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November 2, 2020

VIA RESS

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

Dear Ms. Long:

**Re: Halton Hills Hydro Inc. (HHHI)
2021 Cost of Service Rates Application
Board File No.: EB-2020-0026**

We are counsel to Distributed Resource Coalition (**DRC**). In accordance with Procedural Order No. 1, please find attached DRC's interrogatories to HHHI in the above-noted proceeding.

Sincerely,

A handwritten signature in black ink that reads "Jonathan McGillivray". The signature is written in a cursive style with a large, sweeping initial 'J'.

Jonathan McGillivray

- c. Richard King, Counsel, Osler, Hoskin & Harcourt LLP
David Smelsky, Halton Hills Hydro Inc. Chief Financial Officer
Tracy Rehberg-Rawlingson, Halton Hills Hydro Inc. Regulatory Affairs Officer
Wilf Steimle, Electric Vehicle Society
Cara Clairman, Plug'n Drive

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 Halton Hills Hydro Inc. to the Ontario Energy Board for an Order or Orders approving or fixing just and reasonable rates and other charges for the distribution of electricity as of May 1, 2021.

EB-2020-0026

NOTICE OF INTERVENTION
OF
DISTRIBUTED RESOURCE COALITION
(DRC)

November 2, 2020

Question: 1–DRC–1

Reference: • Exhibit 1

Preamble: HHHI indicates that “customers are connecting more renewable energy and backup generation and installing more electric vehicle [EV] charging stations, all of which require innovative thinking to integrate seamlessly with the traditional electricity grid” (p. 12).

- a) Please indicate how many (and where applicable the number of MW) of each of the following types of customer connections HHHI facilitated in its service territory over the 2016 to 2020 period:
- (i) single residential unit EV charger connections;
 - (ii) commercial facility EV charger connections;
 - (iii) condo EV charger connections; and
 - (iv) renewable energy and back up generation, including the type of facility (solar roof top, solar thermal, wind, energy storage), the customer breakdown for such facilities (residential, general service, commercial/industrial, and/or large industrial).
- b) Please indicate how many of each of the following types of customer connections HHHI anticipates in its service territory over the 2021 to 2025 period:
- (i) single residential unit EV charger connections;
 - (ii) commercial facility EV charger connections; and
 - (iii) condo EV charger connections; and
 - (iv) renewable energy and back up generation, including the type of facility (solar roof top, solar thermal, wind, energy storage), the customer breakdown for such facilities (residential, general service, commercial/industrial, and/or large industrial)

Question: 1–DRC–2

- Reference:
- Exhibit 1, Appendix 1-1, p. 140
 - Exhibit 2 (DSP), p. 143

Preamble: HHHI is assisting the Town of Halton Hills in its roll-out of public EV charging stations and will provide “guidance on the strategic placement of charging stations within [HHHI’s] distribution system” (p. 140).

- a) Please provide any and all presentations, reports, working papers, studies, or other documents (in draft or final form) relating to HHHI’s assistance to the Town of Halton Hills with respect to public EV charging stations.
- b) Please provide any and all criteria that HHHI and the Town of Halton Hills will use to determine the strategic placement, size, and charging parameters (Level 2 or 3, DCFC (and voltage)), of public EV charging stations within HHHI’s distribution system, and the estimated load forecast impact.
- c) What effects, if any, have the (i) public and (ii) customer- specific EV chargers that have been installed in the HHHI service territory up to 2020 had on the HHHI distribution system?
- d) Please provide any and all estimates of the total number and total voltage of (i) public and (ii) private EV chargers that HHHI anticipates will be installed in the HHHI service territory during the 2021 to 2025 rate period?
- e) What effects, if any, does HHHI anticipate that the (i) public and (ii) customer- specific EV chargers that are anticipated to be installed in the HHHI service territory during the 2021 to 2025 rate period will have on the HHHI distribution system?
- f) Please provide your assessment of the specific impacts of the growing consumer interest in EVs and associated increase in EV penetration in HHHI’s service territory, on (i) HHHI’s distribution system planning, (ii) load forecast, (iii) productivity, and (iv) OM&A costs.

Question: 2–DRC–3

- Reference:
- Exhibit 2 (DSP)
 - Exhibit 2 (DSP), Appendix E

Preamble: In 2018, HHHI added an EV to its fleet. HHHI indicates that it “will consider hybrid or electric vehicles when we replace [its] engineering vehicles” (p. 1079). HHHI indicates in its DSP that fleet EV “[p]erformance is being assessed to quantify financial benefits. Through firsthand experience with electric vehicles and their charging, HHHI will gain insight into the impact of these technologies on the distribution system” (p. 145).

- a) Please complete the following chart indicating the breakdown of vehicle type in HHHI’s current vehicle fleet:

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

- b) What proportion of HHHI’s planned fleet renewal investment will involve fully electric and/or hybrid vehicles?
- c) Please indicate the estimated quantum of efficiency savings (including operations, maintenance, including fuel cost savings) that HHHI anticipates it will achieve by utilizing EVs rather than traditional internal combustion engine vehicles during the 2021 to 2025 period.
- d) Please provide details of the insights gained by HHHI of the impacts of EVs and EV charging stations on HHHI’s distribution system.

Question: 2–DRC–4

- Reference:
- Exhibit 2 (DSP), p. 218
 - Exhibit 2, Appendix C: REG Document, pp. 595-596

Preamble: HHHI is not including “any capital expenditures related to renewable energy generation in its [DSP]. In addition, there are no additional OM&A costs proposed related to renewable energy generation or DER projects” (p. 596).

