









June 14, 2023

Ms. Nancy Marconi Registrar Ontario Energy Board 2300 Yonge St., Suite 2700 Toronto, ON M4P 1E4 Email: registrar@oeb.ca

Dear Ms. Marconi,

EB-2023-0071 – Electric Vehicle Integration ("EVI") Initiative - Electric Delivery Rates for Electric Vehicle ("EV") Charging Report

As part of the mandate letter issued by the Minister of Energy ("Minister") on November 15, 2021, the Minister requested with regard to electric vehicles ("EVs"), that the Ontario Energy Board ("OEB") "take steps to facilitate their efficient integration into the provincial electricity system." In the Minister's subsequent Letter of Direction dated October 21, 2022, the Minister fully endorsed the work plan of the OEB that included considering distribution rates for EV charging, including demand charging.

As part of the OEB's work on Electric Vehicle Integration ("EVI"), the OEB commissioned a consultant, Power Advisory, to complete an analysis of the impact delivery costs have on EV charging service providers and owners of EV fleets and explore alternative delivery rate designs to determine how they may support EV adoption while adhering to sound ratemaking principles. The OEB released its consultant report on Electricity Delivery Rates for EV Charging ("the Report") in April 2023 as part of its work under the EVI initiative.

The Report considers current electricity delivery rates for EV charging and suggests alternative rate design options that could support the adoption of EVs in Ontario. The scope of the Report is limited to electricity delivery rates for distribution-connected commercial EV fleets (e.g. public transportation, delivery trucks, etc.) and public direct current fast charging ("DCFC") stations. Two alternative rate design options were identified in the Report: (1) a time of use ("TOU") demand charge to address the needs of commercial EV fleets, and (2) a low load factor rate with multiple variations to address public DCFCs.

The Coalition of Large Distributors ("CLD") is pleased to offer comments on this important policy file. The CLD consists of Alectra Utilities Corporation, Elexicon Energy Inc., Hydro One Networks Inc., Hydro Ottawa Limited, and Toronto Hydro-Electric System Limited. Together, the CLD's

¹ Ministry of Energy, *Letter to Richard Dicerni, Chair of the Ontario Energy Board*, November 15, 2021, page 2: https://www.oeb.ca/sites/default/files/mandate-letter-from-the-Minister-of-Energy-20211115-en.pdf.











customers represent more than 3.8 million, or approximately 70% of electricity consumers located across the province.

The CLD supports reviewing rate design and connection costs mechanisms to ensure historical designs are still achieving their goals of fair apportionment of costs among customers. As such, the CLD supports review in the context of the OEB's EVI initiative and believes that effective EV integration is critical to grid investment supporting electrification and enabling the energy transition. The CLD respectfully offers the following high-level comments on the Report's rate design options, while considering long-standing and effective rate design principles.

1. Bonbright Principles

James Bonbright's *Principles of Public Utility Rates* continues to be the cornerstone reference for sound rate-making principles in any utility cost recovery regime. Two of the ten Bonbright principles state that:

- Rates should avoid undue discrimination, subsidies and inter-customer burdens; and
- Specific rates should be fair in the apportionment of total costs of service among the different ratepayers so as to avoid arbitrariness and capriciousness.

The CLD recognizes that new technologies are challenging the existing and long-standing model that was developed prior to concerns about climate change. However, the CLD is of the view that Bonbright's principles still hold true and continue to be relevant in the midst of the energy transition taking place. As recently reiterated in Electricity Canada's *Back to Bonbright: Economic Regulation Fundamentals Can Enable Net Zero*,

"On assessment of the Bonbright Principles and commonly accepted Regulatory Constructs, the path future regulation must walk is one of evolution and not revolution. The principles that governed economic regulators in Canada in decades past have proven to be sound and successful. Any future regulatory framework should be built on the success of those models, not their destruction. The enhancements required are not borne out of past failures, but future needs which differ from the needs of electricity consumers and systems over the preceding 60 years."

As such, the CLD believes that it is imperative that any new rate design alternatives should adhere to Bonbright regulatory principles.

Sound and effective ratemaking principles ensure that uniform rates are applied to groups of similar customers.

