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May 29, 2020

Mr. Patrick Wruck
Commission Secretary and Manager
Regulatory Support
British Columbia Utilities Commission
Suite 410, 900 Howe Street
Vancouver, BC V6Z 2N3

Dear Mr. Wruck:

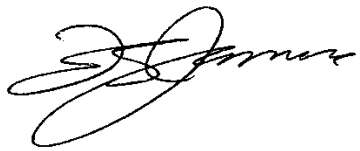
RE: British Columbia Utilities Commission (BCUC or Commission)
British Columbia Hydro and Power Authority (BC Hydro)
2020 Transfer Pricing Agreement Application

BC Hydro applies to the BCUC under section 71(1) of the *Utilities Commission Act* for certain orders regarding a new Transfer Pricing Agreement between Powerex Corp (**Powerex**) and BC Hydro (the **Application**). The new agreement came into effect on April 1, 2020 (the **2020 TPA**), replacing the Transfer Pricing Agreement for Electricity and Natural Gas, which came into effect 17 years ago (the **2003 TPA)**.

The 2020 TPA is provided as Appendix A of the Application. BC Hydro seeks an order accepting the 2020 TPA as filed. A proposed regulatory timetable is provided in section 3 of the Application.

For further information, please contact Chris Sandve at 604-974-4641 or by email at bchydroregulatorygroup@bchydro.com.

Yours sincerely,



Fred James
Chief Regulatory Officer

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Enclosure

Copy to: BCUC Project No. 1598990 (Fiscal 2020 to Fiscal 2021 Revenue Requirements Application) Registered Intervener Distribution List.

BC Hydro
Power smart

2020 Transfer Pricing Agreement Application

May 2020

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1 Introduction

BC Hydro applies to the British Columbia Utilities Commission (**BCUC**) for certain orders regarding a new Transfer Pricing Agreement between Powerex Corp (**Powerex**) and BC Hydro (the **Application**). The new agreement came into effect on April 1, 2020 (the **2020 TPA**), replacing the Transfer Pricing Agreement for Electricity and Natural Gas, which came into effect 17 years ago (the **2003 TPA)**.[1]

The 2020 TPA is an "energy supply contract" under the *Utilities Commission Act*[2] (**UCA**). It enables BC Hydro to cost-effectively meet its Domestic Requirements,[3] and to maximize the value of its Residual System Capability,[4] in the operating time horizon of the BC Hydro system.[5]

1 The 2020 TPA is provided as **Appendix A** and an annotated version is provided as **Appendix B**. The 2003 TPA is subject to an amending agreement. A copy of the 2003 TPA is provided as **Appendix C** and shows all the amendments to the agreement that are in effect so long as the amending agreement is in effect. For more information regarding the 2003 TPA, refer to section 4.

2 RSBC 1996 c473, as amended.

3 "Domestic Requirements" is a term used in the Application to refer collectively to Domestic Load, Interutility Agreements and System Constraints, as defined in the 2020 TPA.

4 "Residual System Capability" is defined in the 2020 TPA as "…at any time and as determined by BC Hydro in its sole discretion, the capability of the BC Hydro System while all Domestic Load requirements and Interutility Agreement obligations (including pursuant to operating procedures) are being satisfied and System Constraints are being responded to, to allow purchases of electricity products and services by BC Hydro from Powerex and/or to allow sales of electricity products and services from BC Hydro to Powerex…".

5 The operating time horizon of the BC Hydro system is, at any time, the balance of the current fiscal year and the following two fiscal years. The planning time horizon is longer-term (i.e., 20 years). BC Hydro builds and procures resources to meet its Domestic Requirements on a planning basis. Within the operating time horizon, BC Hydro dispatches those resources and undertakes imports and exports to cost-effectively meet its Domestic Requirements. Powerex operates across multiple time horizons depending on the market and product or service. Powerex may enter into third-party commitments that are ultimately delivered from the BC Hydro system in future BC Hydro operating time horizons. However, Powerex's third-party commitments for future time horizons do not impact decisions by BC Hydro in its planning time horizon.

2 The 2020 TPA is in the Public Interest

BC Hydro seeks an order accepting the 2020 TPA as filed, following a review process, without the hearing contemplated by section 71(2) of the UCA.[6]

The BCUC should issue that order if it is satisfied that the 2020 TPA is in the public interest. As summarized below, the 2020 TPA is in the public interest because:

- A transfer pricing agreement between BC Hydro and Powerex is necessary, given their respective roles and responsibilities;
- The 2020 TPA is better for customers than the 2003 TPA; and
- The 2020 TPA has no effect on non-customer stakeholders.

2.1 BC Hydro Roles and Responsibilities

BC Hydro owns, plans, and operates generation facilities and delivers energy to its customers within British Columbia through the coordinated operation of its generation, transmission, and distribution assets. BC Hydro's generation system is largely hydro-based, with significant reservoir storage capability. BC Hydro also holds contracts with Independent Power Producers for electricity supply and operates gas-fired (thermal) facilities.[7]

BC Hydro operates its system to meet its Domestic Requirements first. As a public utility, regulated by the BCUC under the UCA, it must also meet those requirements cost-effectively, including through the cost-effective operation of its generation system, within its operating time horizon.

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6 BC Hydro has proposed a review process to provide the BCUC with any information it considers necessary to confirm that the 2020 TPA is in the public interest. A hearing under section 71(2) of the UCA is only required if, following this review, the BCUC is not satisfied that the 2020 TPA is in the public interest. Refer to section 3 for a discussion of the regulatory and legal framework for the Application as well as BC Hydro's proposed regulatory timetable. A Draft Order is attached as **Appendix D**.

7 BC Hydro operates two gas-fired facilities, Fort Nelson Generating Station and Prince Rupert Generating Station, and has an Electricity Purchase Agreement for electricity from the Island Generation facility. Collectively, the 2020 TPA refers to these facilities as "Thermal Generation Plants".

Within its operating time horizon, BC Hydro faces variability and uncertainty in both load and energy supply. Water inflows are the largest driver of potential energy supply variability, which, in a given year, is typically in the range of +/-7000 GWh, or about 12 per cent of BC Hydro's annual energy load requirements.

To manage the variability and uncertainty in both supply and demand on its system, and to meet its Domestic Requirements cost-effectively, BC Hydro must export electricity that is surplus to demand and must import electricity to meet deficits. This requires BC Hydro to consider its Domestic Requirements and the economic operation of the system and determine whether, and to what extent, it has an energy surplus or an energy deficit as well as how much Residual System Capability is available.[8] As the owner of its generation assets, BC Hydro remains responsible, at all times, for the physical operation of its system.

BC Hydro only operates within the borders of British Columbia and has no meaningful physical or corporate presence outside British Columbia. One important consequence of BC Hydro's exclusively domestic footprint is that it is generally immune from the jurisdiction of extra-Provincial regulators, courts and legislatures. However, the electricity markets BC Hydro must export to, or import from, are all outside British Columbia, primarily in the United States but also in Alberta.

BC Hydro is also a Crown corporation, continued by the *Hydro and Power Authority Act*.[9] Since its creation, it has been a vehicle to serve Provincial energy policy objectives.