HHHI’s Renewable Energy Generation Investment Plan (**REGIP**) “assesses the state of Halton Hills Hydro’s existing distribution system, studies the current renewable-connected generation and near-term growth forecast, defines a strategy to accommodate the predicted renewable generation growth and describes Halton Hills Hydro’s future Renewable Generation expenditures from 2021 through 2025. (p. 595).

HHHI notes that a recent customer trend is the installation of behind the meter (**BTM**) energy resources to supplement customer loads. In addition, HHHI notes that “[a] prevailing trend is to install battery energy storage behind the meter, charge the batteries in off-peak hours, and discharge the batteries during on-peak hours” (p. 596).

- a) Please provide the expected or predicted DER uptake trends over the five-year REGIP.
- b) Please provide details of the types of energy storage and load displacement projects referred to above.
- c) Please outline and provide examples of the operational objectives relating to DER integration and the what HHHI expects will be required to accommodate EVs and DERs.
- d) Please indicate the anticipated future customer electricity service requirements during the 2021-2025 rate period (with breakdown by customer type) and please provide any reports, studies, presentations with respect to BTM DER adoption in the HHHI service area.
- e) Please explain how, if at all, HHHI has addressed the following vehicle manufacturers’ announcements on phasing out internal combustion engine

vehicles or introducing additional EV options, including during the 2021 to 2025 time period:

- General Motors;
- Ford;
- Volkswagen;
- BMW Group;
- Fiat Chrysler Automobiles Group;
- Toyota Group;
- Hyundai Motor Group;
- Volvo;
- Mercedes-Benz;
- Audi; and

several others.

- f) Please comment on how, if at all, proposed or anticipated grid modernization will assist in facilitating DER and EV readiness.
- g) Please list any and all data and analytics requirements to facilitate DERs, EVs, and the anticipated system-wide efficiencies and/or savings that may ensue from implementation of systems and expenditures to facilitate DER and EV integration during (i) the 2021-2025 rate period and (ii) subsequent rate periods.

Question: 2–DRC–5

Reference: • Exhibit 2 (DSP), Appendix E

Preamble: Several of HHHI’s capital project sheets in Appendix E to the DSP make reference to improvements to (i) primary conductors, (ii) capacity/ampacity, (iii) automated switches, and (iv) substation automation that HHHI anticipates will support deployment “innovative technologies such as [EVs] and power storage” (pp. 687, 757, 834, 916, 1011, 1016)

Several of HHHI’s capital projects sheets also make reference to the use of smart meters with multiple registers “to capture power flow in multiple directions” (pp. 705, 778, 857, 957, 1030)

- a) Please discuss how each of (i) primary conductors, (ii) capacity/ampacity, (iii) automated switches, and (iv) substation automation will assist in supporting innovative technologies such as EVs and power storage, future load growth, and renewable generation (as applicable).
- b) Please provide an assessment of how these investments will impact HHHI’s reliability measured as SAIFI, SAIDI, and Delivery Point Unreliability Index.
- c) What impact, if any, does HHHI anticipate that these expenditures during the 2021-2025 rate period will have on customer rates and affordability (i) during the 2021-2025 rate period (ii) in subsequent rate periods.
- d) Please discuss the HHHI performance metrics and/or targets that HHHI views as being affected by these investments during the 2021 through 2025 period? If no such performance metrics or targets exist, please discuss what performance metrics and/or targets HHHI believes would be appropriate.
- e) If HHHI is required to make a choice as to whether to use (i) through (iv) above in a capital project, please discuss what factors influence that choice.
- f) Please discuss how bidirectional smart meters will assist in supporting deployment of EVs, energy storage, and DERs.
- g) If HHHI is required to make a choice as to whether to use bidirectional smart meters in a capital project, please discuss what factors influence that choice.

Question: **2–DRC–6**

Reference: • Exhibit 2 (DSP), p. 166

Preamble: HHHI, in part, is leveraging AMI data for “a tool to identify locations with [EV] charging stations.” (p. 166)

- a) Please provide details of the EV charging stations location tool and its intended use.

Question: **2–DRC–7**

- Reference:
- Exhibit 2, Appendix B
 - Exhibit 2, Appendix C

Preamble: HHHI conducted customer engagement by creating a website to capture customer feedback and used the online platform to provide customers with surveys, quick polls and idea forums.


As part of seeking customer feedback on grid modernization, HHHI noted that “[n]ew technologies are making it easier for homes and businesses to install smart devices such as internet connected thermostats and switches, renewable energy generation, such as solar panels, and battery backup power supply. [EVs] and their charging stations will also play an increasingly important role in [HHHI’s] electricity grid.” (p. 423)

- a) Please provide a copy of all written instructions provided by HHHI in relation to HHHI’s customer engagement for the DSP and the reports provided in Exhibit 1, Appendices B and C.
- b) Please describe any and all feedback related to EVs and DERs.
- c) Please provide any and all notes from the customer engagement relating to EVs/DERs that are supplementary to the reports provided in Exhibit 1, Appendices B and C.

ALL OF WHICH IS RESPECTFULLY
SUBMITTED THIS
2nd day of November, 2020



Lisa (Elisabeth) DeMarco
DeMarco Allan LLP
Counsel for DRC



Jonathan McGillivray
DeMarco Allan LLP
Counsel for DRC