The CLD recognizes the importance of EV integration in the Energy Transition and supports the OEB's efforts to ensure that EVs are efficiently and effectively integrated within Ontario's

² Electricity Canada, *Back to Bonbright: Economic Regulation Fundamentals can Enable Net Zero*, Developed by Utilis Consulting, May 2023, page 49.











electricity system. However, the CLD notes that the Report is fundamentally contradictory to the Bonbright principle of ensuring that rates avoid undue discrimination between customers. The overarching intent of the Report is to propose rate designs that are targeted towards customers based on *who* those customers are, in consideration of their business activities.

Sound and effective ratemaking principles ensure that costs are allocated among customers or rate classes and should be allocated proportionally to the customer that caused such costs to be incurred.

In adhering to the principle of cost causation, costs should be allocated among customers or rate classes, and should be allocated proportionally to the customer that caused such costs to be incurred. The Report indicates that implementing a TOU demand charge "may cause electricity bills for some customers to increase," while implementation of the low load factor rate and impact on other customers would be dependent on the number of public DCFCs making use of the low load factor rate and their utilization. It should be clarified whether the objective in the instance of implementing new EV rate design is to ensure cost causality or to provide rate subsidies to a specific customer segment.

While EVs may be the catalyst to contemplate alternative rate design(s), there are other customers and load types that could also benefit from alternative rate designs, and ultimately incent peak shifting to benefit the grid as a whole. The CLD therefore suggests that if the OEB is to proceed in offering alternative rate design(s), it should consider whether the alternatives should be offered to customers that fit specific load profiles or characteristics rather than as a class built around the specific need for which customers are using electricity (i.e., EV charging). The Report itself acknowledges that further analysis is required to determine whether these alternatives should be offered more broadly. Specifically, it posits that "if additional customer types (i.e., beyond commercial EV fleets and public DCFCs) were given the opportunity to reduce their delivery charges through participation in the alternative rate designs, then it is possible that the validity of some of the assumptions underpinning the analysis would be eroded."⁵

From an implementation perspective, it would be difficult and costly to oversee and ensure that any specific load is used exclusively for EV charging. Such approaches have historically required complex rules and regulations to manage them (for example, the Ontario Rebate for Electricity Consumers ("OREC") Program).

Lastly, the OEB has indicated that a separate review will occur on connection costs and the use of the economic evaluation model for EV-required utility expansions. The CLD suggests that these issues are all interrelated and inseverable parts of a bigger picture rate design construct, and therefore should not be addressed in isolation of one another. In addition, the CLD offers that any

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³ Power Advisory, *Electric Delivery Rates for Electric Vehicle Charging*, Prepared for the Ontario Energy Board, April 13, 2023, page 37.

⁴ Ibid., page 40.

⁵ Ibid., page 46.











customer connection that requires a utility to expand its system would indicate that no other customer has the need for these assets and therefore, at least in the short-term, there will be no resulting asset optimization to support a reduction in cost responsibility.

2. General Concepts

The CLD notes that, while recognizing that the Report offers insight and analysis on an illustrative basis, the Report makes assumptions based on general concepts rather than providing actual analysis on customer level data that supports better utilization of assets. For instance, only one fleet size scenario was presented to illustrate impacts of other customers in the same class. The analysis neither made clear the size of the class tested, nor addressed how changes to the number of customers or overall load within the class might influence or impact cost shifting. Depending on the pace of EV adoption, it is unclear how long DCFCs would continue to have low utilization and qualify for this rate design. Would some DCFCs find the eligible rate design period insignificant while others may always require subsidized rates in order to make an uneconomic charging location feasible?

The CLD observes that a TOU demand charge for EV fleets may be supported by cost causality. However, infrastructure and assets would still be required to ensure EV fleets are able to charge if and when they need to (including during the day if required). This is likely to be the case in the first five to ten years as both fleet operators and utilities learn how best to manage capacity and utilization rates. New EV fleet operators' primary goal will likely be to ensure limited business interruption or negative impacts due to EV integration, thus requiring utilities to provide sufficient infrastructure.

