August 23, 2022

VIA RESS

Ontario Energy Board
P.O. Box 2319,
2300 Yonge Street, 27th Floor
Toronto, ON M4P 1E4
Attention: Registrar

Dear Ms. Marconi,

Re: Alectra Utilities Corporation ("Alectra")
Incremental Capital Module Application for 2023 Electricity Distribution Rate Charges
Board File No.: EB-2022-0013

We are counsel to the Distributed Resource Coalition ("**DRC**"). Please find attached DRC's written submissions in the above-noted proceeding, filed pursuant to Procedural Order No. 1.

Sincerely,

DT Vollmer

c. Natalie Yeates, Alectra
Charles Keizer, Torys LLP
Wilf Steimle, Electric Vehicle Society
Cara Clairman, Plug'n Drive

Encl.

ONTARIO ENERGY BOARD

IN THE MATTER OF the *Ontario Energy Board Act, 1998*, S.O. 1998, c. 15, Sched. B, as amended (the **Act**);

AND IN THE MATTER OF an Application by Alectra Utilities Corporation (**Alectra**) to the Ontario Energy Board for an order or orders approving or fixing just and reasonable rates and other service charges for the distribution of electricity as of January 1, 2023.

EB-2022-0013

SUBMISSIONS

OF

DISTRIBUTED RESOURCE COALITION

(DRC)

August 23, 2022

INTRODUCTION AND OVERVIEW

1. We are counsel to the Distributed Resource Coalition (**DRC**) in Alectra's application to the Ontario Energy Board (the **OEB** or **Board**) under section 78 of the Act, seeking approval for Incremental Capital Module (**ICM**) funding for certain underground cable renewal projects in the PowerStream and Enersource Rate Zones, effective January 1, 2023 (the **Application**).

2. DRC is a group of electricity customers and consumers, non-profit organizations, and owners' associations. DRC's members are directly affected by and interested in: (i) optimizing existing energy assets; (ii) efficiently facilitating the integration of existing and innovative distributed energy resources (**DER**s), including electric vehicles (**EV**s), to achieve customer and grid solutions; and (iii) providing input on direct customer needs and local distribution company opportunities relating to EVs. DRC's members for this proceeding include the Electric Vehicle Society and Plug'n Drive.

3. The use and integration of DERs, including EVs, is unfolding at a pace already exceeding Alectra's recent and previously reasonable expectations. The accelerating transition to these distributed technologies gives rise to a need for regular updates of foundational assumptions so as to ensure that progress towards electrification and a net-zero future is fully and consistently supported. This will avoid decisions that may resolve short-term problems but undermine the prospects for a clean and distributed grid in the longer term.

4. The transition similarly underscores the importance for the Board to consider, on an ongoing basis, the potential capital and operational impacts of bidirectional electricity flow on the distribution grid. The Board should seek to ensure that the decisions it renders, and the approvals it provides, anticipate and accommodates this transition in such a way that the goal of just and reasonable rates over the longer term is achieved.

5. The increasing effects of climate change only heighten the importance that the Board ensure that the proposals it approves anticipate the transition to DERs including EVs. The Application clearly demonstrates the increasing frequency and impacts of adverse weather events that exceed even previous reasonable expectations, underscoring the importance of adapting to climate change through the wider adoption of DERs and providing further impetus, generally, for the already accelerating transition at the customer level.

6. DRC represents end-use residential customers with DERs that may act as producer-consumers, or "prosumers", in a bidirectional electricity grid. It is the only intervenor before the Board in this Application that is focused squarely on the new context of electricity distribution that is, and will be, significantly impacted by DERs.

7. DRC's submissions on the Application are intended to assist the Board in understanding the new and evolving impact of DERs on traditional rate determinants and distribution system planning. DRC makes these submissions for the purpose of assisting the Board in: (i) optimizing proposed and existing distribution system assets and investments for the long-term benefit of all customers; (ii) efficiently facilitating the integration and connection of existing and innovative DERs to achieve long-term customer and grid efficiencies; and (iii) better understanding customer needs, preferences, and opportunities relating to DERs.

8. Accordingly, DRC's submissions are organized as follows:

   (a) Key assumptions concerning the frequency and impact of adverse weather events require regular updates;

   (b) The DER and EV transitions require accurate assumptions and information to produce the best outcomes for customers; and

   (c) The proposed ICM adequately supports the ongoing transition to DERs across the grid.

