

D Barry Kirkham, QC+
Duncan J Manson+
Daniel W Burnett, QC+
Ronald G Paton+
Karen S Thompson+
Harley J Harris+
Kari F Richardson+
Edith A Ryan+
Daniel H Coles+
Patrick J O'Neill

Robin C Macfarlane+
Alan A Frydenlund, QC+*
Harvey S Delaney+
Paul J Brown+
Gary M Yaffe+
Jonathan L Williams+
Paul A Brackstone+*
James W Zaitsoff+
Jocelyn M Bellerud+
Katelyn A Gray**

Josephine M Nadel, QC+
Allison R Kuchta+
James L Carpick+
Patrick J Haberl+
Heather E Maconachie
Michael F Robson+
Scott H Stephens+
Pamela E Sheppard+
Katharina R Spatzl
Sarah M. Péroquin**

James D Burns+
Jeffrey B Lightfoot+
Christopher P Weafer+
Gregory J Tucker, QC+
Terence W Yu+
James H McBeath+
Zachary J Ansley+
George J Roper+
Sameer Kamboj

OWEN BIRD

LAW CORPORATION

PO Box 49130
Three Bentall Centre
2900-595 Burrard Street
Vancouver, BC
Canada V7X 1J5

Carl J Pines, Associate Counsel+
Rose-Mary L Basham, QC, Associate Counsel+
Hon Walter S Owen, QC, QC, LLD (1981)
John I Bird, QC (2005)

+ Law Corporation
* Also of the Yukon Bar
** Also of the Ontario Bar

January 5, 2018

VIA ELECTRONIC MAIL

British Columbia Utilities Commission
6th Floor, 900 Howe Street
Vancouver, B.C.
V6Z 2N3

Telephone 604 688-0401
Fax 604 688-2827
Website www.owenbird.com

Direct Line: 604 691-7557
Direct Fax: 604 632-4482
E-mail: cweafer@owenbird.com
Our File: 23841/0173

Attention: Patrick Wruck, Commission Secretary and Manager, Regulatory Support

Dear Sirs/Mesdames:

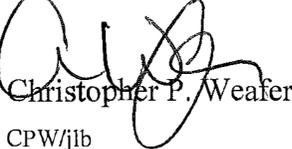
Re: British Columbia Hydro and Power Authority - Open Access Transmission Tariff - Dynamic Scheduling Amendments Application ~ Project No. 1598931

We are counsel to the Commercial Energy Consumers Association of British Columbia (the "CEC"). Attached please find the CEC's Final Submissions with respect to the above-noted matter.

If you have any questions regarding the foregoing, please do not hesitate to contact the undersigned.

Yours truly,

OWEN BIRD LAW CORPORATION



Christopher P. Weafer

CPW/jib
cc: CEC
cc: BC Hydro
cc: Registered Interveners

**COMMERCIAL ENERGY CONSUMERS
ASSOCIATION OF BRITISH COLUMBIA**

FINAL SUBMISSIONS

**British Columbia Hydro and Power Authority - Open Access Transmission
Tariff - Dynamic Scheduling Amendments Application
Project No. 1598931**

January 5, 2018

Commercial Energy Consumers Association of British Columbia

**British Columbia Hydro and Power Authority - Open Access Transmission Tariff -
Dynamic Scheduling Amendments Application
Project No. 1598931**

Table of Contents

A. SUMMARY 1

B. CEC SUBMISSIONS2

 Customer Need2

 Potential Benefits3

 Other Benefits4

 Potential Risks or Costs4

 Other Considerations6

 Calculation of Utilization Change.....7

 Housekeeping Amendments8

C. CONCLUSION.....9

**COMMERCIAL ENERGY CONSUMERS ASSOCIATION
OF BRITISH COLUMBIA**

FINAL SUBMISSIONS

**British Columbia Hydro and Power Authority - Open Access Transmission Tariff - Dynamic
Scheduling Amendments Application
Project No. 1598931**

The Commercial Energy Consumers Association of British Columbia (the “CEC”) represents the interests of ratepayers consuming energy under commercial tariffs in applications before the BC Utilities Commission (“BCUC” or “Commission”).

