

REQUESTOR NAME: **BCOAPO**
INFORMATION REQUEST ROUND NO: **#1**
TO: **BRITISH COLUMBIA HYDRO & POWER
AUTHORITY**
DATE: **OCTOBER 15, 2020**
APPLICATION NAME: **2020 TRANSFER PRICING AGREEMENT**

1.0 Reference: Exhibit B-1, pages 2-3 and page 8

- 1.1 On these pages reference is made to BC Hydro's "operating time horizon". What does BC Hydro define as its "operating time horizon"?
- 1.2 Are there any provisions in the 2020 TPA that restrict the timeframe over which BC Hydro can request that Powerex export electricity under either a Non-Flexible Export Schedule or a Specific Quantity Request to BC Hydro's operating time horizon?
- 1.3 Are there any provisions in the 2020 TPA that restrict the timeframe over which BC Hydro can request that Powerex import electricity under either a Non-Flexible Import Schedules or a Specific Quantity Request to BC to BC Hydro's operating time horizon?
- 1.4 Are there any provisions in the 2020 TPA that restrict the timeframe over during which Powerex can request that BC Hydro receive from or deliver electricity to BC under a Flexible Export to BC Hydro's operating time horizon?

2.0 Reference: Exhibit B-1, page 4

- 2.1 The Application states that Powerex "aims to maximize its annual net income". In planning its purchases and sales for a particular year, is Powerex's focus on maximizing net income in the year concerned or does it take a longer term view and seek to maximize its net income over multiple years?
 - 2.1.1 If the latter, over what timeframe does Powerex seek to maximize its net income and how does this timeframe compare with BC Hydro's operating and planning time horizons?

3.0 Reference: Exhibit B-1, page 4

- 3.1 The Application states that Powerex "was established in 1988, to take advantage of wholesale electricity trade opportunities, for the benefit of British Columbia and BC Hydro ratepayers". Apart from the benefits Powerex provides to BC Hydro ratepayers what benefits does Powerex seek to provide to British Columbia?

- 3.2 Is there any potential conflict between Powerex's objective of providing benefits to British Columbia and its objective to provide benefits to BC Hydro's ratepayers (i.e., can providing benefits to one in any way disadvantage the other)?
- 3.3 If there are any identifiable conflicts, have they occurred as between BC Hydro and PowerEx and if so, how were they resolved?

4.0 Reference: Exhibit B-1, pages 6 and 9

Preamble: The Application (page 6) states:

"To enable BC Hydro and Powerex to fulfill their respective roles and responsibilities, the relationship between them must have, and always has had, the following three critical elements:

1. Provisions for the export of electricity that BC Hydro has identified as surplus relative to its Domestic Requirements within the operating time horizon (an element of BC Hydro's responsibility for operating the system).
2. Provisions for the import of electricity that BC Hydro has identified as economic or necessary to meet a deficit relative to its Domestic Requirements within the operating time horizon (also an element of BC Hydro's responsibility for operating the system).
3. Provisions for the utilization of the Residual System Capability of the BC Hydro system, after any domestic surplus or deficit has been addressed, in support of Powerex's trading activity (an element of Powerex's responsibility for generating net income which, as noted above, benefits ratepayers by reducing BC Hydro's revenue requirements)."

The Application (page 6) also states:

"When BC Hydro generates electricity beyond its own needs (surplus energy or use of Residual System Capability), and Powerex sells this electricity in wholesale markets outside British Columbia, BC Hydro requires a way to sell the electricity to Powerex, and to determine the price of such sales".

The Application (page 9) states:

"the 2020 TPA benefits ratepayers by:

- Allowing BC Hydro to stipulate a volume of required import and export needs over any specified time period while better enabling Powerex to enter into transactions supported by the BC Hydro system across a range of time horizons, providing greater certainty that sufficient demand

or supply will be available to meet BC Hydro's electricity import and export needs; and

- Enabling Powerex to better utilize the Residual System Capability across a range of time horizons, generating net income that offsets BC Hydro's revenue requirements and rates."