[8] This includes determining the availability of BC Hydro's gas-fired facilities and any consequential needs for natural gas.

[9] RSBC c212, as amended.

2.2 Powerex Roles and Responsibilities

Powerex is a wholly-owned subsidiary of BC Hydro, and therefore, a wholly separate legal entity from BC Hydro. It is an energy marketing and trading company that operates primarily in the western United States and Alberta.[10] Its activities are focused in three different areas: wholesale electricity, wholesale natural gas, and related environmental products. It operates in highly competitive markets where prices are determined by the interaction of numerous buyers and sellers. It aims to maximize its annual net income.

Powerex was established in 1988, to take advantage of wholesale electricity trade opportunities, for the benefit of British Columbia and BC Hydro ratepayers. Since that time, it has had an exclusive relationship with BC Hydro under which it purchases surplus BC Hydro electricity for export, sells to BC Hydro electricity for import to meet Domestic Requirements, and purchases and sells electricity with BC Hydro to utilize any Residual System Capability.

Powerex independently acquires electricity at a variety of locations, from third-parties, for import into the BC Hydro system, and independently sells electricity that has been exported from the BC Hydro system at a variety of locations, to third-parties. It has full flexibility, vis-à-vis BC Hydro, to decide the locations, parties and prices for its transactions.[11]

[10] Powerex also purchases electricity from FortisBC under the Capacity and Energy Purchase and Sale Agreement (**CEPSA**) and, from time to time, purchases wholesale electricity that is not contracted to BC Hydro, from Independent Power Producers in British Columbia. Powerex is also engaged in wholesale natural gas trading within British Columbia and participates in certain environmental markets within British Columbia. For more information on the CEPSA, refer to footnote 49.

[11] For further discussion, refer to the BCUC's February 21, 2020 decision regarding the 2019 Letter Agreement between BC Hydro and Powerex, at page 5 (Appendix A to BCUC Order No. E-2-20).

Under BC Hydro's regulatory framework, Powerex's net income directly reduces BC Hydro's revenue requirements, helping to keep BC Hydro customer rates low.[12] While some of that net income is derived from external transactions related to the import and export of electricity to and from the BC Hydro system,[13] a substantial proportion arises from electricity marketing and trading activities that are unrelated to the BC Hydro system[14] as well as from transacting natural gas and environmental products. To the extent Powerex is profitable, BC Hydro and its customers benefit.[15]

As discussed above, BC Hydro determines whether, and to what extent, it has a surplus or deficit and how much Residual System Capability is available. Subject to BC Hydro's Domestic Requirements, its responsibility for the physical operation of its system, and any resulting constraints or requirements that BC Hydro may set out, it is Powerex, with its insight into the markets in which it operates, that decides the timing and volume of imports and exports.

Powerex is not regulated by the BCUC under the UCA, but is regulated by different regulators in the different jurisdictions within which it operates, including the Federal Energy Regulatory Commission, in the United States and the Alberta Utilities Commission, in Alberta.

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12 Since 2003, Powerex net income has reduced BC Hydro's revenue requirements by approximately $2.4 billion. This income is in addition to revenues paid to BC Hydro for the purchase of BC Hydro surplus energy, which offset BC Hydro's cost of energy and were referred to as Surplus Sales in its Fiscal 2020 to Fiscal 2021 Revenue Requirements Application. This income is also separate from market purchases associated with BC Hydro's Domestic Requirements (referred to as Market Electricity Purchases in BC Hydro's Fiscal 2020 to Fiscal 2021 Revenue Requirements Application).

13 Powerex generates net income from transactions related to the import and export of electricity to and from the BC Hydro system in two ways. First, by using its transmission rights and market access and knowledge to purchase or sell electricity at more attractive prices than the price it pays to, or receives from, BC Hydro. Second, by using the Residual System Capability to make offsetting purchases and sales in different time periods (e.g., buying during periods with relatively lower prices and selling during periods with relatively higher prices.)

14 For example, purchasing energy in the U.S. Pacific Northwest or Desert Southwest regions and then selling energy into California markets.

15 Ratepayers do not assume the risk of a net loss by Powerex. For further discussion, refer to section 4.1.6.

2.3 A Transfer Pricing Agreement is Required

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).

In addition, and for the same reasons, the relationship between Powerex and BC Hydro provides for the acquisition of natural gas from wholesale markets, for fueling BC Hydro's thermal generation units.

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. 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. Accordingly,

the relationship between BC Hydro and Powerex must provide mechanisms to transfer electricity title, record electricity volumes, and record prices.

A mechanism to transfer title can only be achieved through a contract that is legally binding and accounts for all transactions. Being legally-binding provides accountability by ensuring that the contract is followed; accounting for all transactions provides transparency by allowing for comparability between periods.

A mechanism to transfer title should also align title transfers, volumes and prices with the respective responsibilities of both BC Hydro and Powerex.

The 2003 TPA and the 2020 TPA both have all these features. Specifically, they both:

- Allow for the recording of the price of electricity transfers associated with BC Hydro's energy surplus or deficit as well as its Residual System Capability at a sale price that reflects the fair market value at which parties acting on an arms length basis would be willing to transact; and
- Ensure that Powerex's net income represents value added from Powerex's trading activities (i.e., transactions utilizing the Residual System Capability and transactions separate from the BC Hydro system) and is not conflated with the market value of surplus or deficit energy in the BC Hydro system.

For example, under both agreements, revenues associated with significant BC Hydro electricity exports during a period of high inflows do not mask below-average income from Powerex's trading activities. Similarly, under both agreements, costs associated with significant BC Hydro electricity imports during a period of low inflows do not mask above-average income from Powerex's trading activities.

In this manner, both agreements provide for the separation of financial accountability between the respective responsibilities and activities of BC Hydro and Powerex. This supports effective decision-making by both entities and enables the accurate

reporting necessary for each entity's respective accounting, regulatory, and legal purposes.

2.4 The 2020 TPA Does Not Affect the Interests of Non-Customer Stakeholders

The 2020 TPA, like the 2003 TPA, memorializes arrangements between BC Hydro and Powerex that are both necessary, as discussed in section 2.3 above, and have effect only in the operating time horizon of the BC Hydro system.

The fact that the effect of the 2020 TPA is limited to the operating time horizon of the BC Hydro system is important. In particular, the 2020 TPA does not and cannot have any effect on BC Hydro's long-term load-resource balance and it is not a resource that will be considered by BC Hydro in its next Integrated Resource Plan.[16] In other words, the 2020 TPA has no effect on BC Hydro's planning time horizon.

Rather than being a resource available for meeting load requirements on a planning basis, the 2020 TPA provides for the cost-effective acquisition of electricity, and cost-effective use of BC Hydro resources, after forecast load, planned resources, and near-term circumstances create energy surpluses/deficits and Residual System Capability, in the operating time horizon of the BC Hydro system.

Accordingly, the 2020 TPA does not have any effect on factors that, in other contexts, can be relevant in assessing the public interest. Specifically, because it does not affect forecast load or planned resources, the 2020 TPA does not engage any interests in land or the environment and it is in alignment with all of British Columbia's Energy Objectives (as discussed further in **Appendix E**).

