DEMARCO ALLAN LLP

Lisa (Elisabeth) DeMarco
Senior Partner
5 Hazelton Avenue, Suite 200
Toronto, ON M5R 2E1
TEL +1.647.991.1190
FAX +1.888.734.9459
lisa@demarcoallan.com

August 10, 2018

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: EB-2017-0049
Hydro One Networks Inc. application for electricity distribution rates beginning January 1, 2018 until December 31, 2022

We are counsel to Energy Storage Canada (**ESC**) in the above-mentioned proceeding. Please find enclosed the Final Argument of ESC, submitted pursuant to Procedural Order No. 7.

Yours very truly,

Lisa (Elisabeth) DeMarco

ONTARIO ENERGY BOARD

IN THE MATTER OF the *Ontario Energy Board Act, 1998*, S.O. 1998, c.15 (Schedule B), s. 78;

AND IN THE MATTER OF an application by Hydro One Networks Inc. to raise its electricity distribution rates effective January 1, 2018 and continuing each year for another 4 years, until December 31, 2022.

EB-2017-0049

FINAL ARGUMENT

ENERGY STORAGE CANADA

August 10, 2018

Introduction and Overview

1. We are counsel to Energy Storage Canada (**ESC**) on the Ontario Energy Board EB-2017-0049 proceeding to review Hydro One Networks Inc.'s (**Hydro One's**) 2018 to 2022 distribution rate application (the **Application**) pursuant to section 78 of the *Ontario Energy Board Act, 1998*, S.O. 1998, c. 15 (Schedule B) (the **Act**).

2. ESC generally submits that: (a) current rate design for energy storage is not appropriate, discriminates against energy storage when compared with renewables, and is not consistent with good rate design principles and that a separate rate class for energy storage is required; and (b) Connection Impact Assessment (**CIA**) charges applied to energy storage are not reflective of the costs and benefits of connecting energy storage customers as they fail to account for the system benefits of energy storage.

3. ESC is therefore requesting that: (a) Hydro One develop and implement a separate rate class for energy storage and (b) CIA charges for energy storage be tailored to reflect the system benefits of energy storage.

A. A Separate Rate Class for Energy Storage is Required

Hydro One Rate Design for Energy Storage Facilities

4. Currently, there is no Hydro One rate class reflecting, or specific to, the unique characteristics of energy storage facilities.[1] Hydro One classifies licenced energy storage providers that are directly connected to the distribution system as "Distributed Generation" customers. These facilities incur demand charges while drawing electricity from the distribution system (that is, acting as load),[2] and are not paid related charges when they are discharging for the benefit of customers and the distribution system (that is, acting as generation).

5. Further, Hydro One makes no distinction among the many types of customers that have or deploy energy storage. Hydro One classifies all large industrial, commercial, and residential customers that have energy storage equipment behind-the-meter as "load

[1] Exhibit I, Tab 49, Schedule ESC-1, 1-2.
[2] Exhibit I, Tab 49, Schedule ESC-1, 1-2.

customers".[3] Certain classes of these customers, including Sub-Transmission (**ST**) customers, are subject to demand charges, while other classes of these customers are subject to volumetric (kWh) charges.[4]

6. ST customers with behind-the-meter load displacement generation or energy storage equipment greater than 1 MW installed after October 1998 are subject to "gross demand" billing, while ST customers with renewable generation less than 2 MW are exempted from "gross demand" billing.[5] Energy storage facilities that are ST customers are therefore at a disadvantage relative to renewable generation facilities in respect of the application of "gross load" billing.[6] Mr. Li confirmed that there is a blatant discrepancy between the treatment of renewable generation facilities and energy storage facilities.[7]

7. Moreover, Hydro One rates applicable to energy storage are not specific to energy storage. Rates are not tailored to the unique characteristics of energy storage, nor do they account for the system benefits of energy storage. Mr. Andre confirmed that there is a general lack of clarity on how energy storage customers should be treated for the purposes of rates.[8] Mr. Andre also confirmed that there is no rate class specific to energy storage:

> MR. McGILLIVRAY: So none of these -- I think it's clear that none of these rate classes are specific to energy storage, and so there's no specific energy storage rate class that Hydro One uses for energy storage facilities, that's right?
>
> MR. ANDRE: Yes, that's correct.[9]

8. ESC therefore submits that the current rate design applicable to energy storage facilities is not appropriate, discriminates against energy storage when compared to comparably-sized generation, and is not consistent with good ratemaking principles. This places

[3] Exhibit I, Tab 49, Schedule ESC-1, 2.
[4] Exhibit I, Tab 49, Schedule ESC-1, 2.
[5] Exhibit I, Tab 49, Schedule ESC-1, 2.
[6] Energy storage facilities are incongruently treated identically to energy generation facilities for the purposes of CIA charges. See "C. Connection Impact Assessment Charges Exclude Benefits of Energy Storage", para 16 below.
[7] Hearing Transcripts, Volume 11, 97:1-97:3.
[8] Hearing Transcripts, Volume 11, 102:11-102:16.
[9] Hearing Transcripts, Volume 11, 101:26-102:7.

energy storage at a relative disadvantage to other distributed energy resources, while failing to account for the many unique system benefits of energy storage.