- 4.1 Please explain more fully the distinction between "surplus relative to BC Hydro's Domestic Requirements" and "Residual System Capability" (per the first page 6 reference).
- 4.1.1 In particular, i) why is there a distinction between the two as opposed to there just being electricity that has been identified as surplus to BC Hydro's Domestic Requirements; ii) how did BC Hydro determine what is surplus to Domestic Requirements and distinguish it from Residual System Capability when the 2003 TPA was in effect and iii) does the 2020 TPA change the basis for this determination and, if yes, how?
- 4.1.2 Please provide an illustrative example for a period of domestic surplus and, if the determination of the split is different under the 2020 TPA, please also illustrate the change.

5.0 Reference: Exhibit B-1, page 6

Preamble: The Application states:

"To enable BC Hydro and Powerex to fulfill their respective roles and responsibilities, the relationship between them must have, and always has had, the following three critical elements:

1. Provisions for the export of electricity that BC Hydro has identified as surplus relative to its Domestic Requirements within the operating time horizon (an element of BC Hydro's responsibility for operating the system).
2. Provisions for the import of electricity that BC Hydro has identified as economic or necessary to meet a deficit relative to its Domestic Requirements within the operating time horizon (also an element of BC Hydro's responsibility for operating the system).
3. Provisions for the utilization of the Residual System Capability of the BC Hydro system, after any domestic surplus or deficit has been addressed, in support of Powerex's trading activity (an element of Powerex's responsibility for generating net income which, as noted above, benefits ratepayers by reducing BC Hydro's revenue requirements)."

The Application also states:

“Similarly, when BC Hydro supplements its own generation with additional supply (energy deficit or use of Residual System Capability), and Powerex purchases this electricity in wholesale markets outside British Columbia, BC Hydro requires a mechanism to purchase the electricity from Powerex, and to determine the price of such purchases.”

- 5.1 The first referenced quote suggests that there may be Residual System Capability after a domestic deficit has been addressed. Please explain: i) how such a situation could arise, ii) how the Residual System Capability would be determined in such circumstances under the 2003 TPA and iii) whether the 2020 TPA changes this determination.
- 5.1.1 Please provide an illustrative example for a period of domestic deficit and if the determination of the split is different under the 2020 TPA please also illustrate the change.
- 5.2 The second referenced quote suggests that BC Hydro may need to supplement its own generation with additional supply due to the use of Residual System Capability. Please explain more fully how such circumstances would arise and, more specifically, does this mean that BC Hydro’s commitment to provide Residual System Capability to Powerex could lead to a domestic energy deficit requiring purchases from outside British Columbia?
- 6.0 Reference: Exhibit B-5, pages 31 and 42-47
Exhibit B-1, pages 6, 17 (Table 1), 36-40 and 41-42
Exhibit B-1, Appendix C, pages 10-11**

Preamble: Exhibit B-5 distinguishes between five different types of imports and exports: i) Non-Flexible Imports, ii) Non-Flexible Exports, iii) Flexible Imports, iv) Flexible Exports and v) Use of Residual System Capacity.

Exhibit B-1, page 6 states:

“To enable BC Hydro and Powerex to fulfill their respective roles and responsibilities, the relationship between them must have, and always has had, the following three critical elements:

1. Provisions for the export of electricity that BC Hydro has identified as surplus relative to its Domestic Requirements within the operating time horizon (an element of BC Hydro’s responsibility for operating the system).
2. Provisions for the import of electricity that BC Hydro has identified as economic or necessary to meet a deficit relative to its Domestic Requirements within the operating time horizon (also an element of BC Hydro’s responsibility for operating the system).

3. Provisions for the utilization of the Residual System Capability of the BC Hydro system, after any domestic surplus or deficit has been addressed, in support of Powerex's trading activity (an element of Powerex's responsibility for generating net income which, as noted above, benefits ratepayers by reducing BC Hydro's revenue requirements)."

The Application (page 6) also states:

"When BC Hydro generates electricity beyond its own needs (surplus energy or use of Residual System Capability), and Powerex sells this electricity in wholesale markets outside British Columbia, BC Hydro requires a way to sell the electricity to Powerex, and to determine the price of such sales".