Importantly, with regards to the BCUC's review of the Application, the 2020 TPA does not affect the economic interests of any person that is not a customer of BC Hydro (i.e., non-customer stakeholders).

[16] It is important to note that this would be the case even in the absence of the self-sufficiency planning criteria or requirement under the *Clean Energy Act*. A reliance on market purchases as a resource is different from the 2020 TPA which is not "the allowance" itself but rather a means by which any such allowance could be acquired when needed.

2.5 The 2020 TPA is Better for BC Hydro Customers than the 2003 TPA

As the sub-sections below will explain, the 2020 TPA is better for customers than the 2003 TPA because it removes the "transfer price risk" that discouraged Powerex from relying on the BC Hydro system to support forward third-party purchase and sale transactions while, at the same time, maintaining the roles and responsibilities between BC Hydro and Powerex. 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; 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.

2.5.1 Transfer Price Risk Under the 2003 TPA

North America is comprised of two major power grids or "interconnections" – the Eastern Interconnection and the Western Interconnection; the latter includes British Columbia and contains various trading "hubs". In general, there are three timeframes within which wholesale electricity markets function within the Western Interconnection:

- **Real Time**, in which electricity is delivered on the same day that the transaction is agreed upon.
- **Day-Ahead**, in which electricity is delivered on the day after the transaction is agreed upon.[17]

[17] Trading activities over weekends and holidays may extend the period between the delivery date and the day the transaction is agreed upon.

- **Forward**, in which electricity is delivered on a day that is two or more days after the transaction is agreed upon.

As discussed in section 2.3 above, both the 2003 TPA and the 2020 TPA allow for the recording of the price of electricity transfers associated with BC Hydro's energy surplus or deficit as well as its Residual System Capability. Both agreements also ensure that Powerex's net income represents value added from Powerex's trading activities, including transactions utilizing the Residual System Capability. In the case of the 2003 TPA, this was done by:

- Setting a transfer price[18] on the basis of the day-ahead wholesale market price of electricity at the Mid-Columbia trading hub (**Mid-C** and **Applicable Mid-C Price**).[19]
- Allocating net imports or net exports, in a given hour, to BC Hydro (as domestic activity) or Powerex (as trade activity), based on a comparison between a Threshold Purchase Price or Threshold Sale Price, and the Applicable Mid-C Price.[20] Specifically, if there was a net import and the Applicable Mid-C Price was equal to or less than the Threshold Purchase Price, then the net import in that hour was allocated to BC Hydro (as it was considered to be supporting Domestic Requirements); if it was greater than the Threshold Purchase Price, it was allocated to Powerex (as it was considered to be trade activity). Similarly, if there was a net export and the Applicable Mid-C Price was less than the Threshold Sale Price, then the net export in that hour was allocated to

[18] Both the 2003 TPA and the 2020 TPA set out how to calculate an electricity transfer price which is intended to be established as a sale price that reflects the fair market value of electricity at which parties acting on an arms-length basis would be willing to transact. Refer to section 9.1 of the 2020 TPA (Appendix A) and section 12.1 of the 2003 TPA (Appendix C).

[19] The Mid-Columbia market is generally representative of the prices received on the day-ahead regional wholesale energy market, due to its depth and the availability of transmission access. The Applicable Mid-C Price varies between on-peak and off-peak hours and for transfer pricing purposes, under both the 2003 TPA and the 2020 TPA, is adjusted for transmission losses and wheeling charges, reflecting that sales between BC Hydro and Powerex are deemed to occur at the British Columbia-United States border. The expression "Applicable Mid-C Price" is not defined in the 2003 TPA, but is used in reference to it for convenience. In contrast, the 2020 TPA has a defined term, "Hourly Index Price", that (i) corresponds to the expression Applicable Mid-C Price and (ii) is used solely in reference to the 2020 TPA.

[20] This comparison did not occur if BC Hydro had not set a Threshold Purchase Price or Threshold Sale Price. If no threshold price was set by BC Hydro, the net import or net export was allocated to Powerex.

Powerex; if it was equal to or greater than the Threshold Sale Price, it was allocated to BC Hydro.[21]

- Tracking imports and exports allocated to Powerex in a Trade Account, with imports allocated to Powerex applied as a credit to the balance of the Trade Account and exports allocated to Powerex applied as a debit to the Trade Account, on a weighted-average price basis. In this way, Powerex was financially accountable vis-à-vis BC Hydro for the value from offsetting purchases and sales in different time periods.

The weighted-average approach to crediting and debiting the balance in the Trade Account meant that a net import or net export that offset the existing balance in the Trade Account would not be valued at the Applicable Mid-C Price. Rather, it would be valued at the weighted-average price of the previous net imports or net exports, allocated to the Trade Account, that were offset (**Weighted Average Price**).[22] For example, if there was a net export of electricity and the balance in the Trade Account was a positive amount, then the price applied to the net export would depend on whether it was allocated to BC Hydro or Powerex. If the net export was allocated to BC Hydro, then Powerex would pay BC Hydro the Applicable Mid-C Price. However, if the net export was allocated to Powerex, because the balance in the Trade Account was positive, it would reduce the positive volume and value in the Trade Account, by applying the Weighted Average Price to the net export (i.e., it would make the balance "less positive").[23]

[21] This had the effect of allocating the most economic transactions to BC Hydro, at times when BC Hydro had set a Threshold Sale Price and there was a net export or BC Hydro had set a Threshold Purchase Price and there was a net import. The reason for this approach is no longer applicable, as explained in section 4.1.3.

[22] For example, if the balance in the Trade Account was positive 100 MWh and a net export of 50 MWh was allocated to Powerex, it would be debited against the existing balance in the Trade Account, reducing the balance of100 MWh to 50 MWh, at the weighted-average price of the previous net imports that made up the positive balance.

[23] If the volume of the net imports or exports in a month caused the balance in the Trade Account to switch from negative to positive or positive to negative, then the Applicable Mid-C Price would apply after the point at which the balance switched. A more detailed explanation of weighted-average adjustments to the Trade Account under the 2003 TPA is provided in section 4.1.3. An explanation of the presentation of financial information under the 2003 TPA is provided in section 4.1.6.

Table 1 below provides a summary of all of the potential outcomes under the 2003 TPA.

Table 1 Transfer Price Scenarios Under the 2003 TPA

	Trade Account Balance Zero or Positive	Trade Account Balance Negative
Net Import		
Allocated to BC Hydro (Threshold Purchase Price Equal To or Greater Than Applicable Mid-C Price)	BC Hydro pays Powerex the Applicable Mid-C Price for that hour	BC Hydro pays Powerex the Applicable Mid-C Price for that hour
Allocated to Powerex (Threshold Purchase Price Less Than Applicable Mid-C Price)	Balance in Trade Account is increased by applying the Applicable Mid-C Price for that hour to the net import	Negative balance in Trade Account is reduced by applying the Weighted Average Price to the net import
Net Export		
Allocated to BC Hydro (Threshold Sale Price Equal To or Less Than Applicable Mid-C Price)	Powerex pays BC Hydro the Applicable Mid-C Price for that hour	Powerex pays BC Hydro the Applicable Mid-C Price for that hour
Allocated to Powerex (Threshold Sale Price Greater Than Applicable Mid-C Price)	Balance in Trade Account is reduced by applying the Weighted Average Price to the net export	Negative balance in the Trade Account is increased by applying the Applicable Mid-C Price to the net export

These aspects of the 2003 TPA are referred to as the “one-day-at-a-time” allocation and transfer pricing approach. This approach to allocation and transfer pricing had two important implications:

- First, the price applied to the transaction (Applicable Mid-C Price or Weighted Average Price) would vary depending on not only the balance in the Trade Account but also whether the transaction was allocated to BC Hydro or Powerex.
- Second, Powerex would not know how the transaction had been allocated - and therefore, how that transaction had been priced - until the day before the electricity was delivered.