BC Hydro and Power Authority (“BC Hydro”) applies to the Commission for approval to amend Attachment Q-1: Dynamic Scheduling of its Open Access Transmission Tariff (“OATT”) to allow dynamic scheduling on imports and exports, and on any type of transmission reservation,¹ as well as a number of housekeeping amendments.

Specifically, BC Hydro proposes amendments to Attachment Q-1 that will:

- (a) allow for dynamic scheduling for imports, in addition to exports; and
- (b) allow dynamic scheduling on all transmission service reservations, including Firm Service, non-firm point-to-point transmission service (“Non-Firm Service”), and network integration transmission service (“NITS”), including network economy service (“Network Economy Service”).

Housekeeping amendments include updates to definitions, corrections to typographical errors and simplification and clarification of language.²

The CEC has participated in the proceeding and reviewed the evidence, and provides the following submissions for the Commission’s review and consideration.

A. SUMMARY

1. The CEC submits that the proposed amendments are appropriate and generally beneficial in that they satisfy a clear business requirement for customer participants, have the potential for making a positive financial impact for all ratepayers through Powerex’s participation in the Energy Imbalance Market, promote the efficient use of the electricity system, assist in the integration of variable energy resources, allows for improved use of transmission reservation system, are aligned with industry standards and activities, and do not likely carry significant costs nor other risks to BC Hydro or ratepayers.

¹ BC Hydro Final Argument page 1

² Exhibit B-1, page 2

2. The CEC recommends that the Commission approve the application as filed by BC Hydro.

B. CEC SUBMISSIONS

Customer Need

3. Powerex will be joining the California Independent System Operator (“CAISO”) Energy Imbalance Market (“EIM”) in April 2018.³ CAISO uses dynamic scheduling and participation requires both import and export capability. Powerex has requested that BC Hydro evaluate the expanded use of dynamic scheduling on imports and on all transmission reservations including Firm Service, Non-Firm Service and Network Economy Service.⁴
4. Currently the OATT only allows for the dynamic scheduling of exports from BC Hydro’s system over the interties using Firm Service reservations. The current tariff restriction would limit, and may prevent, Powerex’s participation in the EIM⁵ by precluding imports on the same basis.
5. No other customers have requested dynamic scheduling to date, however enabling enhanced dynamic scheduling on transmission capacity reservations procured under the OATT is expected to increase the options customers have to use their reservations to participate in markets and bilateral agreements that they may identify as business opportunities.⁶ BC Hydro expects that over the longer term OATT customer demand for dynamic scheduling may increase as more customers access new and existing markets.⁷
6. BC Hydro is not at liberty to disclose the results of Powerex’s individual business cases, however BC Hydro understands that a failure by BC Hydro to update its OATT in line with market and industry developments in the western interconnection, such as providing expanded use of dynamic scheduling could result in its customers not being able to take advantage of market opportunities and could have a negative impact on trade revenues. The proposed amendments are sought to enable customers to take advantage of business opportunities as they arise,⁸ as outlined in the Potential Benefits section below.
7. The CEC submits that BC Hydro has established a sufficient customer need from Powerex and business value to other potential customer participants to justify the amendment in the absence of other counterweights.