- 6.1 Please confirm that under the 2003 TPA there is no explicit distinction made between Non-Flexible Imports and Flexible Imports and that i) both are included in Market Electricity Purchases for purposes of presentation in the RRA (pages 41-42) and ii) both are included in the "Allocated to BC Hydro" category in Table 1 under Net Imports (page 17). If not confirmed please explain the relationship between the types of imports noted in Exhibit B-5 and the import categories per the 2003 TPA.
- 6.2 Please confirm that under the 2003 TPA there is no explicit distinction made between Non-Flexible Exports and Flexible Exports and that i) both are included in Surplus Sales for purposes of presentation in the RRA (pages 41-42) and ii) both are included in the "Allocated to BC Hydro" category in Table 1 under Net Exports (page 17). If not confirmed please explain the relationship between the types of exports noted in Exhibit B-5 and the export categories per the 2003 TPA.
- 6.3 Please confirm that under the 2003 TPA it is the "Use of Residual System Capacity" category per Exhibit B-5 that is considered to be: i) Net Purchases (Sales) from Powerex for purposes of presentation in the RRA and ii) captured under the "Allocated to Powerex" category in Table 1 under Net Imports and Net Exports (page 17).
- 6.4 It is noted that Non-Flexible Imports are defined as imports required to serve domestic demand where the timing is not flexible (Exhibit B-5, page 42). In contrast Flexible Imports re defined as Imports required over a defined time period to meet an energy deficit and/or to manage operational risk (Exhibit B-5, page 46). Is it the case that if Flexible Imports are not undertaken it is likely to lead to the need for Non-Flexible Imports? If not, please explain why.
- 6.5 It is noted that Non-Flexible Export arise when minimum generation is greater than load and that their timing is not flexible (Exhibit B-5, page 43). In contrast Flexible Exports re defined as exports required over a defined time period to sell surplus energy and/or to manage operational risk (Exhibit B-5, page 47). Is it the case that if Flexible Exports are not undertaken it is likely to lead to the need for Non-Flexible Exports? If not, please explain why.

6.6 Please confirm that under the 2003 TPA, Powerex shall use commercially reasonable efforts to make electricity available to B.C. Hydro at any time when the Electricity Transfer Price is expected by Powerex to be equal to or less than the Threshold Purchase Price, subject to any maximum quantity requested by B.C. Hydro. (Appendix C, pages 10-11)

6.6.1 Please confirm that this means, under the 2003 TPA, Powerex was expected to use commercially reasonable efforts to effect both Non-Flexible and Flexible Imports (as defined in Exhibit B-5)? If not confirmed, please explain why.

6.7 Please confirm that under the 2003 TPA, Powerex shall use commercially reasonable efforts to schedule and receive Surplus Hydro Electricity at any time when the Electricity Transfer Price is expected by Powerex to be equal to or greater than the Threshold Sale Price, subject to any maximum quantity specified by B.C. Hydro (Appendix C, page 10)

6.7.1 Please confirm that this means, under the 2003 TPA, Powerex was expected to use commercially reasonable efforts to effect both Non-Flexible and Flexible Exports (as defined in Exhibit B-5)? If not confirmed, please explain why.

**7.0 Reference: Exhibit B-5, page 31
Exhibit B-1, Appendix C, pages 10-11
BC Hydro's (Powerex) 2019 Letter Agreement Application,
Exhibit B-1, page 5**

Preamble: Exhibit B-5 identifies three different timeframes within which wholesale electricity is transacted: i) forward, ii) day-ahead and iii) real-time.

7.1 Section 5.2 of the 2003 TPA does not appear to limit the future timeframe for which B.C. Hydro may notify Powerex of the Threshold Purchase Price and any maximum quantity of electricity B.C. Hydro to just the day-ahead and real time periods. Please explain the basis for the statement in the 2019 Letter of Agreement Application that "the 2003 TPA did not provide, and did not need to provide, any mechanism for forward physical sales or purchases between BC Hydro and Powerex".