In the Application, the risks created by these two implications are referred to as "transfer price risk."

The one day at a time allocation and transfer pricing approach in the 2003 TPA applied regardless of when the decisions to import or export electricity were made, or the reasons for those decisions.

For example, Powerex may have identified an opportunity to deliver electricity to a third-party at a future time (forward market sale) and may have expected that it could meet its delivery obligations at that future time with economic exports from the BC Hydro system that would be debited from the Trade Account at the Weighted Average Price (i.e., at the time the electricity would be delivered from the BC Hydro system, Powerex expected the balance in the Trade Account to be positive and expected that BC Hydro would either not have set a Threshold Sale Price or that the Threshold Sale Price would be greater than the Applicable Mid-C Price). However, the price and allocation applicable to these future exports would not have been determined at the time Powerex committed to the forward third-party sale transaction. Rather, on the days that Powerex was delivering electricity to that third-party, electricity exports from the BC Hydro system would have been allocated between BC Hydro and Powerex on the basis of the Applicable Mid-C Price determined no earlier than the previous trading day, even though the commitment that resulted in those third-party sales had occurred much earlier. In other words, Powerex would not know the price that would apply to exports from the BC Hydro system to serve its forward sale obligation until one-day-at-a-time when the allocation, and applicable price, were determined.

A similar situation may have occurred if BC Hydro identified a need to import electricity, at a future time, in response to a physical supply risk. Despite economic opportunities that may have existed to source this delivery to BC Hydro from forward market purchases, Powerex would have been discouraged from making third-party

purchases for import to the BC Hydro system, until the day before, as a result of the transfer price risk inherent in the 2003 TPA.

In short, the one day at a time allocation and transfer pricing approach in the 2003 TPA created transfer price risk that discouraged Powerex from entering into transactions in the forward market for delivery to and from the BC Hydro system because, regardless of the original rationale and timing for those forward transactions, the applicable transfer price would only be known one day at a time. This risk had consequences for ratepayers because it discouraged Powerex from relying on the BC Hydro system to support forward third-party purchase and sale transactions to meet BC Hydro's electricity import and export needs or to generate net income that would offset BC Hydro's revenue requirements and rates.

2.5.2 Day Ahead Market Volumes Have Decreased and Continue To Be Volatile

The one day at a time allocation and transfer pricing approach was appropriate when the day-ahead markets were the predominant physical market for wholesale electricity purchases and sales in the Western Interconnection, as has historically been the case.

However, while volumes in those day-ahead markets remain significant today, they have been materially decreasing over time. Consequently, the day-ahead markets have become less liquid. As shown in Figure 1 and Figure 2 below, the average daily volume of day-ahead market activity at Mid-C has been declining steadily, in both peak and off-peak periods.

Figure 1 Mid-C Liquidity (Day-Ahead Peak from Fiscal 2011 to Fiscal 2018)[24]

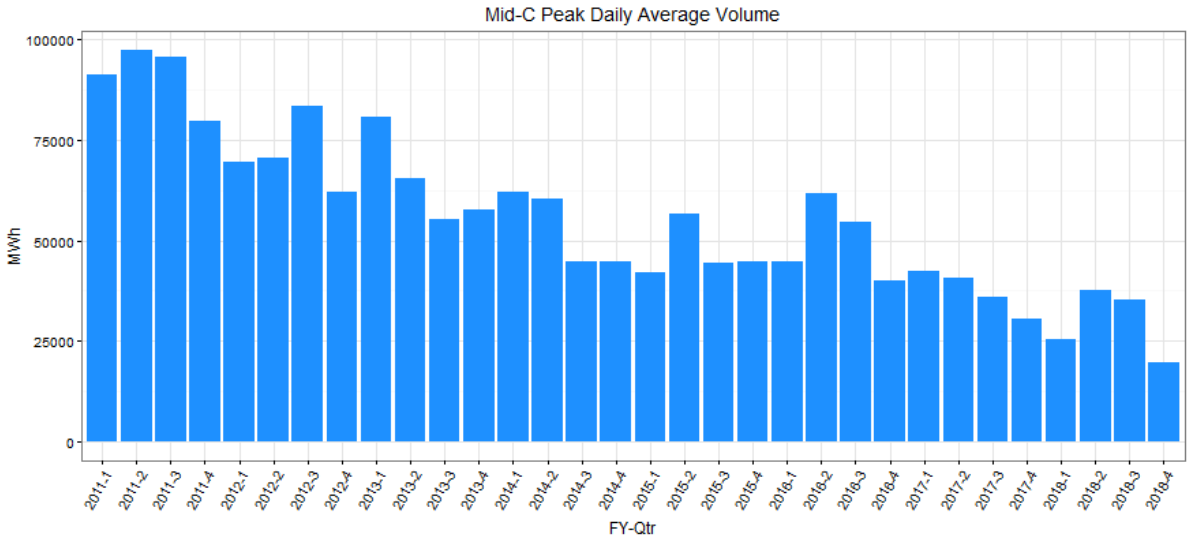
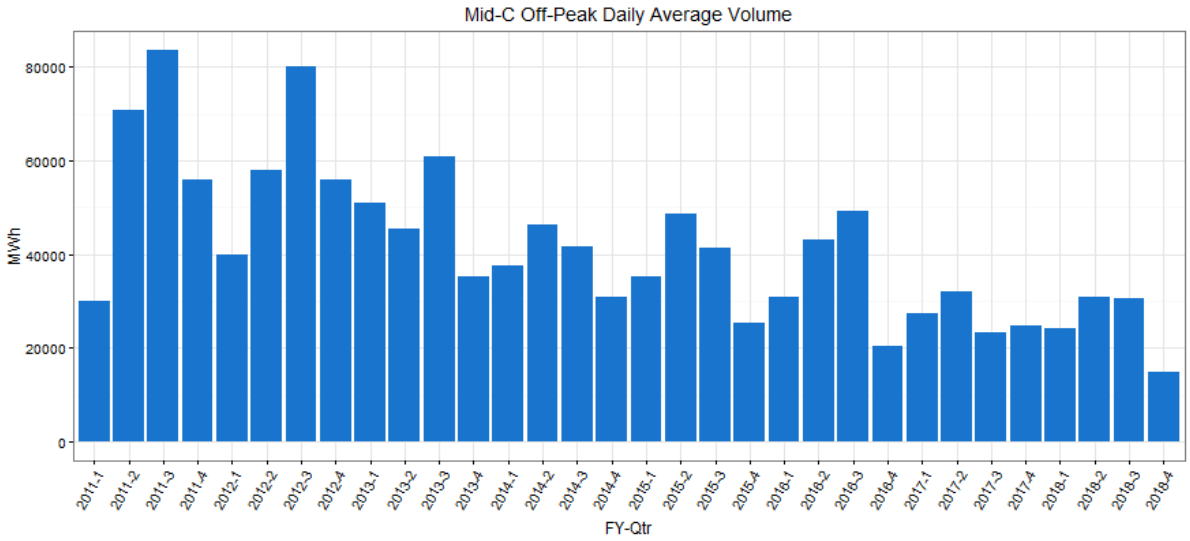