³ BC Hydro Final Argument page 1

⁴ Exhibit B-1, page 10

⁵ Exhibit B-2, BCUC 1.2.1.2

⁶ Exhibit B-2, CEC 1.4.4 and 1.4.5

⁷ Exhibit B-2, BCUC 1.4.5

⁸ Exhibit B-2, BCUC 1.3.1

8. The CEC recommends that the Commission assign significant weight to the customer need in its deliberations.

Potential Benefits

9. The expansion of dynamic scheduling will facilitate Powerex's participation in the EIM.⁹
10. The EIM is a short-term (15 and 5 min) energy imbalance market, enabling imports and exports utilizing surplus generation capability.¹⁰ The EIM can be considered as a new market segment through which Powerex can transact with its customers within the western interconnection.¹¹ The import and export activity is not materially different from Powerex's other import and export activity in day-ahead or real time markets.¹²
11. Powerex's participation in the EIM occurs to generate economic benefit giving the prevailing short-term conditions.¹³ Powerex can be expected to generate trade revenues from participation in the EIM.¹⁴ To the extent that Powerex is able to use its increased access to increase trade activity the benefits will flow to BC Hydro and its ratepayers.¹⁵
12. The CEC submits that it could be an important benefit for ratepayers to facilitate Powerex's ability to monetize surplus capacity¹⁶ given BC Hydro's existing surplus position and the potential for ongoing surpluses given the development of Site C.
13. Powerex's participation in the EIM may impact the volume of electricity sold to or purchased from BC Hydro. BC Hydro does not have any estimate of the impacts as it would depend on BC Hydro's load resource balance ("LRB") at the time, and Powerex's trade activity.¹⁷
14. BC Hydro does not expect any financial or operational impacts other than the potential for an increase in trade revenues.¹⁸

⁹ Exhibit B-2, BCUC 1.2.2

¹⁰ Exhibit B-2, BCUC 1.2.3

¹¹ Exhibit B-2, BCOAOP 1.2.1

¹² Exhibit B-2, BCUC 1.2.2

¹³ Exhibit B-2, BCUC 1.2.2

¹⁴ Exhibit B-2, BCOAPO 1.6.1

¹⁵ Exhibit B-2, BCUC 1.3.1

¹⁶ Exhibit B-2, BCUC 1.2.3

¹⁷ Exhibit B-2, BCOAPO 1.2.1

¹⁸ Exhibit B-2, BCOCAP 1.2.1

Other Benefits

Efficient Use of the Transmission System

15. BC Hydro believes that enhanced dynamic scheduling would promote efficient use of the transmission system because it would allow customers to use their transmission reservations that are procured under the OATT for more purposes according to their business need.¹⁹

Long Term Planning

16. The EIM does not factor into long term planning decisions. However, Powerex's ongoing ability to monetize the surplus capacity and flexibility (of the BC Hydro system) may help inform BC Hydro regarding the relative value of flexibility, capacity and energy in the future.²⁰
17. The CEC submits that additional understanding by BC Hydro of the value of surplus capacity and flexibility can be useful in supply planning and reducing risk for customers.

Industry Trends and the Integration of Variable Energy Resources ("VER")

18. The expansion of dynamic scheduling is aligned with industry developments and is consistent industry practice in the western interconnections.²¹
19. The increased use of dynamic scheduling assists with the integration of VER (such as wind and solar generation) and to meet hourly balancing requirements which is becoming increasingly challenging.²²
20. The CEC submits that facilitating the integration of variable energy resources is a significant industry trend, and could remain an important consideration for BC Hydro for the long term.

Potential Risks or Costs

21. At this time, BC Hydro does not foresee any negative effects on customers but instead allows for better utilization of their transmission reservations.²³
22. Total implementation costs are estimated to be in the order of \$300,000.²⁴