**8.0 Reference: Exhibit B-5, pages 42-47
Exhibit B-1, pages 6, 28 (Table 5), 47-49 and 52-54
Exhibit B-1, Appendix A, pages 11-14**

Preamble: Exhibit B-5 distinguishes between five different types of imports and exports: i) Non-Flexible Imports, ii) Non-Flexible Exports, iii) Flexible Imports, iv) Flexible Exports and v) Use of Residual System Capacity.

The 2020 TPA (Appendix A) also uses the terms Non-Flexible Imports, Non-Flexible Exports, Flexible Imports and Flexible Exports.

Exhibit B-1, page 6 states:

“To enable BC Hydro and Powerex to fulfill their respective roles and responsibilities, the relationship between them must have, and always has had, the following three critical elements:

1. Provisions for the export of electricity that BC Hydro has identified as surplus relative to its Domestic Requirements within the operating time horizon (an element of BC Hydro’s responsibility for operating the system).
2. Provisions for the import of electricity that BC Hydro has identified as economic or necessary to meet a deficit relative to its Domestic Requirements within the operating time horizon (also an element of BC Hydro’s responsibility for operating the system).
3. Provisions for the utilization of the Residual System Capability of the BC Hydro system, after any domestic surplus or deficit has been addressed, in support of Powerex’s trading activity (an element of Powerex’s responsibility for generating net income which, as noted above, benefits ratepayers by reducing BC Hydro’s revenue requirements).”

The Application (page 6) also states:

“When BC Hydro generates electricity beyond its own needs (surplus energy or use of Residual System Capability), and Powerex sells this electricity in wholesale markets outside British Columbia, BC Hydro requires a way to sell the electricity to Powerex, and to determine the price of such sales”.

- 8.1 Please confirm that, under the 2020 TPA, there is no explicit distinction between Flexible Imports (per Exhibit B-5) and Imports associated with the Use of Residual System Capacity (per Exhibit B-5) and that both are included under Flexible Imports (per the 2020 TPA definition). If not confirmed please explain the relationship between the types of imports noted in Exhibit B-5 and the import categories per the 2020 TPA.
- 8.2 Please confirm that, under the 2020 TPA, there is no explicit distinction between Flexible Exports (per Exhibit B-5) and Exports associated with the Use of Residual System Capacity (per Exhibit B-5) and that both are included under Flexible Exports (per the 2020 TPA definitions). If not confirmed please explain the relationship between the types of exports noted in Exhibit B-5 and the export categories per the 2020 TPA.
- 8.3 Please confirm that under the 2020 TPA both Non-Flexible and Flexible Imports are classified as System Imports per Exhibit B-1, page 53.
 - 8.3.1 In future RRAs will BC Hydro be able to breakdown the volume and dollars associated System Imports as between Non-Flexible and Flexible Imports?

- 8.4 Please confirm that under the 2020 TPA both Non-Flexible and Flexible Exports are classified as System Exports per Exhibit B-1, page 53.
- 8.4.1 In future RRAs will BC Hydro be able to breakdown the volume and dollars associated System Exports as between Non-Flexible and Flexible Exports?
- 8.5 Please confirm that under the 2020 TPA Powerex is only required to deliver electricity to BC Hydro for Non-Flexible Import Schedules (per Appendix A, Section 4.2.2) and in response to Specific Quantity Requests (per Appendix A, Sections 4.5 & 4.6).
- 8.5.1 Please clarify whether a Non-Flexible Import schedule (per the 2020 TPA) would be associated only with those circumstances defined as Non-Flexible Imports (per Exhibit B-5) or whether it could also include the circumstances considered to be Flexible Imports (per Exhibit B-5).
- 8.5.2 Please clarify whether a Specific Quantity Request (per the 2020 TPA) would be associated only with those circumstances defined as Non-Flexible Imports (per Exhibit B-5) or whether it could also include the circumstances considered to be Flexible Imports (per Exhibit B-5).
- 8.5.3 Overall, do the provisions for Non-Flexible Import Schedules and Specific Quantity Requests provide BC Hydro with the same capability to require deliveries and address the circumstances described as “Flexible Imports” (per Exhibit B-5) as the 2003 TPA did?
- 8.6 Please confirm that under the 2020 TPA Powerex is only required to accept electricity from BC Hydro for Non-Flexible Export Schedules (per Appendix A, Section 4.3.2) and in response to Specific Quantity Requests (per Appendix A, Sections 4.5 & 4.6).
- 8.6.1 Please clarify whether a Non-Flexible Export schedule (per the 2020 TPA) would be associated only with those circumstances defined as Non-Flexible Exports (per Exhibit B-5) or whether it could also include the circumstances considered to be Flexible Exports (per Exhibit B-5).
- 8.6.2 Please clarify whether a Specific Quantity Request (per the 2020 TPA) would be associated only with those circumstances defined as Non-Flexible Exports (per Exhibit B-5) or whether it could also include the circumstances considered to be Flexible Exports (per Exhibit B-5).
- 8.6.3 Overall, do the provisions for Non-Flexible Export Schedules and Specific Quantity Requests provide BC Hydro with the same capability to require purchases by Powerex (for export) and address the circumstances described as “Flexible Exports” (per Exhibit B-5) as the 2003 TPA did?

