

March 3, 2022

VIA RESS

Ms. Nancy Marconi
Registrar
Ontario Energy Board
2300 Yonge St., Suite 2700
Toronto, ON M4P 1E4

Dear Ms. Marconi:

Re: Design of an “Optional Enhanced” Time of Use (TOU) Rate (EB-2022-0074)

The Minister of Energy has asked the Ontario Energy Board (“OEB”) to advise on the design(s) of an “optional enhanced” TOU rate to further incent demand-shifting away from peak periods to lower-demand periods. The design should give consideration to price ratios, price periods and seasons; revenue and cost recovery; reliability and adequacy. On February 17, 2022, the OEB presented its proposed price design option and requested stakeholder input to inform its report back to the Ministry of Energy.

Alectra Utilities Corporation (“Alectra”) recognizes the important role electricity distributors have in implementing an Optional Enhanced TOU Rate and is pleased to offer its comments.

The OEB has proposed an optional enhanced TOU price design which centers around the following primary features:

- Ultra-low overnight pricing between 11pm and 7am, seven days per week;
- Higher On-peak pricing between 4pm and 9pm on weekdays;
- Mid-peak periods between 7am and 4pm and 9pm to 11pm on weekdays;
- Off-peak periods between 7am and 11pm on weekends;
- Price periods consistent year-round, without summer/winter seasonal changes.

The proposed optional enhanced TOU price design structure bears similarity to the overnight plan of Alectra’s RPP Roadmap pilot (“Alectra’s Advantage Power Pricing Overnight plan”, or “Alectra’s overnight pilot”), which offered savings opportunities to customers with the ability to load shift to overnight periods through a low overnight price. Participating customers were pleased with this plan, and we are supportive of offering a similar price plan to our customers.

The proposed optional enhanced TOU price design includes the ultra-low overnight rate as a fourth price period and extends higher On-peak periods until 9pm (on-peak rates end at 7pm or 5pm on standard TOU in winter and summer, respectively). Given that Ontario’s peak demand

typically occurs between 4pm and 9pm in all seasons, this will increase economic efficiency by aligning high prices with high periods of demand.

The new price plan would also feature enhanced price ratios compared to standard TOU prices. Higher On-peak prices would be equal to ten times the Ultra-Low Overnight price. The Mid-peak and Off-peak prices included in the optional enhanced TOU price structure may or may not match that of the standard TOU price structure.

Alectra generally supports the price plan proposed by the OEB and commends the effort to design a pricing option that has the potential to provide both value and choice for ratepayers. Alectra's overnight pilot program provides sufficient evidence that the proposed price plan design has the potential to deliver favourable impacts for all of Ontario's ratepayers.

Ontario will undergo significant change over the coming years and decades as more customers adopt Electric Vehicles ("EVs") and increased electrification arising from solutions that lead to net zero emissions. In light of growing trends toward electrification, and as customers and businesses move forward with net zero ambitions, it is imperative that the sector be prepared with the right solution to meet the moment. The proposed pricing plan is a good step forward in helping the province to prepare for this eventuality, and to carefully monitor and study changing behaviours resulting in changing load profiles.

Following implementation, the OEB should evaluate the price plan design on a predetermined, periodic basis with a commitment to ensure that the plan continues to produce the desired outcomes, including the following objectives:

- Offer customers choice;
- Incent behaviour that will encourage the most efficient use of generation, transmission, and distribution systems;
- Have the potential to mitigate future generation or capacity costs;
- Facilitate increasing electric vehicle ("EV") adoption rates; and
- Aid as a useful tool or strategy in managing increasing trends in electrification and net zero emission ambitions.

The formation and formulation of a new TOU rate option should be guided by the following key principles:

- Incentivize behaviours and outcomes that produce net societal benefits and optimize use of existing generation, transmission, and distribution infrastructure;
- RPP rate options should be sufficiently different and diverse that customers can make choices that best fit their circumstances; and
- Limit cross subsidization between rate options in favour of fair and equitable outcomes by reflecting the recovery of supply costs pertaining to each of the alternative rate plans.