9. On the basis of these submissions, DRC respectfully requests that the Board:

   (a) Include consideration of the material and relevant evidence on the DER and EV context in its decision on the Application;

   (b) Require Alectra to transparently track, monitor and periodically report any impact (positive or negative) of the ICM on DERs, including customer costs, operations, reliability, load, and productivity; and

   (c) Make clear that any future ICM should include consideration of its long-term impact on the transition to DERs including EVs.

Significant Changes Since the 2020 DSP

I. Key assumptions concerning the frequency and impact of adverse weather events require regular updates

10. The central basis for the Application is that cable failures in existing and new emerging neighbourhoods are taking place at a faster rate than was originally contemplated in

Alectra's five-year Distributed System Plan (**DSP**) filed in 2019.[1] Alectra notes that underground cable failures arise primarily from ground moisture and corrosion,[2] stating that the current level of underground cable renewal investment is insufficient to maintain the reliability of the distribution system in the neighbourhoods supplied by deteriorated and unreliable cable.[3]

11. Given that the DSP was filed relatively recently in 2019, a large part of Alectra's submissions have addressed the question of what has changed over the course of only three years that gives rise to the current funding need. Alectra notes that adverse weather events and deteriorating distribution equipment have both increased beyond the assumptions set out in the 2020 DSP, producing negative effects on system reliability.[4]

12. Alectra explains that adverse weather events negatively affect its underground cables in three ways:

    (a) Increased costs on reactive work caused by the increase in adverse weather events reduces the funds available for planned work, including underground cable renewal, leading to a higher volume of deteriorated cables susceptible to failure;

    (b) Storms producing substantial rain and flooding increase the moisture in the soil which is absorbed by direct buried cables, degrading the insulation; and

    (c) Fault current stresses the feeders and distribution cables, which accelerates the deterioration of the distribution equipment in the greater vicinity of the fault. Issues on the overhead system can impact underground infrastructure.[5]

13. Alectra's submissions on these points collectively provide compelling evidence that increases in adverse weather and climate change have imposed increased strains on certain forms of Ontario's energy infrastructure, including Alectra's underground cables, providing reasonable justification for claims of increased expense like the ones that underpin the Application. DRC submits that the increasingly unpredictable impacts of adverse weather events linked to the noticeable impacts of Ontario's changing climate are likely to increase as temperatures continue to rise as a result of the impacts of climate change.

[1] EB-2019-0018, Exhibit 2, Tab 2, Schedule 2, Consolidated DSP.
[2] Exhibit 2, Tab 1, Schedule 1, p. 10.
[3] Exhibit 1, Tab 1, Schedule 4, p. 3.
[4] Exhibit 1, Tab 1, Schedule 4, p. 5.
[5] Interrogatory Response 1.0-VECC-3, p. 1.

14. DRC submits that the Board should require utilities to consistently update rapidly changing assumptions related to climate and developing technologies. Utilities should include this information as part of any initial application, given the importance of the issues. Adopting this practice will help the Board to ensure that the intentions that form the basis of its original approvals are properly respected and based on correct information. It will also support the ability to consistently recognize and adopt the most cost-effective solutions for customers over the long-term

II. The DER and EV transitions require accurate assumptions and information to produce the best outcomes for customers

15. Ontario's accelerating transition to EVs represents another important area where Alectra's assumptions included in the DSP have significantly changed. Alectra confirmed that it expects the number of EVs in use in its service territory will be approximately 50% higher than its prior expectations as part of the 2019 DSP, as provided in the below table:[6]

Table 1 – EV Forecast 2020-2024

		2020	2021	2022	2023	2024
EB-2019-0018	EVs (#)	5,600	9,328	13,242	17,351	21,666
	EV (kW - on peak)	7,800	13,100	18,500	24,300	30,300
EB-2022-0013	EVs (#)	11,071	14,123	17,613	23,388	31,349
	EV (kW - on peak)	14,614	18,642	23,249	30,872	41,381

16. There is every reason to believe that Alectra's assumptions concerning EV usage were reasonable at the time they were submitted as part of the DSP. However, the current figures relating to adverse weather events and EV usage both underscore the importance of consistently scrutinizing developments in this area of rapid transition and ensuring that transition strategies continue to reflect the most current information.