**9.0 Reference: Exhibit B-1, page 12 (Table 1) and page 28 (Table 5)
Exhibit B-1, Appendix A of the 2020 TPA
Exhibit B-1, Appendix F, Tabs 1 and 4
Exhibit B-5, pages 46-49**

- 9.1 Please confirm that Table 5 only applies to the pricing of Flexible Import and Flexible Export Schedules and that Non-Flexible Import and Non-Flexible Exports are priced at the Hourly Index Price (per Appendix A of the 2020 TPA, Sections 5 & 6).
- 9.2 Please confirm that for those import and export transaction defined (respectively) as Flexible Imports and Flexible Exports in Exhibit B-5:
- 9.2.1 Under the 2003 TPA these were priced at the applicable Mid-C Price per Table 1
- 9.2.2 Under the 2020 TPA these will not always be priced at the applicable Mid-C Price per Table 5.
- 9.3 Appendix F suggests that while the reporting of imports and exports for RRA purposes will change under the 2020 TPA, the overall Cost of Energy will not change. Please explain why there is no change in the overall Cost of Energy when (as per the previous question) the pricing of certain imports and exports changes as a result of the 2020 TPA.
- 9.4 With respect to Appendix F, Tab 4, please explain why the breakdown of the Cost of Energy by Function (i.e., Generation vs. Customer Care) changes under the 2020 TPA.

10.0 Reference: Exhibit B-1, pages 28, 49 and 52

Preamble: At page 49 the Application states:

“Like the 2003 TPA, the 2020 TPA declares that the Electricity Transfer Price is intended to be established as a sale price that reflects the fair market value of electricity delivered at the British Columbia-United States border, at which parties acting on an arms-length basis would be willing to transact.”

- 10.1 It is noted (per Tables 5 and 7) that under certain circumstances Flexible Import/Exports are priced at the Weighted Average Price as opposed to the Hourly Index (which is based on the Mid-C price). Please explain why, in these circumstances the Weighted Average Price better reflects “the fair market value of electricity delivered at the British Columbia-United States border, at which parties acting on an arms-length basis would be willing to transact”.

11.0 Reference: Exhibit B-1, pages 50 and 54-56

Preamble: The Application (page 50) explains how adjustments to the balance in the Transfer Volume Account are made hourly:

“In any hour where there is a net flexible import, the Flexible Import Price will be either:

- the applicable Hourly Index Price (if the Transfer Volume Account is zero or a positive amount); or
- the Weighted Average Price (if the Transfer Volume Account is negative and unless and until, the Transfer Volume account becomes positive, in which case, the price thereafter is the applicable Hourly Index Price).

In any hour where there is a net flexible export, the Flexible Export Price will be either:

- the applicable Hourly Index Price (if the Transfer Volume Account is negative); or
- the Weighted Average Price (if the Transfer Volume Account is zero or positive and unless and until, the Transfer Volume account becomes negative, in which case, the price thereafter is the applicable Hourly Index Price).”

11.1 Do the references to flexible imports and flexible exports refer to transactions made under the Flexible Import and Flexible Export Schedules (per sections 4.2.1 and 4.3.1 of the 2020 TPA) and Specific Quantity Requests deemed to be under Flexible Import or Flexible Export Schedules (per sections 4.5 and 4.6 of the 2020 TPA)? If not what types of transactions are included?