The OEB has issued a series of questions to solicit stakeholder feedback on issues to be addressed as part of the evaluation of the proposed price design. Alectra's responses to each of these questions are presented below.

1. Will the proposed price design be effective at achieving the following goals described in the letter from the Minister of Energy?

a) Incenting electricity usage behaviour that will benefit the electricity system under anticipated increased electrification.

Of all price plans tested in the RPP pilots, Alectra's overnight pilot provided the most significant behavioural change in consumption patterns. Overnight demand increased by 45% in summer and 73% in winter periods. Consumption during summer on-peak and mid-peak periods was reduced, while winter consumption during on-peak and mid-peak periods remained consistent with status quo. The on-peak and mid-peak periods used in Alectra's overnight pilot aligned with standard TOU seasonal time periods.

Key results from Alectra's overnight pilot suggest that the proposed optional enhanced TOU price design will be effective at incenting increased electricity consumption during periods of surplus and decreasing electricity consumption during peak periods. Shaving peaks should contribute favourably to meeting the needs of increased electrification arising from greater adoption of EVs and policies that support net zero emission outcomes and assist in deferring the need for future infrastructure investment, all else equal.

b) Providing value for customers with consideration for overall ratepayer impacts.

As an opt-in price plan, the proposed price design provides value for customers by offering additional choice. Customers who are able or willing to adjust their consumption profile, either through investment in new technologies or changed behaviours, may choose to do so, while other customers who are unable or uninterested in shifting behaviour are not obligated to participate.

Shifting the consumption patterns of a contingent of customers toward less expensive timeframes should lower the cost of electricity and reduce Ontario's exports during periods of baseload surplus, which will provide value to all Ontario ratepayers. In addition, shifting demand to periods of lower usage serves to better optimize the use of existing infrastructure, and could act to mitigate the need for future infrastructure investment (all else equal).

2. Do you have any recommendations for improving the price design to achieve the goals listed above?

It is Alectra's view that the time periods and price structures included in proposed price design have the potential to incent changed consumption behaviours that benefit the overall system. Alectra is in favour of the proposed Higher On-Peak price period from 4pm to 9pm. Customers' ability to adapt to a new demand profile is linked with the length of the On-Peak period (i.e., a five hour On-Peak is preferable to the standard six-hour On-Peak period). In Alectra's view, the OEB has appropriately captured the system peak hours in the On-Peak period of the new plan. Maintaining the same profile in both summer and winter seasons year-round is also logical as it provides a consistent schedule for customers to adapt to and evaluate the plan's efficacy for their circumstances.

Alectra recommends that to promote uptake of the enhanced TOU plan, the OEB take the initiative to educate customers about the relationship between generation costs and provincewide peak loads that precipitated the design of the optional enhanced TOU pricing plan.

3. Does the proposed price plan pose any risks not already considered?

Alectra recommends that the OEB commit to periodic monitoring of changes to Ontario's demand patterns and system-wide peak usage once the new plan has been implemented. The potential for changes to Ontario's electricity consumption profile will be a function of customer participation in the new plan and resulting changes in individual consumption behaviours and technology utilization.

Significant changes in Ontario's demand and peak patterns could have material and beneficial impacts to asset utilization and future infrastructure planning. These impacts should be monitored over time and as customers decide which rate plans best suit their needs.

However, in Alectra's view, it is more likely that customer uptake for the alternative TOU pricing plan could be low, at least at first. Adoption rates for Alectra's pilot were low and the same can likely be expected for the alternative TOU price plan, at least for an initial period of time, as customers gain an understanding of their price plan options and while EV adoption rates climb. The quantity and location of customers who own electric vehicles is currently not specifically known. The participation rates for other customers who may enroll (e.g., night-shift workers, farms, customers who choose to fuel switch during winter or precool during summer, and those with storage facilities) are also unknown at this time. The OEB may wish to consider more detailed forecasting for potential customer enrollment by way of a survey or similar engagement to better evaluate expected costs and benefits.

