Jonathan McGillivray
Associate
Bay Adelaide Centre
333 Bay Street, Suite 625
Toronto, ON M5H 2R2
TEL +1.647.208.2677
FAX +1.888.734.9459
jonathan@demarcoallan.com

August 16, 2019

VIA RESS AND COURIER

Ms. Kirsten Walli
Board Secretary
Ontario Energy Board
P.O. Box 2319, 27th Floor
2300 Yonge Street
Toronto, ON M4P 1E4

Dear Ms. Walli:

Re: Alectra Utilities Corporation (Alectra) Distribution Rates Application
Board File No. EB-2019-0018

We are counsel to the Distributed Resource Coalition (**DRC**) in the above-mentioned matter. Further to Procedural Order No. 1, please find enclosed DRC's interrogatories to Alectra on the M-Factor proposal.

Sincerely,

Jonathan McGillivray

ONTARIO ENERGY BOARD

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

AND IN THE MATTER OF an application by Alectra Utilities Corporation (**Alectra**) for an order or orders approving or fixing just and reasonable rates and other services charges for the distribution of electricity as of January 1, 2020.

EB-2019-0018

INTERROGATORIES

OF

DISTRIBUTED RESOURCE COALITION

(DRC)

August 16, 2019

Question: DRC-1

Reference:
- Exhibit 4, Tab 1, Schedule 1 (DSP), Appendix C
- Exhibit 2, Tab 1, Schedule 2

Preamble: Alectra engaged Innovative Research Group Inc. (**Innovative**) to assist in meeting Alectra's customer engagement commitments under the Renewed Regulatory Framework for Electricity Distributors. The work was carried out in two phases. The first phase collected input on customers' needs and preferences for outcomes at the start of Alectra's development of its Distribution System Plan (**DSP**) and included follow-up engagement on customers views on relative priorities, individual projects, and an overall capital rate rider. The second phase asked customers to provide feedback on a final set of choices for the DSP and was the "largest public consultation ever conducted in Ontario's electricity sector" (p. 2).

a) Please provide a copy of all written instructions provided by Alectra to Innovative in relation to Innovative's customer engagement mandate for the DSP and the report provided in Exhibit 4, Tab 1, Schedule 1, Appendix C.

b) The "online workbooks" that Innovative prepared for small business, GS > 50kW – 4,999kW, large use, and residential customers each asked questions about consumer choices in integrating new technologies like electric vehicles (**EVs**), solar power, and battery storage.

Please provide a copy of all written instructions provided by Alectra to Innovative in relation to customer engagement with respect to consumer choice in integrating new technologies like EVs, solar power, and battery storage.

c) Please describe all measures undertaken by Alectra and Innovative to invite and ensure the participation of EV stakeholders and other distributed energy resource (**DER**) customers (including EV drivers, owners of DERs,

EV associations, and DER industry associations) in customer engagement activities. In addition, please provide any and all notes from Innovative's customer engagement relating to EVs/DERs that are supplementary to the reports provided in Exhibit 4, Tab 1, Schedule 1, Appendix C.

d) Please identify and list, in chart format, any and all customer engagement questions and responses pertaining to: EVs, batteries, EV charging, energy storage, and DERs generally.

Question: **DRC-2**

Reference:
- Exhibit 4, Tab 1, Schedule 1 (DSP), Section 5.3.1

Preamble: Alectra produces an annual load forecast to reflect both short- and long-term load growth. The load forecast provides an important indication as to areas where additional capacity will be required (Section 5.3.1). Alectra's load forecast considers the impact of CDM and distributed generation.

a) Alectra has noted the "exponential growth in [EV] adoption" (see e.g., Section 5.3.4, page 328). Please discuss whether Alectra's load forecast considers the impact and integration of EVs and EV charging infrastructure and provide any and all related analysis, working papers, and/or reports.

b) Please provide, in the chart format below, an assessment of the impacts on loads and demands — including the load forecast — of your estimate of EVs and distributed generation in each year and any supporting references.

	2020	2021	2022	2023	2024
EVs (number, kWh)					
EV charging infrastructure (number, kWh)					
Distributed Generation (number, type, kWh)					
etc.					

c) In the recently released *Made-in-Ontario Environment Plan* (the **Environment Plan**; available online at the following link: https://prod-environmental-registry.s3.amazonaws.com/2018-11/EnvironmentPlan.pdf), the Ministry of Environment, Conservation and Parks estimates that 16% of targeted greenhouse gas emissions reductions will come from low-carbon vehicles (i.e., primarily EV adoption). Please indicate:

(i) whether Alectra's assumptions regarding EVs are consistent with this;
(ii) if not, what were Alectra's assumptions;
(iii) whether Alectra has reconsidered the impact of EV adoption on load forecasts in light of the Environment Plan;
(iv) whether Alectra will update its EV assumptions in light of the Environment Plan;
(v) what are the estimated total capital expenditures and operating expenditures regarding EV charging infrastructure that Alectra has included in the application and for each year; and
(vi) what capital expenditure and operating expenditure funding (federal, provincial, or otherwise) is available to Alectra specific to EVs and DERs.