Figure 2 Mid-C Liquidity (Day-Ahead Off-Peak from Fiscal 2011 to Fiscal 2018)[25]

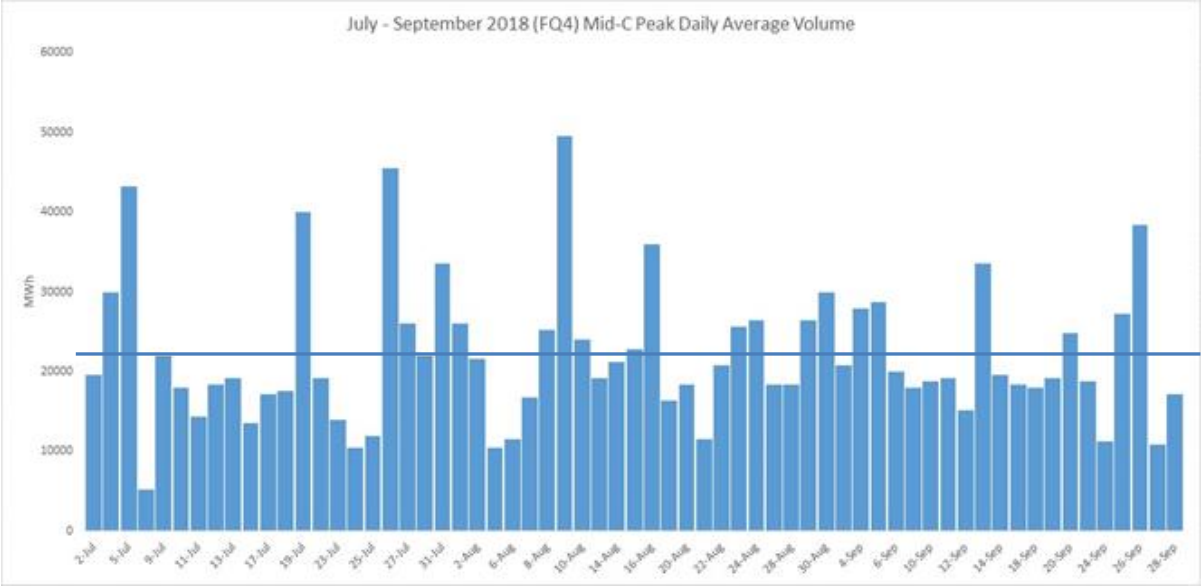


[24] Bonneville Power Administration, Southern Intertie Data Report Fiscal Year 2018, Figure 10.1 (https://www.bpa.gov/Finance/RateCases/BP-20/Models/Southern%20Intertie%20Data%20Report_FY2018.pdf).

[25] Bonneville Power Administration, Southern Intertie Data Report Fiscal Year 2018, Figure 10.2 (https://www.bpa.gov/Finance/RateCases/BP-20/Models/Southern%20Intertie%20Data%20Report_FY2018.pdf).

Meanwhile, the availability of desired volumes at any particular time is uncertain.[26] For example, as shown in Figure 3 below, from July 2018 to September 2018, the daily Mid-C trading volume was less than the average trading volume (as shown by the horizontal line) over 60 per cent of the time.

Figure 3 Mid-C Volumes (Day-Ahead Peak from July 2018 to September 2018)[27]



As a result of these two trends, there has been increased uncertainty with regard to whether, at any particular period of time, there would be:

- Sufficient electricity demand in the day-ahead market for Powerex to sell electricity to meet BC Hydro's export needs; or
- Sufficient electricity available for purchase in the day-ahead market for Powerex to meet BC Hydro's electricity import needs; or

[26] As noted in the BCUC's February 21, 2020 decision regarding the 2019 Letter Agreement between BC Hydro and Powerex, at page 5 (Appendix A to BCUC Order No. E-2-20), declining volume liquidity in day-ahead markets may also increase price volatility in those markets. However, it is uncertain whether there is a cause-and-effect relationship between decreasing volume liquidity and increased volume volatility.

[27] U.S. Energy Information Administration. Source data available at: https://www.eia.gov/electricity/wholesale/xls/archive/ice_electric-2018final.xlsx.

- Sufficient electricity demand and/or sufficient electricity available for purchase in the day-ahead market for Powerex to maximize the value of the Residual System Capability through trade activity.

Consequently, the one day at a time allocation and transfer pricing approach in the 2003 TPA became increasingly challenging for the market conditions that exist today. Specifically, the transfer price risk inherent in the 2003 TPA discouraged Powerex from entering into transactions supported by the BC Hydro system sooner than the day prior to the scheduled delivery of the electricity, at the same time that the day-ahead markets are experiencing declining liquidity and continued volume volatility.

2.5.3 There is Potential for Greater Required Imports and Exports from the BC Hydro System

The concerns prompted by the 2003 TPA's one day at a time allocation and transfer pricing approach given declining liquidity and continued volume volatility in the day-ahead markets, were compounded by the changing characteristics of BC Hydro's energy supply portfolio.

As shown in Table 2 below, since 2003, the proportion of generation in BC Hydro's energy supply portfolio from Independent Power Producers, which is generally non-dispatchable (i.e., the Electricity Purchase Agreements require BC Hydro to either take the energy or pay a specified amount) has increased while the proportion of thermal generation, which is generally dispatchable (e.g., Burrard Thermal) has decreased.

Table 2 Proportion of Generation (Fiscal 2004 vs. Fiscal 2021)

Installed MW (%)	Fiscal 2004	Fiscal 2021
Hydroelectric Generation (BC Hydro)	76	78
Thermal Generation	9	2
Independent Power Producers	15	20
Firm Energy (%)	**Fiscal 2004**	**Fiscal 2021**
Hydroelectric Generation (BC Hydro)	77	72
Thermal Generation	15	4
Independent Power Producers	8	24

A higher proportion of non-dispatchable generation means that, as a whole, BC Hydro's energy supply portfolio is less able to ramp up or ramp down in response to demand or constraints. While this has not resulted in a material change to BC Hydro's average year-to-year import and export needs, it does increase BC Hydro's potential import and export needs in any given year, at the same time that the likelihood of Powerex being able to find sufficient demand and supply in the day-ahead markets, has decreased.

2.5.4 Premium Prices in Forward Markets

In addition, the one day at a time allocation and transfer pricing approach in the 2003 TPA became problematic because increasingly, some of the best opportunities for Powerex to make sales of electricity products are arising in the forward markets. Specifically, there is increasing demand for transactions lasting an entire month, or season, which are often entered into months in advance of the delivery period. Demand is also increasing for differentiated electricity products, such as those requiring the commitment of specific, identified clean or renewable generation resources. As demand for these types of transactions increases, fewer transactions are made in the day-ahead markets, all else equal, consistent with the observed decline in day-ahead transaction volume, discussed in section 2.5.2 above.