17. Alectra's DSP demonstrated a strong commitment to facilitating a transition to DERs, recognizing both the opportunities of a successful transition and the risks to customers of managing the transition in a less effective manner. Specifically, the DSP provided a plan designed to optimize and support the integration of DERs into the distribution system, including (i) investments in a DER Control Platform, which integrates DERs with traditional

[6] Interrogatory Response DRC-3, p. 2.

distribution operation systems and aims to optimize the operation of DERs, and (ii) the Smart DER Platform, which aims to utilize blockchain technology to enhance the value of DER integration.[7]

18. Alectra's commitment recognizes that the widespread adoption and utilization of DERs will produce benefits for its customers. These benefits will include enabling Alectra to defer or avoid investment in distribution infrastructure by leveraging the value of widespread adoption of DERs.[8] Further, Alectra also recognizes that DERs will at times represent a cost-efficient alternative to or means to defer traditional grid infrastructure investments.[9]

19. Alectra's DSP recognizes that an effective transition to DERs will necessitate modified approaches to distribution:

> As DER adoption continues to rise, Alectra Utilities expects that distributors will need to revise its approach to distribution system planning to maximize the benefits of DERs to the system, while maintaining reliability and reasonable costs for customers. The planned DER Integration investments are required for Alectra Utilities to build capabilities and learnings to be prepared to plan and build a system that can safely integrate and optimize value from DERs.[10]

20. Alectra has also recognized that, without adequate preparation for the integration of DERs, at least three longer-term risks to customers will result:

    (a) Suppressing customer choice in the short term due to constraints in the distribution system to support DERs;

    (b) Creating power quality and reliability of supply issues as a result of intermittent, uncontrolled generation from DERs, and the increasing frequency and duration of interruptions to grid supply from adverse weather conditions; and

    (c) Reactionary and expensive upgrades to distribution infrastructure in response to these risks.[11]

21. Elsewhere Alectra confirms that the risk of increased expense results in part from the potential for stranded assets as "DERs pose potential challenges in terms of: increased

[7] EB-2019-0018, Application, Exhibit 4, Tab 1, Schedule 1, Appendix A16, p. 1.
[8] *Ibid*., p. 13.
[9] *Ibid*., p. 15; Exhibit 4, Tab 1, Schedule 1, Appendix A13, p. 11.
[10] *Ibid*., p. 9.
[11] EB-2019-0018, Application, Exhibit 4, Tab 1, Schedule 1, p. 17.

intermittent generation; unexpected fluctuations in supply and demand; and the potential for stranded assets."[12]

22. DRC previously noted the importance of ensuring monitoring and reporting of the impacts of DERs and EVs on the reliability and quality of Alectra's distribution infrastructure and DSP investments.[13] It is now evident that electrification of transportation and wider adoption of DERs is having a material impact on load growth.[14] The Application, and Alectra's responses to DRC's interrogatories, support DRC's prior submission that it would be prudent, and in the interests of rate payers, for the Board to require that Alectra periodically provide DER- and EV-related data on the impacts of electrification of transportation. DRC again submits that the Board require Alectra to perform further tracking, monitoring, and periodic reporting of the benefits and significant impacts on load and improvements to productivity of DERs (including EVs) and DER-related growth.

23. In short, given the opportunities and potential costs related to the increased adoption of DERs, DRC submits that the Board is in the position to help protect the long-term interests of Alectra's ratepayers by adopting, as a standard practice, an approach that ensures that decisions both require and make use of updated information in a rapidly developing energy landscape. This will ensure that the Board's decisions will be more likely to enable, and not to hinder, the fundamental shifts in electricity generation and distribution currently underway.

III. The proposed ICM adequately supports the ongoing transition to DERs across the grid

24. Alectra's initial ICM generally did not consider how its proposed ICM would affect the ongoing transition to DERs, including EVs. It also did not include updated figures concerning the adoption of EVs in its service territory. Nevertheless, Alectra's interrogatory responses demonstrate that it has considered the impact of the ICM on its ability to support the increased adoption of DERs. This more recent evidence shows that the ICM is the most reasonable, long-term approach in terms of supporting the wider adoption of DERs in Alectra's service territory.

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[12] EB-2019-0018, Application, Exhibit 4, Tab 1, Schedule 1, Appendix A16, p. 7.
[13] EB-2019-018, submissions of DRC, paras 20-22, 39(b), available: https://www.rds.oeb.ca/CMWebDrawer/Record/659037/File/document
[14] Interrogatory Response DRC-3, p. 2.