Further to rate plan uptake, an additional unknown is what impact a new rate plan would have on customer consumption profiles. While Alectra's overnight pilot provides some good illustration in this regard, it should be noted that the pilot was in effect prior to the impact of the COVID-19 pandemic, which may have long lasting impacts to consumption and demand patterns. The long-term effects of the pandemic on usage patterns remains to be seen.

As noted by OEB staff, an additional risk (which has been identified) is that the alternative TOU pricing structure may not provide long term savings for customers. This risk will very much depend on how the OEB determines it will recover RPP costs (discussed further below). This in turn, may prompt customers to switch back to, or back and forth from, the standard TOU rate plan.

The new alternative TOU plan may also result in inconsistent, or diverse, uptake across different regions throughout the province. It may be the case that uptake in rural areas will be less than in urban centres if the proliferation of EVs is less in these areas. Alternatively, it may also be the case that city dwellers are less able or inclined to change their consumption behaviours. In Alectra's view, this risk, and the resulting impacts, is currently unknown and therefore, should be monitored closely over time after implementation.

Finally, Alectra also wishes to advise the OEB that implementation may be time consuming and expensive for many utilities, for a variety of reasons. From a technical perspective, it will be necessary to make changes and updates for the following items:

- MDM/R framing of TOU buckets based on two different rate options and synchronization of distributor billing systems and file structures to match;
- Logical meter setup changes to accommodate a fourth price period;
- Billing quantity response process modifications to accommodate file structure changes;
- Bill presentment changes;
- Modifications to customer set-up and switching processes; and
- Changes to monthly IESO settlement process.

All of the items above will require reconfiguration, testing and validation in order to operationalize a new rate option for customers. It is also expected that the IESO/SME will need to make changes to the MDM/R; any changes to rate plans must also include reference to such enabling changes being made. Likewise, there would need to be changes to O.Reg 95/05, for which the government may need to conduct consultation.

Alectra recommends that the OEB ensure a strategic view of a potential future that may include additional rate options. Any solution implemented on the side of the SME/MDM/R for optional enhanced TOU rates should support other future iterations of TOU options, rather than this single proposed option.

Similar to the introduction of Customer Choice in November 2020 (for Tiered pricing), distributors will need to develop assessment tools, opt-in forms and procedures, and generally be prepared to educate customers on the new pricing option. On this last point, Alectra's view is that procedural changes and customer education efforts that will be required to successfully implement this new rate option will be appreciably more complex than the Customer Choice initiative. Customers will require tools that allow them to create mock bills using various consumption outcomes so that they may assess or validate the case for investment or behavioral changes.

For these reasons, Alectra believes that a realistic timeline for implementation should be no earlier than November 2023. This timeline has several other advantages as well. First, it is consistent with the current RPP price setting timeline for November of each year. Second, it is also consistent with the timelines for the implementation of Green Button, and therefore system changes can be approached in a comprehensive fashion, rather than in piecemeal and fragmented ways. Finally, it will allow the OEB and stakeholders time to study, evaluate, and propose enhancements to the RPP price setting methodology to determine if and when any changes should be made (discussed below).

4. Which types of consumers will be interested in choosing the proposed price plan?

The main beneficiaries of the alternative TOU plan, which features an ultra-low overnight rate are electric vehicle ("EV") users, shift workers, and households that are able to fuel switch in the winter for heating purposes and/or precool in the summer overnight period. Farms and small businesses that use equipment that can be scheduled to run during off-peak hours may also benefit.

Generally, households who have more flexibility in the timeframe that they run equipment and those with control technology (e.g., smart thermostats) or storage capabilities (including EVs) would be most likely to choose the proposed optional enhanced TOU price plan.

5. Should consumer cost savings (i.e., under-recovery) from shifting consumption be recovered from all RPP consumers in subsequent price-setting periods? If not, how should those costs be recovered?