The increased demand for forward supply transactions and differentiated electricity products has been driven by the adoption of new environmental policies across the

Western Interconnection, such as state renewable and clean energy standards. Table 3 below provides a summary of these standards.

Table 3 State Renewable and Clean Energy Standards in the Western Interconnection[28]

State	Standard[29]	Target
Arizona	Renewable Portfolio Standard	15% by 2025
California	Renewable Portfolio Standard	60% by 2030
	Clean Energy Standard	100% by 2045
Colorado	Renewable Portfolio Standard	30% by 2020
	Clean Energy Goal	100% by 2045
Montana	Renewable Portfolio Standard	15% by 2015
Nevada	Renewable Portfolio Standard	50% by 2030
	Clean Energy Goal	100% by 2050
New Mexico	Renewable Portfolio Standard	80% by 2040
	Clean Energy Standard	100% by 2045
Oregon	Renewable Portfolio Standard	50% by 2040
Utah	Renewable Portfolio Goal	20% by 2025
Washington[30]	Renewable Portfolio Standard	15% by 2020
	Clean Energy Goal	100% by 2045
Wyoming	None	

Table 4 below provides a list of planned and potential fossil fuel generation retirements in the Western Interconnection from 2019 to 2028, totalling over 22 GW.[31]

28 Western Electricity Coordinating Council, Pricing Event of March 2019 — System Impact Assessment, Table 1 (https://www.wecc.org/Reliability/PricingEvent_Paper_Final.pdf).

29 A Renewable Portfolio Standard (**RPS**) requires utilities to source a certain amount of the energy they generate or sell, from renewable sources. There are many variants to a RPS policy, such as clean energy standards (which typically allow nuclear and low-polluting non-renewable energy sources like natural gas) as well as clean energy or renewable goals, which are non-binding.

30 Since this report was published, Washington State passed the Clean Energy Transition Act, which sets a ”greenhouse gas neutral” standard to be achieved by 2030 and a 100 per cent renewable/clean electricity standard to be achieved by 2045.

31 To put this number in context, BC Hydro’s total system capacity is approximately 12 GW.

Table 4 Planned and Potential Major Generation Retirements in the Western Interconnection (2019 to 2028)[32]

Name	Fuel[33]	Size (MW)	Location	Retirement Date
Ocotillo	NG	220	Arizona	7/1/2019
H Wilson Sundt 1, 2	NG	162	Arizona	8/31/2019
Battle River 3	Coal	148	Alberta	12/1/2019
Navajo 1-3	Coal	2310	Arizona	12/22/2019
Inland Empire	NG	750	California	12/31/2019
Colstrip 1, 2	Coal	600	Montana	12/31/2019
2019 Retirements		**4190**		
Alamitos 1-6	NG	2010	California	12/31/2020
Boardman	Coal	550	Oregon	12/31/2020
Centralia 1	Coal	670	Washington	12/31/2020
Huntington Beach 1, 2 *	NG	450	California	12/31/2020
Ormond Beach	NG	1491	California	12/31/2020
Nucla	Coal	100	Colorado	12/31/2020
Redondo Beach *	NG	1310	California	12/31/2020
2020 Retirements		**6581**		
Fort Churchill 2	NG	113	Nevada	12/31/2021
North Valmy 1	Coal	254	Nevada	12/31/2021
2021 Retirements		**367**		
Oakland	NG	165	California	10/1/2022
Comanche 1	Coal	330	Colorado	10/31/2022
San Juan 1, 4 *	Coal	847	New Mexico	12/31/2022
Naughton 1, 2 *	Coal	357	Wyoming	2022
Jim Bridger 1, 2 *	Coal	1063	Wyoming	2022
2022 Retirements		**2762**		
Diablo Canyon 1	Uranium	1080	California	11/30/2024
Centralia 2	Coal	670	Washington	12/31/2024
Cholla 4	Coal	387	Arizona	12/31/2024
Newman 1-3	NG	247	Texas	12/31/2024
Scattergood 1, 2	NG	326	California	12/31/2024
2024 Retirements		**2710**		
Comanche 2	Coal	330	Colorado	10/31/2025

[32] Western Electricity Coordinating Council, Pricing Event of March 2019 — System Impact Assessment, Appendix 1 (https://www.wecc.org/Reliability/PricingEvent_Paper_Final.pdf).

[33] "NG" refers to Natural Gas.

Name	Fuel[33]	Size (MW)	Location	Retirement Date
Diablo Canyon 2	Uranium	1080	California	11/30/2025
Battle River 4	Coal	148	Alberta	12/31/2025
Craig 1	Coal	427	Colorado	12/31/2025
Fort Churchill 1	NG	113	Nevada	12/31/2025
Harry Allen 1	NG	76	Nevada	12/31/2025
Intermountain GS 1, 2	Coal	1800	Utah	12/31/2025
North Valmy 2	Coal	268	Nevada	12/31/2025
2025 Retirements		**4242**		
Battle River 5	Coal	148	Alberta	12/31/2027
Dave Johnston 1-4	Coal	762	Wyoming	12/31/2027
2027 Retirements		**910**		
Harmac Biomass	Biomass	55	British Columbia	8/12/2028
Sheerness 1, 2	Coal	816	Alberta	12/31/2028
2028 Retirements		**871**		
Total Retirements		**22633**		

* indicates a potential retirement.

These environmental policies have led to increased demand from some load-serving entities in other jurisdictions for forward electricity supply and differentiated electricity products, to meet at least two specific needs.

- Forward clean and/or renewable supply commitments to meet the annual aggregate quantity requirements of renewable and clean energy standards.
- Reliable imports on a forward basis to meet resource adequacy needs[34] given declining firm energy supply resulting from the retirement of dispatchable fossil fuel generation resources, which have been replaced by intermittent renewable resources.

This increased demand for forward electricity supply and differentiated electricity products increasingly represents some of the best opportunities for Powerex to make sales. However, as a result of the one day at a time allocation and transfer pricing approach in the 2003 TPA, Powerex is discouraged from committing to

[34] Resource Adequacy is generally defined as a condition in which utilities or other load serving entities have acquired sufficient resources to satisfy forecasted future reliability needs.

forward supply transactions supported by the BC Hydro system (whether BC Hydro surplus energy or Residual System Capability) because it does not know how the export will be allocated and priced until the day prior to the delivery of the electricity to the third-party. This creates a barrier to Powerex pursuing certain transactions that would generate net income to the benefit of BC Hydro's ratepayers.

2.5.5 Consequences: BC Hydro Perspective

From a BC Hydro domestic perspective, the transfer price risk inherent in the 2003 TPA and current day-ahead market conditions made it less certain whether, at any particular period of time, there would be sufficient demand or supply in the day-ahead market to meet its Domestic Requirements and to meet those requirements cost-effectively. At the same time, the characteristics of BC Hydro's energy supply portfolio increased BC Hydro's potential import and export needs. This resulted in increased operational and financial risks for ratepayers.