While the Report acknowledges that different LDCs can have a range of peak periods based on the composition of their customers, local climate, geographic area and access to natural gas, it does not contemplate different approaches to larger EV fleets. There are a number of factors that may contribute to EV fleets' ability to load shift or support better utilization of the grid. In addition, centralized fleets may require dedicated capacity that exceeds the demand of other locally connected customers, necessitating incremental and dedicated assets to support that fleet.

3. Public EV Charging

The Report contemplates an alternative delivery rate design for public DCFCs. On July 7, 2016, OEB staff issued a Staff Bulletin⁶ indicating that EV charging services are not subject to OEB regulation. The Bulletin concluded that "In OEB staff's view, EV charging is an end use of electricity. A licence from the OEB is not required to engage in this activity and, as a result, the OEB codes, rules and other regulatory requirements do not apply to it. Moreover, in OEB staff's view, owning and operating EV charging stations is an inherently competitive activity."

Given that the OEB has taken the view that EV charging is a competitive activity, the CLD questions whether it is appropriate to create a rate design that would result in subsidization to a

⁶ Ontario Energy Board, *Bulletin - RE: Electric Vehicle Charging*, July 7, 2016.

⁷ Ibid., pages 5-6.











competitive market. If it has been determined that the competitive market requires support to meet provincial and federal EV sales goals, it is not clear that delivery rates are the appropriate mechanism to provide subsidization. Rather, subsidization to achieve public policy goals may more appropriately be provided through new Federal or Provincial support programs or funds.⁸ Given that public EV charging rates are not regulated, there is also a risk that DCFC charging owners may not pass on the subsidies (i.e. savings resulting from cross-subsidization created by new rate designs) to end-use EV customers that are in excess or no longer needed to support a DCFC's business case. Although this may not be a concern in the normal course of OEB oversight, the OEB would need to consider this impact of rate design over time in order to fulfill its consumer protection mandate. For example, the OEB periodically reviews Low Income customer support qualification rules based on current environments.

As a result, the CLD suggests that the OEB not proceed with offering a rate design alternative to public DCFCs until further analysis based on cost allocation is undertaken.

Summary and Conclusions

The CLD thanks the OEB for the opportunity to provide comments on the Report's proposed alternative rate designs. The comments herein are of a general nature. The OEB held a stakeholder meeting on May 24th, where certain specific questions were posed to stakeholders. The CLD's responses to those questions are attached as Appendix A to this letter.

Ultimately, while the CLD is supportive of encouraging EV adoption, the CLD respectfully suggests that further analysis is required prior to implementing new rate designs. The rate design proposals in the Report reflect an attempt to cater rate design to incent outcomes for a particular type/use-case of load (i.e. EV charging). This is a material deviation from the way rates have been established under long-standing Bonbright principles. While facilitating the energy transition is an important policy objective, it is important to be mindful of the manner through which it is pursued and the overall impact on customers. In other jurisdictions where such rate designs have been implemented to facilitate EV adoption (e.g. Quebec and British Columbia), they have been done in a temporary manner rather than as a permanent deviation from established rate setting principles.

The CLD suggests that the OEB consider and make clear their objectives in proposing alternative delivery rate designs for EVs. For example, is the OEB's objective to ensure the standard principles of ratemaking are adhered to, or is the objective to allow cross-subsidization to stimulate EV adoption? The report provides some high level analysis of the proposed rate designs, which the CLD agrees is a good first step to overall understanding and impacts of EV integration. However, the CLD submits that clarity with regard to the objectives and further work on the proposals to address those objectives is required before any option should be pursued.

⁸ For instance, Natural Resources Canada's Zero Emission Vehicle Infrastructure Program: https://natural-resources.canada.ca/energy-efficiency/transportation-alternative-fuels/zero-emissionvehicle-infrastructure-program/21876.











The CLD appreciates the OEB's attention to these issues and the CLD's comments herein.

If you have any questions regarding our comments, please contact the undersigned.

Sincerely,



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Appendix A

Questions and Considerations asked to Stakeholders at the OEB's Stakeholder Meeting held on May 24, 2023

Alternative Rate Designs

1. To what extent are the proposed alternative rate design options effective solutions for the challenges identified?

As noted in the body of the submission, the proposed alternative rate designs do not appear to effectively address the challenges identified due to a misalignment between a sound rate making principles and the policy issue to be addressed (i.e., the guestion of whether cross-subsidization should occur to support uptake of EV fleets and public charging stations).