As per the Ministers' letter, the objective of the proposed optional enhanced TOU price design is to incent electricity usage behaviour that will benefit the electricity system considering anticipated increases in electrification stemming from vehicles and buildings and to provide value for customers. The goal of the price design is to accommodate and incentivize different behaviours that optimize and enhance the efficiency of grid use, which will assist in limiting the need for new infrastructure investments in the future, as well as reducing the greenhouse gas content of the electricity used.

Alectra favours an approach where each price plan option is responsible for recovering the costs for which it is accountable without creating undue cross-subsidization. In theory, this is the intention of the existing RPP price setting methodology. Specifically, the OEB's RPP Manual states the following:

The RPP supply cost is the cost of electricity supply for RPP consumers under the Market Rules, adjusted by cost factors relating to each of the other streams of supply and by certain costs that the IESO incurs to carry the RPP-related variance accounts. The costs of these streams are apportioned to RPP consumers in accordance with their share of total provincial electricity demand.¹

Customers who avail themselves of the opportunity for savings through the enhanced optional TOU price plan may have to make investments in technologies or change behaviours to secure savings opportunities. The benefit of these actions will accrue to all customers – both participants and non-participants in the form of reduced need for new infrastructure, all else equal. It would be unjust to burden participating customers with an undue portion of peaking supply costs inconsistent with their contribution for the need for such costs. As indicated in the Manual, each price plan should seek to recover the supply costs necessary to support the demand profile each plan encourages or incentivizes.

If consumers on the optional enhanced TOU rate produce cost savings from shifting consumption (i.e., under-recovery using the existing RPP methodology), then, following principles of cost causality, the cost savings should necessarily accrue to these customers. An important consideration is that the number of customers on this new optional rate plan is likely to be very low, at least in the early years. When Alectra launched its overnight pilot, significant time and effort was put into marketing the program in order to secure 500 participants. Moreover, in Alectra's experience, customer behaviour has considerable inertia, and driving change, especially towards something novel, is challenging. The current penetration of EVs (a large portion of the target market), while growing at approximately 30 percent per year, is still a small percentage of all customers. It follows that if the benefits derived from this plan are reallocated to other customers (or if under-recovery from other plans is allocated to these customers) it will dilute the benefit to participants, thus disincentivizing the very behaviour sought.

As a final point, if the savings to be achieved are diluted, then any investments (technological or behavioural) these customers make to affect the desired outcome necessarily become less attractive. Not only would customers be less willing to make such investments in the future, but

¹ Regulated Price Plan Manual, Ontario Energy Board, Issued October 13, 2020, p. 10. In practice, and as discussed below, the current price setting methodology, however, is framed so that each rate option is designed to recover average RPP prices, which is not consistent with the notion that costs are apportioned in accordance with their share of total provincial electricity demand.

it is also likely that attrition rates would be high, effectively rendering the plan unsuccessful if the objective is to incent shifts in electricity usage. This is consistent with the entire rationale for TOU prices, as explained by the OEB as follows:

One of the objectives of having time-of-use meters is to give consumers more precise price signals and incentives to respond to those price signals. Consumers that are billed on the basis of time-of-use prices see prices that differ during the day, reflecting relative costs of generation at different times and allowing consumers to benefit by shifting or changing their consumption in response.²

Alectra encourages the OEB to derive and assess new approaches to the RPP price setting methodology that unbundle the costs associated with each of the RPP options such that supply costs are allocated to, and recovered from, the customers participating in each price plan, accordingly.

6. Under the OEB’s current price-setting methodology, everything else being equal, alternative TOU prices are expected to increase in response to consumers shifting demand to lower-cost periods.

a) Will this price increase pose a risk to achieving the goals described in the letter from the Minister of Energy?

In the short term, the issue that gives rise to a potential increase in alternative TOU prices is directly related to how RPP prices are designed.