Question: DRC-3

Reference:
- Exhibit 4, Tab 1, Schedule 1 (DSP), Section 5.2.1, p. 21

a) Please place Alectra's 2017, 2018, and 2019 Annual Sustainability Reports on the record in this proceeding.

b) Please place the slide presentation from Alectra Inc.'s June 14, 2019 Annual General Meeting on the record in this proceeding.

Question: DRC-4

Reference:
- Exhibit 4, Tab 1, Schedule 1 (DSP), Appendix 19 – Fleet Renewal

Preamble: As of 2018, 64 per cent of vehicles in Alectra's fleet had surpassed their useful lives and must be replaced (p. 1). Alectra indicates that it will utilize hybrid vehicles and EVs where possible and will realize efficiency savings in part via utilization of hybrid vehicles and EVs (Table A19 - 5). Alectra intends to purchase 189 replacement light duty vehicles (capital expenditure of $8.7m), 45 replacement medium duty vehicles (capital expenditure of $7.4m), and 59 replacement heavy duty vehicles (capital expenditure of $27.6m) over the 2019 to 2024 period as part of its planned fleet renewal investment (Table A19 - 14).

a) The 2019 federal budget provided for financial incentives of up to $5,000 for qualified zero emission vehicles purchased or enhanced capital cost allowance deductions.

(i) Please advise whether Alectra's planned fleet renewal investments qualify for the 2019 federal budget financial incentives and/or enhanced capital cost allowance deductions.

(ii) Please advise whether the capital expenditure figures reported in Table A19 - 2 reflect the 2019 federal budget financial incentives and/or enhanced capital cost allowance deductions.

b) Please complete the following chart indicating the breakdown of vehicle type in Alectra's current vehicle fleet:

Vehicle Type	Fully Electric	Hybrid	Non-EV/Hybrid	Total
Heavy Duty Vehicles				
Medium Duty Vehicles				
Light Duty Vehicles				

c) What proportion of Alectra's planned fleet renewal investment will involve fully electric and/or hybrid vehicles? Please supplement the information provided in Table A19 - 2 by completing the following chart indicating Alectra's anticipated breakdown of vehicle type in Alectra's planned fleet renewal investment (2019 to 2024):

Vehicle Type	Fully Electric	Hybrid	Non-EV/Hybrid	2019-2024 Total
Heavy Duty Vehicles				59
Medium Duty Vehicles				45
Light Duty Vehicles				189

d) Please provide all calculations and working papers supporting Alectra's statement that it will realize efficiency savings in part via utilization of hybrid and EVs (Table A19 - 5).

e) Please indicate the estimated quantum efficiency savings (including fuel cost savings) that Alectra anticipates it will achieve by utilizing hybrid vehicles and EVs rather than traditional internal combustion engine vehicles.

Question: **DRC-5**

Reference:
- Exhibit 4, Tab 1, Schedule 1 (DSP), Section 5.2.3

Preamble: Alectra has established three DSP-specific performance measures, which allow it to track performance relative to the Operational AM Strategic Principle of enhancing operational effectiveness and system performance in alignment with its long-term plans by balancing the need for system renewal, system modernization, and cost mitigation.

Figure 5.3.2 - 2 and Table 5.2.3 - 5 in the DSP illustrate an increasing system average interruption duration trend at Alectra since 2014. Figures 5.2.3 - 3 and Table 5.2.3 - 7 illustrate a trend of increasing system average interruption frequency at Alectra over the five-year period from 2014 to 2018.

a) Are DERs and/or EVs used by Alectra to improve SAIDI or SAIFI? If not, why not?

b) How does Alectra expect that SAIDI and SAIFI, and reliability generally, over the period since 2014 would be affected if:

(i) 5 per cent;
(ii) 10 per cent; and
(iii) 25 per cent;

of Alectra's system load was provided through use of DERs?

Question: **DRC-6**

Reference:
- Exhibit 4, Tab 1, Schedule 1 (DSP), Appendix 2 – Customer Connections, Section 2.5

Preamble: Alectra's customer connections investment includes projects to connect intra-city or inter-city transit electrical infrastructure to the distribution system, as noted in Table A02 - 6.

a) Please add an additional column to Table A02 - 6 identifying which of the projects listed involve transit electrification and/or use of battery electric buses or other EVs.

b) Please add a further additional column to Table A02 - 6 explaining the nature (i.e., type, size, quantity, cost) of the customer connection(s) that are required for each of the projects listed.

c) Alectra indicates that "predicted uptake for development along the corridors of the Metrolinx projects is approximately 25 institutional projects for the first three years of the reporting period and then tapers off in the latter three years in terms of rate of increase in projects" (p. 16). Please discuss, and provide details and timing relating to, the institutional projects that Alectra and/or Metrolinx anticipate in the Alectra service territory over the reporting period and discuss their expected impact on Alectra's customer connections, load, revenues, and distribution system.