While there might be some flexibility in shifting usage patterns at home for residential customers, when it comes to public charging, individuals are likely to charge their vehicles when needed regardless of the cost (on the basis that charging outside the home is a less discretionary activity that cannot be timed). Furthermore, since the rates for public charging are not regulated by the OEB, it remains unclear whether any subsidies provided for establishing the charging infrastructure would eventually cease once a viable business case is established. As a result, end-use customers will use public charging during peak times if it is convenient and there is no quarantee the rate design would otherwise incent them to change their behaviour. In addition, while it is prudent for the OEB to reevaluate what costs are related to Non-Coincident Peak ("NCP") and Coincident Peak ("CP"), these conclusions would not be specific to only EV consumers.

Additionally, not all charging stations will be strategically located to maximize asset utilization. The research conducted thus far has not determined the percentage of distribution or transmission assets that would be better utilized. Distribution and transmission assets may not experience the same level of benefit from EV fleet charging. It is unclear if the OEB intends to incorporate this into any proposed rate design.

Regardless of the delivery rate structure, utilities will need to invest in building new infrastructure to accommodate EV fleets. This infrastructure would need to provide a standby-type charge capability, as it is believed that EV fleet customers would want the assurance of being able to charge whenever they need to, regardless of the time of day or delivery rate structure.

The main consideration for EV fleet charging does not necessarily revolve around delivery costs. Fleet owners who are also Class A customers, for instance, will make efforts to shift their usage to avoid Global Adjustment charges whenever possible. Therefore, delivery rates are not necessarily the hindrance to the adoption of EV fleets, although the benefits











of a new delivery rate may coincide with peak shifting for Class A customers. Most EV fleets tend to charge their vehicles overnight, which raises the question of whether an overnight peak in charging demand might become a concern if all fleets follow the same pattern. However, some fleets may still need to charge their vehicles during the day, and further analysis is required to understand the potential impact on the overall system and customers.

It will take time and the accumulation of data and experience to obtain sufficient utilization data necessary for optimal infrastructure planning. The first priority for utilities will be to serve the needs of fleet customers and minimize any negative impacts on their businesses. In addition, the first priority for fleet owners will likely be to ensure business needs are met, while optimizing charging for delivery rates will likely be a secondary consideration.

It is also noted that it appears temporary rate riders have been used as part of the delivery cost rates presented in Table 4 (page 12 of the Report). For example, it appears that for the Rural Moderate LDC, among other rate riders, a Lost Revenue Adjustment Mechanism ("LRAM") rate rider is included. The LRAM rate rider accounts for approximately 4.5% of the Rural Moderate LDC rate. It is suggested that temporary rate riders related to historical balances should not be included in the analysis, as they are not reflective of future costs and could impact the outcome of the analysis.

2. To what degree does the cost allocation proposed in the example constructions of each rate (section 4.1 in report) reflect cost causation of the costs imposed by EV consumers?

Time-of-Use ("TOU") pricing may partially align with cost causality principles. However, the CLD notes that distribution and transmission assets would not receive the same level of peak demand reduction benefits.

The notion of a low load factor, which suggests a shift away from peak demand, lacks supporting data and could lead to cross subsidization. If the current cost allocation model over-allocates costs to peak demand, it should be rectified for all customers to ensure fairness and accuracy. Instead, the proposed low load factor design gives the impression that the design was driven by its end impact on EV customers' charging costs rather than cost causality.

It is also unclear at this time how this rate design would align with connection and expansion costs.











3. Does the proposed cost allocation justify the potential increase in the cost to other non-EV consumers?

The CLD does not believe the proposed cost allocation justifies the potential increase in the cost to other non-EV consumers. As noted in its submission, the objectives of the OEB are unclear on this issue. Introducing rate designs that align with social policy objectives deviates from long-established rate setting principles used by economic regulators such as the OEB.