In the current price setting methodology, each plan is designed to recover the average RPP cost associated with total supply. In other words, all supply costs are aggregated and converted to an average level and then the price levels are set based according to system load profiles, time periods corresponding to the load profiles, and differential price ratios between time periods such that the average RPP cost is recovered. This is articulated in the RPP Manual as follows:

Time-of-use prices are set to make the forecast average price charged to consumers that are being billed on the basis of those prices equal to RPA, the average RPP price. The basic methodology for determining the time-of-use prices, the values of RPEMOFF (price during an off-peak period), RPEMMID (price during a mid-peak period), and RPEMON (price during an on-peak period) is to use data from the forecast cost of RPP supply and the forecast demand for such consumers to determine a set of prices that reflects their supply cost and that averages to RPA.³

² Ibid., p. 22.

³ Ibid., p. 22.

Due to a greater reliance on ultra low overnight rates, it is expected that the new rate option would effectively under recover the average RPP cost, thereby leaving alternative price plan customers to pick up the difference.

Alectra suggests that one way to partially mitigate this expected under-recovery is to set the on-peak prices for the new price plan to much higher levels (i.e., a higher price differential ratio) than those for the traditional TOU rate design. This would be, in effect, the quid pro quo for customers that participate in the enhanced TOU rate program – much higher on-peak prices, for much lower overnight rates. However, this may not be enough to fully recover the difference. As with the response above in question 5, however, Alectra encourages the OEB to investigate alternative price setting mechanisms that assign and attribute costs more directly to customers in each plan who cause the costs. This is a just and reasonable approach to rate setting.

In the final analysis, however, Alectra does not believe that if alternative TOU prices are impacted as a result of demand shifting to lower cost periods that this would be acting counter to the direction provided in the Minister’s letter. The Minister’s letter was clear that the intention is to prepare for increased electrification in part by promoting the shifting of loads to lower-demand overnight periods, as follows:

Over the coming years, electrification of emissions-intensive sectors is expected to provide opportunities to reduce province-wide emissions. This trend will also put pressure on the electricity grid. There is an opportunity to consider new rate designs that could anticipate increased electrification and support the decarbonization of the economy, such as by shifting electricity loads to lower-demand overnight periods when Ontario has more electricity available, and electricity is generated largely from non-emitting sources. Shifting loads to overnight periods may also have the added benefit of increasing efficiency in Ontario’s electricity grid.⁴

While Alectra appreciates the concern, Alectra’s view is that it would be a greater risk to achieving the goals set out in the letter from the Minister not to implement a rate plan that will facilitate more efficient usage of existing infrastructure by adopting the new plan.

Further, Alectra believes that over the long term, greater reliance on baseload generation and less reliance on peaking supply would lead to a lower Hourly Ontario Electricity Price (“HOEP”), thereby reducing commodity prices for all customers (all else equal). In addition, incentivizing shifts in demand could have longer term impacts somewhat offsetting the need to build incremental capacity infrastructure at both the transmission and distribution levels. In large part, these are the reasons why Alectra is supportive of the introduction of the Enhanced TOU option.

⁴ Letter from Minister of Energy, Re: Design(s) of an Optional Enhanced Time-of-Use Rate to Enable Additional Customer Choice, Issued November 16, 2021, p. 2.

b) Should the OEB consider changes to its price-setting methodology to provide longer-lasting financial incentive for consumers to shift demand?

Yes, the OEB should consider changes to its price setting methodology. As described above in Question 5, the benefits of offering a new rate plan are likely to be eliminated if the methodology makes reference to an average RPP supply cost that each plan must achieve. Each rate plan's costs and prices, as well as any variances, should be allocated to customers on that rate plan.

The OEB should evaluate the impacts of the new enhanced TOU plan as new information becomes available. Subject to the principle of cost causality, the OEB should evaluate whether changes to the RPP price setting methodology could better facilitate the allocation of costs to the rate plans which align with differing demand profiles. The OEB should establish an annual review of the price setting methodology and its appropriateness for the first several years once the new rate plan is introduced.

7. The OEB has proposed the use of historical/baseline load profiles to set alternative TOU prices to avoid/delay price increases and provide a longer-term financial incentive.

a) Will this proposal help in achieving the goals described in the letter from the Minister of Energy?

