ cents for 12,000 kwh.

Fixed rates billing for 12,000 kwh a year is doable for LDC's who are used to tiered RPP rates with different seasonal thresholds. Even the aspect of moving from one rate to another after exceeding an annual threshold already applies to the 300,000 customers on rural rate assistance.

Continuing a modified and volume limited RPP with voluntary TOU for low volume customers removes the punitive aspects of TOU from small volume users and will help to make TOU more acceptable.

Second Concern: Paying for What You Use Under TOU Rates

The present RPP TOU rate structure is a 1 : 2 : 3 ratio for off-peak, shoulder and peak rates which in practice is 3, 7 and 10 cents respectively. This may reflect the costs of peak, shoulder and off peak power. If costs are reflected accurately then a primarily peak power user pays appropriately for what they use and so does a primarily off peak user.

The 1: 2 : 3 ratio will not reflect relative costs of peak, shoulder and off peak power in the future as the cost structures implicit in the IPSP go from a system that is capital intensive to a system that has both high capital costs and high fuel costs. It appears that:

- 1 the proposed new nuclear fleet will have to run steadily in both peak and shoulder hours as well as much of the time off peak,
- 2 the wind component of off-peak could be substantial (wind availability is highest at night) and wind at 8 cents to 11 cents is high cost power, and
- 3 natural gas costs for peaking hours and nuclear fuel costs are a matter for speculation, but it is likely that they are rising and that their contribution to future costs will increase.

Accepting the \$ 60 billion OPA estimated costs for the IPSP and adding in something for fuel and labour, costs of 10 cents, 10 cents and 15 cents for base, shoulder and peak or a ratio of 1 : 1 : 1.5 may be more appropriate.

With a high fuel cost component, the ratios will be less stable than the present ratio has been and will likely need regular adjustment.

There are reasons to get the ratios about right and adjust them as needed to reflect fuel prices.

- 1 The ratios can encourage load shifting and conservation. If the ratios are wrong they will encourage inefficient and counter-productive efforts.
- 2 As there is full cost recovery in the RPP, if the ratios do not accurately reflect cost structures, consumers who use more of the relatively over-priced power will subsidize those who use more of the under priced peak power. (A fear is that if off peak

and shoulder use is over-priced, farmers, miners, foresters, who tend to be off peak will overpay and subsidize power for peak users – offices etc.)

- 3 Without accurate long term price guides (which the ratios will be assumed to be) investments in alternative peak power such as night storage could be over or under compensated leading to inefficient levels of investment.
- 4 If market prices by peak, shoulder and off peak do not reflect RPP prices for peak, shoulder and off peak variance accounts will be inaccurate for users and incentives to go to contracts or stay with the RPP will be skewed.

A continuation of the 1 : 2 : 3 ratio would lead to undesirable cross subsidy between consumers and counter productive load shifting. Thus the ratio between peak, shoulder and off peak prices should be regularly changed to reflect the changing cost structure as it evolves with implementation of the IPSP or other planned or unplanned efforts. There should be no sense of attachment to constant price ratios or a sense that a constant price ratio will reflect costs appropriately.

Setting prices using the 1 : 2 : 3 ratios versus ratios based on the IPSP costs transfers over \$ 1 billion a year from slower growth off peak regions to higher load growth peak dominant regions. As regional data in the IPSP evidence masks information (there are also transfers inside each region) the transfers from all off peak users to peak users are much larger and very adverse for farms, forestry, mining, etc as well as northern, rural and small town Ontario.

And given the plan that peak power be largely gas power, and the concern for regular adjustment because of volatile gas prices, it is appropriate that something akin to the Quarterly Rate Adjustment Mechanism for gas should be introduced into the cost of peak power under the RPP.

Third Concern: Should TOU Rates Promote Conservation and Other Goals or Not

The aggregate revenue collected by a rate scheme may reflect the total cost of providing power or it might not. The ratio of peak to shoulder to off peak rates will either reflect the costs of providing power for those time frames or not. If the rates do not reflect the costs of providing power there are several options.

Rates might reflect

- 1 willingness to pay of consumers in a more or less competitive market. In this case total revenues reflect prices paid for power which may include losses or profits for providers. Costs of provision are not directly reflected in the short term and may be in the longer term.
- 2 a desire by government to make power lower cost in order to promote business development or the provision of social amenities such as hot water and light in homes.
- 3 a desire by government to make power higher cost in order to promote energy conservation and load shifting.
- 4 a mix of market influences and social goals varying with time of use and perhaps also varying by class of customer.

There is a widespread desire on the part of many participants to promote energy conservation and the provision of renewable energy in part by modifying the rate structure. And there is widespread concern that rates provide a stable business environment for farming, manufacturing, mining and forestry and other employers for whom energy costs are significant. Can all these desires be accommodated in a single rate system?