¹⁹ Exhibit B-2, CEC 1.3.1

²⁰ Exhibit B-2, BCUC 1.2.3

²¹ BC Hydro Final Argument page 6

²² Exhibit B-1, pages 7-8

²³ Exhibit B-2. BCUC 1.4.4.1.2

²⁴ Exhibit B-1, page 26

23. These primarily include the cost of updating BC Hydro's Market Operations and Development System ("MODS") which accounts for the full \$300,000.²⁵
24. Due to the expedited time frame required to implement dynamic scheduling to facilitate participation in the EIM the implementation costs will be recovered from Powerex.²⁶ Powerex is expected to be able to offset these costs with the additional trade revenue generated.²⁷
25. BC Hydro confirms that it would not expect to adjust any material aspects of its generation, transmission, distribution or other systems to maintain reliability and operate its systems in order to accommodate dynamic scheduling.²⁸
26. Some of the arrangements that BC Hydro must have in place with other Balancing Authority Areas ("BAAs") to offer enhanced dynamic scheduling include, but are not limited to:
 - having the ability to send and receive electronic dynamic signals with other BAAs in order to send or receive dynamic energy;
 - building capabilities in its Energy Management System to send and receive dynamic signals; and
 - having operating agreements with the other BAAs for dynamic scheduling services.²⁹
27. BC Hydro does not anticipate costs associated with establishing these arrangements as it has had the required arrangements in place for dynamic scheduling services with CAISO since 2005, and has the required arrangements in place with other BAAs as well.³⁰
28. If additional costs were required in the future, those costs would be recovered through the transmission revenue requirement and OATT rates.³¹
29. Costs which are recovered from all ratepayers³² include preparing the proposed amendments and updating business practices (which are part of BC Hydro employees' standard duties and not tracked separately)³³ and those incurred from the regulatory process.³⁴

²⁵ Exhibit B-2, BCUC 1.6.1

²⁶ Exhibit B-1, page 26

²⁷ Exhibit B-2, BCOAPO 1.6.1

²⁸ Exhibit B-2, CEC 1.5.3

²⁹ Exhibit B-2, CEC 1.5.1

³⁰ Exhibit B-2, CEC 1.5.1

³¹ Exhibit B-2, CEC 1.5.1.2

³² Exhibit B-2, CEC 1.4.6

³³ Exhibit B-1, BCUC 1.6.1

³⁴ Exhibit B-2, BCUC 1.6.3

30. BC Hydro does not know the costs that will be incurred to participate in the regulatory proceeding at this time.³⁵
31. The CEC submits that the incremental costs to ratepayers are likely to be nominal and are acceptable to meet customer requirements and to generate the other benefits from enhanced dynamic scheduling.
32. The CEC submits that, based on the evidence in this proceeding, there is no evidence of significant costs to ratepayers or participants that are likely to arise from implementation of this service.

Other Considerations

33. In addition to the above BC Hydro considered several factors when evaluating Powerex's request which included:
 - Alignment with the Federal Energy Regulatory Commission (the "FERC") pro-forma OATT;
 - Reliability;
 - Technical Feasibility;
 - Undue Discrimination; and
 - Customer Feedback.³⁶
34. The CEC submits that the considerations are valid and comprehensive and appropriately assessed.
35. BC Hydro did not identify any negative impacts associated with these considerations and their views on each of these subjects is outlined in the Final Arguments.
36. The offering of dynamic scheduling is aligned with the FERC pro forma OATT, on which BC Hydro's OATT is based.³⁷
37. The CEC submits that the proposal appears to satisfy any FERC requirements.
38. BC Hydro can feasibly³⁸ offer expanded dynamic scheduling safely and reliably as discussed in their Final Argument at pages 7 and 8. BC Hydro confirms that there is no additional need

³⁵ Exhibit B-2, CEC 1.4.6.1

³⁶ Exhibit B-2, BCOAPO 1.3.1

³⁷ BC Hydro Final Argument page 6

³⁸ Exhibit B-2, CEC 1.5.1.2

to make material adjustments with regard to reliability to accommodate the changes to dynamic scheduling.³⁹

39. Dynamic scheduling will be offered to customers on a non-discriminatory basis.⁴⁰
40. BC Hydro received no comments from OATT customer and other interested parties in response to its posted bulletin on this matter.⁴¹
41. Overall BC Hydro has concluded that there is no valid reason to continue to restrict dynamic scheduling to exports on Firm Service which reflect outdated and inapplicable market requirements.⁴²
42. The CEC submits that the evidence in this proceeding is that there are no material negative consequences associated with this application.