Moreover, the justification for potential cost increases imposed on non-EV consumers should be addressed and supported by a more holistic analysis in accordance with the OEB's consumer protection mandate. It is important to recognize that not all customers are vehicle owners (residential and/or commercial customers), and therefore, the same opportunities may not be available to all customers. Introducing rate subsidies based on the ability to own or make use of an EV, especially in the early phases of EV adoption, could be construed as discriminatory towards those who are unable to access such benefits.

Additionally, when shifting costs from peak to non-peak cost drivers, it remains unclear whether smaller businesses will bear a larger share of the increased costs. Further examination is required to understand the potential distribution of costs among different customers and if certain customers would have unreasonable impacts.

4. Are there other alternative rate design options, not considered in the report, that the OEB should consider?

The CLD suggests that if a rate design were to be put in place that adjusts NCP and CP for all customers, costs would be shifted and would ultimately be based on cost causality. In that case there would be no need for rate optionality.

Format and Process

1. To what extent should the design of the rates be consistent across LDCs (based on the same cost allocation methodology, billing determinants, and TOU time periods as appropriate)?

To ensure fairness and consistency, in the event that such rates are approved, the alternative rate designs for EV charging should be based on consistent principles for all LDCs. This however may not result in the same shift of NCP and CP costs.

For the TOU rate design, it is important to allow for sufficiently wide time periods that can accommodate the diverse localized peaks in electricity demand. Geographic variations need to be taken into account when determining rates, considering factors such as different peak times, urban versus rural EV charging and usage patterns, climate











conditions, and other regional disparities. This approach acknowledges the need for rates that reflect the specific characteristics and requirements of each geographical area, promoting equitable and effective charging solutions for EV users.

Moreover, if the policy objective of the proposed alternative rates (Low Load Factor, TOU) is to ensure cost causality is maintained, these principles should be reflected across all LDCs, recognizing actual rates and billing determinants will vary amongst LDCs.

2. Should implementation of alternative EV delivery rates be optional or mandatory for individual LDCs?

To promote fair pricing and accommodate varying energy consumption patterns, the CLD believes that alternative EV delivery rates should be made available to all customers across the province by all LDCs.

If proposed rate alternative solutions are optional for LDCs, this may have the unintended impact of encouraging service providers to site charging stations in locations where these alternatives exist, creating disparity in public charging services across LDCs, and disadvantaging customers in regions where the preferred rate options are not available for public charging companies.

3. Should alternative delivery rates be introduced as a new rate class, within existing rate classes (e.g., via a new output worksheet in the cost allocation model) or using another method?

Sound cost allocation methodologies should be put in place regardless of if delivery rates are introduced as a new rate class or within an existing rate class. More analysis is required on the different scenarios to properly address this question which would be better considered as part of implementation. The CLD also notes that, as indicated by the Report "If additional customer types (i.e., beyond commercial EV fleets and public DCFCs) were given the opportunity to reduce their delivery charges through participation in the alternative rate designs, then additional analysis would be required to understand implications including system impacts and potential for cost shifting."

Consumer Optionality

1. Should the alternative rates be optional or mandatory for the targeted EV consumers?

CLD members are of differing opinions on the notion of delivery rate optionality. Some members believe that alternative delivery rate designs should be offered to all similar

⁹ Power Advisory, *Electric Delivery Rates for Electric Vehicle Charging*, Prepared for the Ontario Energy Board, April 13, 2023, page 5.











consumers on an optional basis, and not be mandatory for customers who may not be able to benefit from a new rate design that promotes load shifting. By giving all customers the choice of alternative rates, LDCs can better align the cost of energy with the actual usage patterns of their customers. This approach recognizes that different customers have distinct energy needs and consumption habits and aims to provide them with flexibility and cost savings that may ultimately help to levelize consumption on the grid and encourage responsible consumption outcomes and optimize the allocation of resources.

Other CLD members believe that alternative rate designs should not be optional. While optionality makes sense at the commodity level given that the model has been developed to be revenue neutral, an optional form of delivery charges is somewhat unprecedented and presents implementation, rate setting and cost allocation challenges. In addition, unlike the Regulated Price Plan where commodity rates are 're-based' on an annual basis allowing for variances in revenue collected to be disposed of each year, distribution rates are set on five-year rate terms and there is no mechanism to capture variances in revenue collected resulting from customer rate switching during the rate term.