11.2 In the comparative example provided on pages 54-56, in the case of the 2020 TPA is the determination that the credit to the Transfer Volume Account at the time of the import based on the assumption that the \$20/MWh paid is equivalent to the Hourly Index Price per sections 6.1 and 6.2 of Appendix A of the 2020 TPA?

11.2.1 Assuming the Hourly Index Price was \$20/MWh when the transaction was made but the price paid by Powerex was \$15 please confirm that it is the \$20/MWh that would be used for purpose of the Transfer Volume Account. If not confirmed, please explain why and reconcile with description of the pricing provided at page 50 of the Application.

11.3 For the following series of transactions, please provide calculations as to the Flexible Import/Flexible Export Price for each of the following transactions along with the total volume, the total dollar and the resulting average weight price for the Transfer Volume Account assuming the Transfer Volume Account starts at zero:

11.3.1 First, 100 GWh of flexible imports when Hourly Price index is \$40/MWh.

11.3.2 Then, 50 GWh of flexible exports when the Hourly Price Index is \$45/MWh.

11.3.3 Then 50 GWh of flexible imports when the Hourly Index Price is \$30/MWh.

11.3.4 Then 150 GWh of flexible exports when the Hourly Price Index is \$60/MWh

11.3.5 Then 25 GWh of flexible imports when the Hourly Price Index is \$30/MWh.

11.3.6 The 50 GWh of flexible imports when the Hourly Price Index is \$35/MWh.

If required for purposes of the calculation please assume that for each import transaction the price actually paid by Powerex (to the 3rd party) is \$2/MWh less than the applicable Hourly Index Price and that for each export transaction the price actually paid to Powerex (by the 3rd party) is \$2/MWh greater than the applicable Hourly Index Price.

**12.0 Reference: Exhibit B-1, pages 9 and 52-53
Exhibit B-1, Appendix A, pages 11-15**

Preamble: The Application states:

“Specifically, the 2020 TPA benefits ratepayers by:

- Allowing BC Hydro to stipulate a volume of required import and export needs over any specified time period while better enabling Powerex to enter into transactions supported by the BC Hydro system across a range of time horizons, providing greater certainty that sufficient demand or supply will be available to meet BC Hydro’s electricity import and export needs.”

12.1 Please confirm that BC Hydro’s ability to “stipulate a volume of required import and export needs over any specified time period” is found in sections 4.2.2, 4.3.2 and 4.5 of the 2020 TPA which require Powerex to respond to Non-Flexible Import Schedules, Non-Flexible Export Schedules and Specific Quantity Requests (respectively) made by BC Hydro.

12.2 Are the quantities of imports requested under Non-Flexible Import Schedules and Specific Quantity Requests for delivery to BC Hydro equivalent to what were categorized as “Market Electricity Purchases” under the 2003 TPA? If not, what is the difference?

12.3 Are the quantities of exports requested under Non-Flexible Export Schedules and Specific Quantity Requests for delivery from BC Hydro equivalent to what were categorized as “Surplus Sales” under the 2003 TPA? If not, what is the difference?

12.4 Are there any provisions in the 2020 TPA that allow BC Hydro to either i) cap the price that it will pay for imports requested under sections 4.2.2 and 4.5 of the 2020 TPA or ii) set a minimum price it will be paid for exports made sections 4.3.2 and 4.5 of the 2020 TPA?

12.4.1 If yes, please indicate what these provisions are.

12.4.2 If not, please confirm that this is a change from the 2003 TPA which did (via Threshold Price) allow BC Hydro to set such limitations.

12.4.3 If not, does this increase the risk to BC Hydro rate payers?

12.4.4 If not, why weren't such provisions included in the 2020 TPA?

**13.0 Reference: Exhibit B-1, page 26 and 33
Exhibit B-5, page 31 and 42-47**

Preamble: The Application states:

"The critical difference between the 2020 TPA and the 2003 TPA, is that the 2020 TPA removes the transfer price risk associated with the one day at a time allocation and transfer pricing in the 2003 TPA."