A rate structure that bills residential, farm and small business customers as outlined in the first section would recover the costs of providing power to these people but ensure lower costs for 'essential' home use, farms and small business.

All customers on TOU should have the same base rate, set according to the cost of providing that power.

Commercial and government offices should have premium peak and shoulder rates as these groups have had low uptake on conservation efforts and apparently have the greatest room for conservation. Billing that reflects penalties for excessive growth in use and savings for reduced use compared to the same month in the year before have also proved to be effective in promoting conservation.

Forestry, food processing, manufacturing, mining, farming have all demonstrated strong cost consciousness with respect to energy prices. A flat TOU rate for both peak and shoulder use that is offset by the higher rates in the government and commercial sector would help keep jobs in Ontario and markets for food for processing etc. The economic incentive for conservation is added profits, the same as it has always been. This incentive does not apply in the other sectors to the same extent and has to be supplemented by the different designs of rates for those sectors.

It appears that in the IPSP the assumption is that the 1 to 2 to 3 ratio of rates would continue. The cost structure of base, to shoulder to peak will no longer be in those ratios and peak users (primarily in urban areas) will be subsidized by off peak users (primarily in rural and northern areas). It is not possible to have different prices for different areas except for transmission and distribution and this would not address the difference in use of expensive peak power versus less expensive off peak power. Farming, mining, forestry would be subsidizing offices and government. The alternative is to get the costs of peak, shoulder and base power to accurately reflect the costs or move to a pricing model that reflects the broad scope of government intentions for conservation, home use, and industrial support.

Summary

1 All residential and small volume customers should have access to 12,000 kwh a year at a fixed price with the volumes per month varying between summer and winter months. Volumes in excess of the monthly allotment and the annual allotment would be at substantially higher prices.

2 All customers with smart meters should receive bills that show what they would be paying on TOU and the system they are on, whether that be RPP or a retail contract or the a pass through price. As customers see that they would pay less on TOU rates they could voluntarily switch to TOU rates.

3 Customers should receive incentives that vary from base to shoulder to peak periods for reducing power use when compared with the same month the year before. These incentives should not be weather normalized. They should start with the first kwh of reduction and grow with the savings. This would accentuate the idea that TOU has different prices and different prices because power in different periods different values and production costs. Customers with roof top solar, small bio-generators, wind etc., should receive these incentives for reduced use as well.

4 TOU rates should closely reflect actual production costs of power for peak, shoulder and off-peak periods. It is probable that the present 1 : 2 : 3 ratios will not reflect costs if and when Ontario becomes more dependent on gas and nuclear powered generators. To achieve this, a detailed cost of production review will be needed and prices will have to be adjusted regularly to reflect changing fuel costs.

5 Potentially one million to three million customers may consciously or otherwise opt out of the market incentives in TOU rates by paying a higher cost to a retailer. This will greatly dampen price related conservation incentives for these customers. There should be a blind comparison study of conservation habits, results between RPP and contract customers. Should one group or the other show markedly weaker conservation activity, a further review of how TOU rates should be applied would be needed.

6 Some customers (large industrial, etc.) may be able to self provide a portion of their power at a lower cost than the 70% they now get from OPG. Such customers should have the options of:

- a putting power on the grid without any Tx or Dx charge and being credited for that power so they self provide at their own cost (as unlimited net metered generators)
- b putting power on the grid as commercial generators

8 There are six kinds of responses to price increases.

- a people can pay the increase by reducing savings,
- b people can pay the increase by buying less of something else (e.g holiday travel, dental care, hire fewer employees)
- c people earn more and pay the increase (few people can pass cost increases through to customers)
- d people buy less of the thing with the higher price.
- e people buy elsewhere. (with hydro, this implies moving)

- f people can shift to better technologies to buy less, but produce more of their goods or services for which hydro is an input. (this usually takes time)

Ontario should design its TOU rates so that to the greatest extent only responses four and six are encouraged. Higher prices for peak power should apply primarily to those who appear to be using it wastefully. For example customers whose peak power use grows by more than 6% (weather adjusted if adverse) year over year for the same month might pay an additional premium on their peak power. This would be a modest adverse levy on genuine growth due to increased output etc., but it would provide some economic discipline to 'worst cases'. If this penalty on applied to peak winter and peak summer months, people would be more aware of it and more accepting of its purpose.

9 All designated customers should remain as designated customers. They would have access to the RPP Time of Use rates.

10 In introducing TOU rates the opportunity should also be used to remove some existing rate related aggravations. For example seasonal use accounts (many farm wells, likely seasonal residences etc. should be offered an annual flat rate for a maximum of seven sequential months use per year. There might be a flat rate \$500 charge for farms etc. in this category (usually a well, or grain bin) and a flat \$ 800 charge for cottages or similar use with stoves, fridges etc.