A Separate Rate Class for Energy Storage is Required

9. ESC submits that a separate rate class for energy storage is required to appropriately account for the system benefits and unique characteristics of energy storage.

10. Hydro One has applied for an order from the Board approving its proposed "creation of new customer classes" as described in the Application, but proposes no rate class specific to energy storage in order to address this discrepancy.[10]

11. However, Hydro One confirmed that rate design specific to energy storage is something that should be addressed by the Board from an industry-wide perspective:

> MR. McGILLIVRAY: And based on what you've just said, have you considered the possibility that a separate rate class for energy storage could be appropriate?
>
> MR. ANDRE: That would be something that -- you know, certainly Hydro One is not unique in having to potentially connect energy storage customers. So I think that's something that may need to be addressed from an industry-wide perspective.
>
> But from a Hydro One, our own utility's perspective, we have the rates that that are currently approved by the Board. We have the rates that we are asking the Board to approve in this application and no, at this point, no consideration has been given to how you would allocate costs to a separate energy storage class.
>
> MR. McGILLIVRAY: Would you consider it?
>
> MR. ANDRE: As I said, I think it's -- I think it's an industry-wide issue that would best be addressed with guidance and direction by the Ontario Energy Board.[11]

12. ESC therefore respectfully submits that Hydro One should be required to develop a new customer rate class that is specific to energy storage as a condition to any order of the Board approving Hydro One's application for approval of its existing rate classes.

[10] Exhibit G1, Tab 2, Schedule 1, 7. We note as an exception that Hydro One is seeking certain adjustments to rate classes solely to accommodate the integration of acquired electricity distributors.
[11] Hearing Transcripts, Volume 11, 102:17-103:6.

Alternatively, the Board should promptly undertake an initiative to consider and develop a separate distribution and transmission rate class for energy storage customers.

B. Connection Impact Assessment Charges Exclude Benefits of Energy Storage

13. Exhibit JT 3.15 confirms that there are many system benefits of energy storage for utilities, system operators, and end users, including:

    (a) increased reliability and reduced cost of electricity;

    (b) use in a number of applications, including frequency regulation, energy security/outage management, power quality, voltage VAR management, and peak shaving;

    (c) as a flexibility asset to address the integration of variable generation resources such as wind and solar;

    (d) as a solution for providing service to remote communities; and

    (e) as a tool to improve asset utilization at the distribution level, and depending on cost, for diurnal energy arbitrage.[12]

14. ESC submits that the rates applicable to CIAs for energy storage fail to address and account for the potential system benefits of energy storage for the distribution system. They are not, therefore, reflective of the net costs and/or benefits of connecting energy storage to the distribution system.

15. Hydro One has applied for an order approving its proposed specific service charges, including certain CIA charges, that Hydro One charges energy storage facilities proposed for connection to Hydro One's distribution system.[13] CIA charges are not, however, tailored to the specific circumstances of energy storage facilities and do not account for the potential system benefits unique to energy storage.

16. Hydro One treats energy storage facilities in a manner identical to energy generation facilities for the purpose of calculating CIA charges, irrespective of the capacity of some

[12] For a discussion of the system benefits of energy storage, please see Exhibit JT 3.15, Attachment 1, "EPRI-Hydro One Energy Storage Project".
[13] Exhibit H1, Tab 2, Schedule 3, 79 and 86.

energy storage facilities to act as a load at certain times and generation at others.[14] Further, there are no specific exemptions afforded to energy storage of any size that are otherwise afforded to renewable generation of less than 2 MW.

17. ESC therefore submits that the Board should require Hydro One to account for the system benefits of energy storage in calculating CIA rates and other specific service charges specific to energy storage as a condition of the Board's approval of the Application. Further, the Board may wish to additionally consider whether revisions to the *Distribution System Code* are specifically required to properly address and accommodate the growing amount of energy storage.[15]

C. Requested Relief

18. ESC therefore respectfully requests that the Board require that Hydro One:

    (a) develop and implement a separate rate class for energy storage; and

    (b) ensure that CIA charges for energy storage be tailored to reflect the system benefits of energy storage.

D. Costs

19. ESC hereby requests that the Board order payment of 100 per cent of its reasonably incurred costs in connection with its participation in this proceeding. ESC submits that it has participated responsibly and efficiently in all aspects of the process.

[14] Hearing Transcripts, Volume 11, 94:1-94:13.
[15] See Hearing Transcripts, Volume 11, 99:1-99:15.

ALL OF WHICH IS RESPECTFULLY

SUBMITTED THIS 10th DAY OF AUGUST,

2018.

Lisa (Elisabeth) DeMarco
DeMarco Allan LLP
Counsel for ESC