Exhibit B-5 identifies three different timeframes within which wholesale electricity is transacted: i) forward, ii) day-ahead and iii) real-time.

Exhibit B-5 distinguishes between five different types of imports and exports: i) Non-Flexible Imports, ii) Non-Flexible Exports, iii) Flexible Imports, iv) Flexible Exports and v) Use of Residual System Capacity.

13.1 Please confirm that under the 2020 TPA Powerex still faces some uncertainty as to what the transfer price will be for Flexible Import Scheule transactions that will take place in the forward market as Powerex will not know: i) whether the transaction will be price at the Hourly Index Price or the Weighted Average Price, ii) what the Hourly Index Price will be or iii) what the Weighted Average Price will be? If not confirmed, please explain why.

13.2 Please provide a schedule that compares the sources of price risk faced by Powerex based on the 2003 TPA vs. the 2020 TPA for each of the five different types of imports/exports described in Exhibit B-5 (pages 42-47).

**14.0 Reference: Exhibit B-1, pages 27, 50-51 and page 60
Exhibit B-1, Appendix F**

Preamble: The Application states (page 27):

"By adding or subtracting BC Hydro's actual Annual Flexible Surplus/Deficit to the Transfer Volume Account and adjusting the Weighted Average Price based on the applicable Annual Price (which represents a sale price that reflects the fair market value) and the System Adjustment Value, the 2020 TPA, like the 2003 TPA, ensures that Powerex's net income represents the value added from Powerex's trading activity and is not conflated with the market value or surplus or deficit energy in the BC Hydro system. However, the critical difference is that it achieves this objective without requiring the one day at a time allocation and transfer

pricing approach, and associated transfer price risk, that existed under the 2003 TPA.

The Application (page 50) states:

“In addition to the hourly adjustments described above, the Transfer Volume Account is also adjusted annually, immediately before the end of the fiscal year, by adding or subtracting BC Hydro’s actual Annual Flexible Surplus/Deficit. The Weighted Average Price is adjusted at the same time based on the applicable Annual Price and the System Adjustment Value. This adjustment to the Transfer Volume Account is an important part of eliminating the transfer price risk inherent in the 2003 TPA because it allows the Transfer Volume Account to include the value of BC Hydro’s actual Annual Flexible Surplus/Deficit.

- 14.1 Please explain more fully how the annual adjustment ensures that Powerex’s net income represents the value added from Powerex’s trading activity and is not conflated with the market value or surplus or deficit energy in the BC Hydro system (per page 27).
- 14.2 Please explain the resulting difference in the determination of the value in the determination of Powerex’s net income as between: i) a situation where the annual adjustment is made and ii) a situation where the annual adjustment is not made.
- 14.3 Please explain more fully (conceptually) why the annual adjustment to the Transfer Volume Account is required in order to eliminate the transfer price risk inherent in the 2003 TPA (per page 50).
- 14.4 Please explain the resulting difference in how the transfer price will be determined under the 2020 TPA as between: i) a situation where the annual adjustment is made and ii) a situation where the annual adjustment is not made.
- 14.5 Please explain how the annual adjustment ensures that “Powerex is fully and symmetrically accountable for trade decisions that BC Hydro determines to increase or decrease spill” (per page 60) and why this is appropriate.
- 14.6 Please explain how the annual adjustment ensures that “Powerex is fully and symmetrically accountable for trade decisions that BC Hydro determines to increase or decrease system efficiency” (per page 60) and why this is appropriate.
- 14.7 Does the annual adjustment affect the annual values for the Cost Energy or Net Income as reported in BC Hydro’s financial statements or as they will be presented in BC Hydro’s Revenue Requirement Applications?
 - 14.7.1 If not, why not?
 - 14.7.2 If yes, please explain how (including how this change will be reflected in BC Hydro’s Cost of Energy and Net Income presentation in any future RRA).

14.8 Assuming the preceding transactions described in BCOAPO IR #11.3 were all of the transactions for given year, please set out the calculation of the annual adjustment to the volume and average weighted price for the Transfer Volume Account.