Under the 2003 TPA, the only tool available to BC Hydro to increase its ability to meet system import needs was to increase the Threshold Purchase Price to a relatively high number. This would encourage Powerex to seek electricity in the day-ahead market for import on more days, all else equal, and would result in consequential imports being allocated to BC Hydro (as long as the Threshold Purchase Price was higher than the Applicable Mid-C Price for the hour in which the imports occurred).

However, increasing the Threshold Purchase Price to a relatively high number would still not ensure that the total desired volumes would be available, in the day-ahead markets, when required, nor would it eliminate the transfer price risk inherent in the 2003 TPA that discouraged Powerex from using the forward markets to acquire the desired electricity. Moreover, to the extent that some or all of the total desired volumes were acquired, they may have necessarily been procured over more total days, given the declining day-ahead market liquidity, and consequently at higher average prices.

Similarly, the only tool available to BC Hydro to meet system export needs, under the 2003 TPA, was to decrease the Threshold Sale Price to a relatively low number. This would encourage Powerex to seek buyers in the day-ahead market for export on more days, all else equal, and would result in consequential exports being allocated to BC Hydro (as long as the Threshold Sale Price was lower than the Applicable Mid-C Price for the hour in which the exports occurred).

However, decreasing the Threshold Sale Price to a relatively low number would still not ensure that desired volumes would be sold, in the day-ahead markets, when required, nor would it eliminate the transfer price risk inherent in the 2003 TPA that discouraged Powerex from seeking buyers in the forward markets. Moreover, to the extent that some or all of the desired volumes were sold, they may necessarily have been sold over more total days, given the declining day-ahead market liquidity, and consequently at lower average prices.

These issues, particularly the physical supply risk from the potential that desired import volumes may not be available, in the day-ahead markets, when required, prompted the 2018 Letter Agreement[35] and the 2019 Letter Agreement[36] between BC Hydro and Powerex.

These agreements provided for forward purchases by BC Hydro from Powerex (outside of the 2003 TPA and the one day at a time allocation and transfer pricing approach inherent in it) to meet physical supply risks in BC Hydro's operational time horizon. In particular, within the terms of the agreements, BC Hydro was able to communicate its requested electricity volumes and delivery periods to Powerex. Within these parameters, Powerex was then able to transact across a range of time horizons and markets to purchase electricity to meet BC Hydro's requests, without

35 The record of the 2018 Letter Agreement proceeding can be accessed at: https://www.bchydro.com/content/dam/BCHydro/customer-portal/documents/corporate/regulatory-planning-documents/regulatory-filings/fep/00-2019-05-23-bchydro-bcuc-wm.pdf.

36 The record of the 2019 Letter Agreement proceeding can be accessed at: https://www.bcuc.com/ApplicationView.aspx?ApplicationId=705.

the transfer price risk inherent in the 2003 TPA. By BCUC Order No. E-2-20, the BCUC recently accepted the 2019 Letter Agreement for filing,[37] stating:

> The Panel agrees that BC Hydro's paramount obligation is to meet the electricity needs of its customers, namely the delivery of electricity. The 2019 Letter Agreement provides BC Hydro the mechanism to purchase forward firm electricity from Powerex outside of the day ahead Mid-C market, which has displayed a reduction in liquidity.[38]

While the 2018 Letter Agreement and the 2019 Letter Agreement addressed the operational and financial risks associated with BC Hydro's system import needs and provided increased certainty for customers, neither addressed the operational and financial risks associated with BC Hydro's system export needs. In the 2019 Letter Agreement Application, BC Hydro explained that the 2019 Letter Agreement could be considered as a bridging mechanism to a revised transfer pricing agreement, stating:

> Finally, it is apparent that an alternative solution to the on-going operational supply issues arising from the liquidity decline in day-ahead markets would be a revised Transfer Pricing Agreement. BC Hydro and Powerex are considering updating the 2003 TPA, including considering how the 2003 TPA might usefully be revised to accommodate forward transactions. That consideration is underway, but is not a trivial exercise because of the central role that the 2003 TPA plays in the BC Hydro-Powerex relationship. Nevertheless, and to the extent that Powerex and BC Hydro do update the 2003 TPA for that purpose, the 2019 Letter Agreement can be considered a bridging mechanism.[39]

[37] The 2018 Letter Agreement was accepted for filing by BCUC Order No. E-14-19.

[38] BCUC February 21, 2020 decision regarding the 2019 Letter Agreement between BC Hydro and Powerex, at page 16 (Appendix A to BCUC Order No. E-2-20).

[39] BC Hydro and Powerex Corp 2019 Letter Agreement Application, page 6.

2.5.6 Consequences: Powerex Perspective

From a Powerex perspective, its ability to make third-party purchase or sale transactions, in the day-ahead market in future periods, became more uncertain as a consequence of the current day-ahead market conditions. At the same time, while some of the best opportunities for Powerex to make sales of electricity products were increasingly in the forward markets, Powerex was discouraged from utilizing the BC Hydro system to support third-party purchase or sale transactions in those markets, as a consequence of the transfer price risk inherent in the 2003 TPA. This created a barrier to Powerex pursuing certain transactions that would support the economic operation of the BC Hydro system, to the benefit of BC Hydro's ratepayers.

For example, if Powerex had identified a forward sale opportunity, under the 2003 TPA, it would be less likely to plan to source that forward sale with a future BC Hydro export because it would not know how the export would be allocated and priced until the day prior to the delivery of the electricity to the third-party. Rather, the 2003 TPA incented Powerex to rely on non-BC Hydro forward purchases, conducted separate from the BC Hydro system, at known prices, to source its forward third-party sales. Consequently, BC Hydro's surplus energy and its Residual System Capability was not able to be fully utilized to support transactions in forward markets which were attracting a premium price relative to day-ahead market opportunities.

2.5.7 The 2020 TPA Is Better for Ratepayers than the 2003 TPA

The 2003 TPA sets a transfer price on the basis of the day-ahead wholesale market price of electricity at Mid-C, allocating imports or exports between BC Hydro and Powerex, and tracking imports and exports allocated to Powerex's trade activity in the Trade Account. This creates transfer price risk that discourages Powerex from entering into transactions supported by the BC Hydro system sooner than the day prior to the scheduled delivery of the electricity. Until this time, Powerex does not know how the transaction will be allocated and therefore, how it will be priced. This

transfer price risk has consequences for ratepayers because it presents barriers to the most economic operation of the BC Hydro system.

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. It achieves this by:

- Establishing a transfer price that, with the exception of transactions requested by BC Hydro at specific times,[40] is independent of whether imports or exports on a given day are driven by the need to manage BC Hydro's energy surpluses or deficits or by Powerex's trade activity using the Residual System Capability; and
- Replacing the Trade Account with a Transfer Volume Account that includes not only the volume and value of Powerex's trade activity using the Residual System Capability (similar to the Trade Account) but also BC Hydro's annual energy surpluses and deficits[41] (not included in the Trade Account).