Calculation of Utilization Change

43. In 2006 BC Hydro entered into a Negotiated Settlement Agreement (“NSA”) with certain Alberta transmission customers which established specific tests and reporting for the Network Economy Service.⁴³ The Utilization test required by the NSA compares the volume of Network Economy Service reservation to the volume of energy scheduled on those reservations. Since neither intra-hour scheduling nor dynamic scheduling was available for use on Network Economy Service at the time the NSA was completed BC Hydro now needs to adjust its implementation of the test for the new use of the Network Economy Service.
44. BC Hydro states that the existing method of calculating the utilization test for Network Economy Service underestimates actual utilization and the increased use of intra-hour or dynamic scheduling would exacerbate the inaccuracy.⁴⁴
45. BC Hydro does not use the utilization test other than to satisfy the requirements established in OATT Attachment Q-2.⁴⁵
46. BC Hydro is proposing to change the calculation of utilization from average energy scheduled, to peak energy scheduled for all schedules, (including for static schedules), even though the circumstances have not changed for static schedules⁴⁶. BC Hydro states that the

³⁹ Exhibit B-2, CEC 1.5.3

⁴⁰ BC Hydro Final Argument page 8 (or 9?)

⁴¹ Exhibit B-2, BCOAPO 1.3.1

⁴² BC Hydro Final Argument page 5

⁴³ Exhibit B-1, page 21

⁴⁴ BC Hydro Final Argument page 10

⁴⁵ Exhibit B-2 CEC 1.9.1

⁴⁶ Exhibit B-2, CEC 1.11.1

revisions to the calculation of the utilization test will provide more accurate results for both dynamic and static schedules.⁴⁷

47. BC Hydro elaborates on how comparing peak energy volume scheduled over an hour accurately accounts for unchanging hourly schedules in CEC 1.11.1.2.
48. BC Hydro states that without changes to the Utilization Test as proposed there may be impacts on BC Power Supply's ability to use Network Economy Service for the benefit of BC Hydro ratepayers when economically advantageous to do so.⁴⁸
49. BC Hydro does not expect any material impacts on its OATT customers from correcting the way the utilization rate is calculated per section 5 of Attachment Q-2 – Network Economy Service⁴⁹, but acknowledges that the new methodology may produce higher values than under the existing method.⁵⁰
50. Approval from other parties involved in the Negotiated Settlement Agreement is not required to make the change and is consistent with the negotiated settlement process agreement. NSA participants have been made aware of the proposed changes and there is no evidence of concern from these participants.⁵¹
51. The CEC notes that no amendments to the OATT are required to implement the change to the Network Utilization test, and as such understands that BC Hydro would not require Commission approval to change the calculation of the utilization.⁵²
52. The CEC notes that only OATT customers could be impacted by the change to the utilization and there was no apparent concern expressed by these customers during the consultation period or during this proceeding.⁵³
53. The CEC therefore supports the correction to the utilization calculation as being more accurate than the existing methodology.

Housekeeping Amendments

54. The CEC has reviewed the housekeeping amendments proposed in the application and considers them to be appropriate.

⁴⁷ Exhibit B-2, CEC 1.11.1

⁴⁸ Exhibit B-2, BCUC 1.5.1.3

⁴⁹ Exhibit B-2, BCUC 1.11.1

⁵⁰ Exhibit B-2, CEC 1.13.1

⁵¹ Exhibit B-2, CEC 1.16.1

⁵² BC Hydro Final Argument page 10

⁵³ BC Hydro Final Argument page 11

C. Conclusion

55. The CEC submits that the evidence is that there is a strong customer need for enhanced dynamic scheduling as demonstrated by Powerex's explicit request for the service, there are potential benefits to other potential OATT participants and to ratepayers generally, the service is aligned with industry standards and there are no negative consequences or implementation issues and the costs are likely to be nominal.

56. The CEC recommends that the Commission approve the application as filed by BC Hydro.

ALL OF WHICH IS RESPECTFULLY SUBMITTED

David Craig

David Craig, Consultant for the Commercial Energy
Consumers Association of British Columbia



Christopher P. Weaver, Counsel for the Commercial
Energy Consumers Association of British Columbia