Whether the rates are optional or mandatory, the CLD submits that the implementation of any new rate structures and optionality needs to be structured to ensure that distributors are able to recover their costs. At the stakeholder session, OEB staff mentioned RPP rates as an example of optionality. The CLD notes that the structure of RPP prices is such that variances are accounted for and that cost recovery is ensured.

2. What are the risks/opportunities of offering the alternative rate(s) to all consumers on an optional basis?

When considering rate designs, it is important to prioritize leveling the energy usage rather than forcing all customers to shift exclusively to overnight consumption, which could inadvertently create an overnight peak and undermine the intended goal. It is important to carefully define and consider the characteristics and profiles of the specific consumer classes that are being targeted from the outset. This approach is similar to the concept of Global Adjustment, where the focus is on identifying and categorizing the intended beneficiaries.

The elements of an electricity bill are already confusing for many customers. Having rate optionality on multiple portions of the bill may further add to customer confusion and dissatisfaction. In addition, customers using a low load factor rate design may have challenges understanding when and for how long the design will be beneficial.

Since LDCs lack historical data on delivery rate optionality, it is unlikely that stability will be achieved in the short term. Therefore, if the OEB were to proceed with alternative rate designs on an optional basis, LDCs would require a mechanism, similar to the IESO (variance accounts), to ensure their financial sustainability. In the current context, the focus should not be on assessing the material impact but rather on implementing the necessary measures to drive desired changes in energy usage patterns.











Eligibility

1. Should the alternative rate(s) be offered to EV charging consumers for EV charging load exclusively?

The CLD believes that the alternative rate(s) could be offered to any consumer that falls into the specified load characteristics, rather than for EV charging load customers exclusively. However, further analysis is required to understand the impacts of such a decision on cross-subsidization between customers before such a decision is made. The Report itself acknowledges that further analysis is required to determine whether these alternatives should be offered more broadly. Specifically, the Report states that "if additional customer types (i.e., beyond commercial EV fleets and public DCFCs) were given the opportunity to reduce their delivery charges through participation in the alternative rate designs, then it is possible that the validity of some of the assumptions underpinning the analysis would be eroded."10

Should the rate design not be provided to all customers, then the CLD believes it should only be allowed for EV charging load exclusively. Otherwise, the OEB would be allowing some customers with mixed loads the ability of misusing the new rate design.

2. To what degree should the alternative rate(s) be offered to any customer having defined load characteristics (e.g., low load factor)?

While, in principle, the alternative rate(s) could be offered to any customer having defined load characteristics, further analysis is required to understand the impact of offering the alternative rates more broadly.

3. Are there other specific consumer types who should be eligible for the alternative rate(s)?

Any customer who has the same defined load characteristics should be eligible for the alternative rate(s), however, as noted, further analysis is required prior to implementing new rate designs more broadly.

4. What are the risks/opportunities of offering the alternative rate(s) to all customers on an optional basis?

As noted above, some CLD members note that there are risks of offering delivery rate optionality. Distribution rate optionality represents a substantial deviation from current rate

¹⁰ Ibid., page 46.











setting practices and runs the risk of under-recovering prudently incurred costs. Significant further analysis is required.

Metering

1. If required, will the cost of separate metering for EV charging (or other approved means of measuring consumption) outweigh the benefits of the alternative rate(s)?

If separate metering is required, would there be a percentage requirement of EV charging load compared to non-EV charging load? In some cases, customers may want and choose to meter the EV charging load separately, but this may not be true for all customers. If separate metering were required specifically for EV charging load, who should bear the connection and ongoing maintenance costs associated with that infrastructure? The CLD suggests that these implementation considerations, including implementation costs be contemplated and consulted on prior to deciding on the implementation of a new rate design.

Given the uncertainties described above, it is unclear if the costs of separate metering would outweigh the benefit of alternative rates from a pure rate making perspective. However, other commercial customers already consider this when approaching how to meter their facilities for a number of reasons - other than and including rate design.