25. Alectra states that it has considered the effect of the ICM for both load customers and for the connection of DERs:

> The investment contemplated in this ICM are for the end-of-life cables. Traditional DERs can augment capacity and provide reliability support to the grid. DER resources need to connect to the distribution system to provide services, however the grid needs to be in optimal condition. Alectra Utilities' investment in the cables will ensure that the grid is in optimal condition for load customer as well as for the connection of DERs.[15]

26. Alectra's evidence also reveals that it has considered the increase demands that DERs and EVs will present for the system. Alectra believes that this anticipated increase further justifies the investments proposed in the ICM:

> Without these investments to remediate cables, the likelihood of greater DER or EV use would put further strain on the assets. Therefore, there is a positive benefit for DERs and EVs resulting from these projects.[16]

27. Alectra further states that it has considered the effects of two-way power flow in addition to the impact of increased electricity demand:

> The ability to use EV as resource depends on appropriate supporting infrastructure, willing participants, as well as the presence of bidirectional chargers. Alectra Utilities' investment in cable renewal will ensure the distribution grid is ready and can accommodate dynamic two-way power flow.[17]

28. In short, Alectra argues that the investments in the ICM are essential to support the anticipated trends in DER growth:

> In the medium and long term, the penetration of DERs will increase. In order to connect these DERs to the distribution system, overhead wires and cables are needed. Without reliable grid assets, additional DERs will not provide increased reliability, flexibility, and capacity support. Alectra Utilities' investment in cables will contribute to a reliable distribution system to connect DERs.[18]

[15] Interrogatory Response DRC-3, p. 2.
[16] Interrogatory Response DRC-2, p. 2; see also Interrogatory Response DRC-4, p. 2.
[17] Interrogatory Response DRC-1, p. 3.
[18] *Ibid.*, p. 2.

29. Alectra also noted that the investments in the ICM, specifically using cable injection, are "environmentally friendly". Alectra indicated that its plans to inject a total of 227 km of cables through the 2023 and 2024 ICM projects is projected to avoid 2,951 tons of CO_2 emissions.[19] DRC is generally supportive of investments by Alectra that result in reduced emissions, including the investments provided in the Application.

30. DRC submits that Alectra's interrogatory responses demonstrate that the ICM will support and not hinder the widespread use and adoption of DERs, reduce GHG emissions, and that the support provided in the ICM for DERs should be a factor that weighs in favour of the Board's approval of the Alectra's ICM requests.

RELIEF REQUESTED

31. DRC respectfully submits that the Application highlights the increasing importance for the Board to require utilities to consistently update rapidly changing assumptions related to climate and developing technologies. Doing so will help the Board to ensure that the intentions that form the basis of its original approvals are properly respected and based on correct information. It will also support the ability to consistently recognize and adopt the most cost-effective solutions for customers over the long-term, including support for the accelerating transition to EVs and other DERs.

32. DRC respectfully submits that:

    (a) DERs and EV-related DER growth and integration are resulting in fundamental changes to the distribution grid that will impact electricity supply and demand, customer preference, capital expenditures, operations and maintenance, load, and productivity;

    (b) DERs and EV-related DER growth are accelerating, with the transition taking place at a rate that exceeds even recent, previously reasonable expectations;

    (c) this accelerating pace underscores the need for tracking, monitoring, and reporting to ensure that DER-related growth results in productivity enhancements and capital investments are appropriately directed in a way that serves the long-term interests of customers; and

    (d) Alectra's proposal in the current application appears to serve the interests of, and Alectra has demonstrated that it has adequately considered, customers in terms of the impact of the ICM on the transition to DERs including EVs.

[19] Interrogatory Response DRC-4, p. 1.

33. Therefore, DRC respectfully requests that the Board:

(a) Include consideration of the material and relevant evidence on the DER and EV context in its decision on the Application;

(b) Require Alectra to transparently track, monitor and periodically report any impact (positive or negative) of the ICM on DERs, including customer costs, operations, reliability, load, and productivity; and

(c) Make clear that any future ICM should include consideration of its long-term impact on the transition to DERs including EVs.

ALL OF WHICH IS RESPECTFULLY SUBMITTED THIS
23rd day of August, 2022.

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