Question: DRC-7

Reference:
- Exhibit 4, Tab 1, Schedule 1 (DSP), Appendix 2 – Customer Connections, Section 2.6

Preamble: Alectra's customer connections investment will include upgrades to account for EV chargers across Alectra's service territory. Alectra indicates that EVs "will continue to become a vehicle of choice as technology and affordability increase".

a) Please explain what is required for a single residential unit to install and connect an EV charger through the layout process.

b) Please explain what is required for commercial facilities or condos to carry out the necessary "upgrades" to connect EV chargers through the ICI process.

c) Please indicate what proportion of the new connections identified in Table A02 - 9 in the "Number of ICIs" and "Number of Layouts" categories have been or are anticipated to be EV charger connections between 2014 and 2024.

d) Please indicate how many of each of the following types of customer connections Alectra facilitated in its service territory in 2018:

(i) single residential unit EV charger connections;
(ii) commercial facility EV charger connections; and
(iii) condo EV charger connections.

e) Please indicate how many of each of the following types of customer connections Alectra anticipates in its service territory over the 2020 to 2024 period:

(i) single residential unit EV charger connections;
(ii) commercial facility EV charger connections; and

(iii) condo EV charger connections.

f) Has Alectra considered the distribution system planning, grid, emissions, and/or rate impacts of offering extremely low-cost electricity distribution charges during the lowest-peak period (i.e., overnight) for EV charging? If so, please provide any and all working papers. If not, please explain why not.

Question: **DRC-8**

Reference:
- Exhibit 4, Tab 1, Schedule 1 (DSP), Appendix 16 – Distributed Energy Resources Integration

Preamble: The DER Integration investments consist of (i) the DER Control Platform and (ii) the Smart DER Platform (collectively, the **DER Integration Investments**) (p. 1).

a) Does Alectra consider "energy storage" to include EV batteries? Please explain your response.

b) Please provide any and all working papers, reports, and analysis conducted to support Alectra's planned investments in the:

(i) DER Control Platform; and
(ii) Smart DER Platform.

c) Alectra notes that the DER Integration Investments are driven by expected increasing adoption of DER in Alectra's service territory and the significant challenges and opportunities that such a trend presents for the utility's distribution system and for its customers (p. 5). Please provide any and all analysis, working papers, and reports related to:

(i) Alectra's expectations and/or forecasts of increased DER adoption in Alectra's service territory, including any and all EV adoption; and
(ii) the challenges and opportunities associated with the trend of increasing DER adoption.

d) Please explain (with examples and with reference to the key areas of focus listed on pp. 8-10) how the DER Integration Investments will support Alectra's capacity to respond to, manage, and benefit from the anticipated "exponential growth in [EV] adoption" and electrification of transportation generally.

e) Please place the following documents referenced in footnotes 149, 150, 152, 153, 154, and 155 of Appendix A16 on the record in this proceeding:

(i) Seba, T. (2017) Clean Disruption of Energy and Transportation, Clean Energy Action Conference, June 8 2017;
(ii) Bloomberg New Energy Finance. (2018). Electric Vehicle Outlook 2018; and
(iii) EY Alectra September 2018. Presentation.

Question: **DRC-9**

Reference:
- Exhibit 4, Tab 1, Schedule 1 (DSP), Appendix H (Regional Planning Reports)

Preamble: The York Region Integrated Regional Resource Plan prepared by the IESO on behalf of the York Region Working Group (which included PowerStream Inc.); the Northwest Greater Toronto Area Integrated Regional Resource Plan prepared by the IESO on behalf of the Northwest Greater Toronto Area Working Group (which included Hydro One Brampton); and the Parry Sound / Muskoka Sub-region Integrated Regional Resource Plan prepared by the IESO on behalf of the Parry Sound / Muskoka Sub-region Working Group (which included PowerStream Inc.) (collectively, the **IRRPs**) identify the following key consideration related to planning for long-term needs:

- The “community self-sufficiency” approach entails an emphasis on meeting community needs largely with local, distributed resources, which can include: aggressive conservation beyond provincial targets; demand response; distributed generation and storage; smart grid technologies for managing distributed resources; integrated heat/power/process systems; and EVs.

The York Region IRRP (in Appendix A, p. 2), makes reference to “battery [EV] storage capabilities, especially for load intensification cluster applications”.

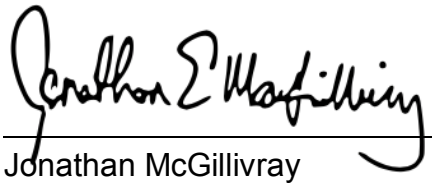
a) Please explain how Alectra’s DSP has been informed by the "community self-sufficiency" approach to regional electricity planning, as discussed in the IRRPs, including the extent to which Alectra has considered the capacity of EVs, "prosumers", and other DERs to meet integrated energy planning needs.

b) Please describe all measures that Alectra is undertaking to facilitate the integration of EVs, "prosumers", and other DERs in its energy planning and business planning processes.

ALL OF WHICH IS RESPECTFULLY SUBMITTED THIS

16th day of August, 2019.

Lisa (Elisabeth) DeMarco
DeMarco Allan LLP
Counsel for DRC



Jonathan McGillivray
DeMarco Allan LLP
Counsel for DRC