Alectra favours the OEB's proposed use of historical/baseline load profiles to avoid or delay price increases and provide longer term financial incentives. This method appropriately captures the efforts of opt-in participants who have modified behaviours to shift Ontario's peak usage. This may impact attrition rates as well, which could reasonably be expected to be lower as a result.

b) What are some potential risks with implementing this proposal?

The main risk with the usage of historical/baseline load profiles to set alternative TOU prices is that the past two years have been substantially impacted by the COVID-19 pandemic. It may prove that the load profiles associated with the pandemic are different than those which can be expected as things return to more normal-like operating conditions.

8. What other ways might the OEB modify its price-setting procedure for the proposed alternative TOU price to provide meaningful financial incentive to shift consumption for customers on the price plan, while fairly recovering supply costs from all RPP consumers?

Alectra suggests that the OEB consider that initial uptake of the RPP TOU rate option will most likely be slow, and so to be conservative in its approach to avoid penalizing customers that do

opt-in in early on and to not dissuade future customers from joining the new plan. As stated above, in Alectra's view, the key principle to employ is to ensure that each rate plan pays its fair share of the costs it creates or contributes to.

Conclusion

Generally, Alectra supports implementation of an optional enhanced TOU price design that serves three core objectives:

1. *Benefit to Customers* – The price design should provide benefit to customers who choose to opt-in and modify behaviours. Alectra's overnight pilot elicited a significant behavioral response from its participants. Electric Vehicle owners are the most obvious beneficiaries of an ultra-low overnight rate, although given that only 43% of the participants in Alectra's overnight pilot owned or leased EVs, this is not the only segment of the population with the ability and desire to modify behaviour to reap the benefits of a low overnight rate. To prompt a shift in system-wide peaks per the price plan's objectives, the overnight price should be set to motivate behavioral changes, for example, fuel source switches in winter space heating, and summer precooling during the overnight period.
2. *Benefit to the Grid* – The proposed price design successfully aligns highest-cost rates with Ontario's peak demand between 4pm and 9pm in both summer and winter seasons, which should enable it to deliver value in terms of deferring or preventing the need for new infrastructure over time with sufficient opt-in participation. The introduction of an optional enhanced TOU price plan coincides with increasing trends toward electrification of vehicles and buildings. Alectra is pleased that the proposed price design will incentivize and promote electric vehicle uptake. The federal government has set a mandatory target requiring that 100% of all new passenger cars and trucks sold in Canada will be zero-emission vehicles by 2035. Electric vehicles are going to be the new norm; forward looking policy measures that prepare for this reality are a wise and prudent way forward.
3. *Feasible to implement* – Distributors will be challenged to implement the features of the proposed optional enhanced TOU price design in an expeditious manner (i.e., the introduction of a fourth price period, and use of alternative TOU price periods which do not align exactly with standard TOU price periods). Distributors' systems will be at varied stages of readiness to implement the proposed price design. Also, Green Button implementation is an ongoing priority requiring the resources of the same core team members. Alectra anticipates that the Smart Metering Entity will be similarly challenged to implement the features of the proposed enhanced TOU price design. The OEB may wish to consider staggered launch dates or a flexible phased-in approach for this initiative; for example, permitting distributors to enable basic functionality early in the launch with enhancements to

be built out as appropriate. This would ensure that investments are tailored to the needs of the price plan rather than estimations and assumptions. At this stage, Alectra is not in a position to estimate expected implementation costs but is interested to know more about the OEB's proposal for implementation cost recovery.

Alectra is supportive of the Ministry's desire for alternative TOU rate designs that will provide customers with options, prepare for electrification, and provide system and grid benefits. Alectra proposes that the OEB commit to investigating alternative RPP price setting methodologies and work towards an implementation time frame of no earlier than November 2023.

Alectra appreciates the opportunity to provide these comments for the OEB's consideration. Should you have any questions, please do not hesitate to contact the undersigned.

Yours truly,

Christine E. Long
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Alectra Utilities Corporation