With these features, the 2020 TPA, like the 2003 TPA, allows for the recording of the price of energy transfers associated with BC Hydro's energy surplus or deficit as well as the Residual System Capability. The 2020 TPA also maintains the principle from the 2003 TPA that the transfer price reflect the fair market value at which parties acting on an arms length basis would be willing to transact. However, the 2020 TPA removes the transfer price risk that existed under the 2003 TPA because imports and exports increase or decrease the volume and value in the Transfer Volume Account in a consistent manner, without regard to whether they occur for domestic purposes or trade purposes. Specifically:

- In each hour, the volume in the Transfer Volume Account is adjusted by adding the net imports or exports in that hour and the value of the account is adjusted

[40] These are referred to as either Non-Flexible Imports or Non-Flexible Exports which are explained in section 5.1.

[41] As determined by BC Hydro at the end of each fiscal year and with certain exceptions, as explained in footnote 43 below.

by applying the applicable transfer price to the volume of the adjustment. The applicable transfer price for adjustments to the Transfer Volume Account is either the applicable Hourly Index Price[42] or the Weighted Average Price and is determined in the same manner as were adjustments to the Trade Account.

- Immediately before the end of each fiscal year, the Transfer Volume Account is also adjusted by adding or subtracting BC Hydro's actual Annual Flexible Surplus/Deficit.[43] The Weighted Average Price is adjusted at the same time based on the simple average of on-peak and off-peak prices for all hours during the year times a pre-determined multiplier (**Annual Price**) and an adjustment for the net financial value, as determined by BC Hydro, of the impact resulting from Powerex's import and export decisions, on head gains and losses and on spill in the BC Hydro system (**System Adjustment Value**).[44]

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.

Table 5 below shows transfer price scenarios under the 2020 TPA in the same format as Table 1 (which provides transfer price scenarios for the 2003 TPA). By negating the need to allocate imports and exports between BC Hydro and Powerex

42 The calculation of the Hourly Index Price is explained in section 5.1.4.

43 Section 9.1 of Appendix A to the 2020 TPA explains how the Annual Flexible Surplus/Deficit is determined. Only the "flexible" surplus/deficit is reflected in the Transfer Volume Account. This is because, under the 2020 TPA, Non-Flexible Imports and Non-Flexible Exports do not result in an adjustment to the Transfer Volume Account. This ensures that the balances in the Transfer Volume account are not applied towards transactions where Powerex lacks the flexibility to time deliveries to maximize revenues. For further discussion, refer to section 5.1.4.

44 For further information on the multiplier and the System Adjustment Value, refer to section 5.1.4.

on a day-ahead basis, the 2020 TPA removes the transfer price risk that discouraged Powerex from relying on the BC Hydro system to support forward third-party purchase and sale transactions.

Table 5 Transfer Price Scenarios Under the 2020 TPA

	Transfer Volume Account Balance Zero or Positive	Transfer Volume Account Balance Negative
No need to allocate imports and exports between BC Hydro and Powerex.	**Net Import**	
	Balance in Transfer Volume Account is increased by applying the applicable Hourly Index Price to the net import	Negative balance in Transfer Volume Account is reduced by applying the Weighted Average Price to the net import
	Net Export	
	Balance in Transfer Volume Account is reduced by applying the Weighted Average Price to the net export	Negative balance in Transfer Volume Account is increased by applying the applicable Hourly Index Price to the net export

For example, now, under the 2020 TPA, if Powerex identifies an opportunity in the forward markets to sell electricity at a favourable price, it is able to supply that sale using BC Hydro's energy surplus and/or Residual System Capability, without having to wait until the day before the transaction to find out whether the transaction will be allocated to BC Hydro or Powerex, which would then impact how it would be priced. Similarly, if imports are necessary or economic for BC Hydro to meet a deficit relative to its Domestic Requirements, Powerex is encouraged to purchase that electricity, whenever it is most cost effective, across a range of time horizons.[45]

The 2020 TPA also replaces the need for the 2019 Letter Agreement by providing a mechanism, referred to as a Specified Quantity Request, so that BC Hydro may stipulate a volume of required import and export needs over any specified time period, and update it as conditions evolve, allowing Powerex to then transact across a range of time horizons and markets to meet those requirements.

[45] If Powerex commits to a forward purchase or sale supported by the BC Hydro system and BC Hydro's needs change from what had been expected, Powerex would import or export electricity to/from the BC Hydro system, in response to these evolving needs.

Accordingly, the 2020 TPA removes the transfer price risk that discouraged Powerex from relying on the BC Hydro system to support forward third-party purchase and sale transactions while maintaining the roles and responsibilities between BC Hydro and Powerex. Specifically, BC Hydro remains responsible for determining whether, and to what extent, it has a surplus or deficit and how much Residual System Capability is available and remains responsible for the physical operation of its system. Meanwhile, subject to constraints and requirements set by BC Hydro, Powerex, with its insight into the markets in which it operates, decides the timing and volume of imports and exports.

2.6 The 2020 TPA is in the Public Interest

As set out above, the 2020 TPA is in the public interest because a transfer pricing agreement between BC Hydro and Powerex is necessary and because the 2020 TPA is better for customers than the 2003 TPA and has no effect on non-customer stakeholders. Specifically, the 2020 TPA removes the transfer price risk that discouraged Powerex from relying on the BC Hydro system to support forward third-party purchase and sale transactions while, at the same time, retaining the roles and responsibilities between BC Hydro and Powerex.

The 2020 TPA does not necessarily mean that Powerex will pursue more forward third-party purchase and sale transactions. Powerex has long been an active participant in forward markets and will continue to participate in these markets based on market conditions. Rather, the 2020 TPA allows Powerex to better use the BC Hydro system to support both forward third-party purchase transactions as well as forward third-party sale transactions (instead of relying on third-party forward purchases to serve its third-party forward sales).

As a result, 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.

3 Legal and Regulatory

The 2020 TPA provides for three types of transactions:

- The purchase of wholesale electricity by BC Hydro from Powerex;
- The sale of wholesale electricity by BC Hydro to Powerex; and
- The purchase of wholesale natural gas by BC Hydro from Powerex.

Subject to any other enactments, each of these transaction types would render the 2020 TPA an Energy Supply Contract as defined under section 68 of the UCA and would require both BC Hydro and Powerex to file the 2020 TPA under section 71(1) of the UCA.

However, section 1(2) of the UCA renders the UCA inapplicable to Powerex and accordingly, Powerex is relieved of any section 71(1) filing obligations. Further, Ministerial Order M407, issued December 3, 2004, exempts Powerex's counterparties from the Energy Supply Contract provisions of the UCA with regards to their electricity sales to Powerex.

Therefore, section 71(1) of the UCA applies only to BC Hydro and only with regard to purchases of electricity and natural gas by BC Hydro from Powerex. However, to support a full evidentiary record, the Application provides a comprehensive explanation of the 2020 TPA.

Under section 71(2.21) of the UCA, the BCUC must consider several prescribed factors when it assesses an Energy Supply Contract. These factors primarily relate

to the acquisition of energy from third parties in a resource planning context, but as described in section 2.4 above, the effect of the 2020 TPA is limited to the operating time horizon. In consequence, many of the factors under section 71(2.21) of the UCA are inapplicable or irrelevant to the 2020 TPA. Accordingly, and for convenience, BC Hydro has summarized its views on all the prescribed factors in Appendix E rather than in the body of the Application.

As the 2020 TPA concerns the purchase by BC Hydro of both electricity and natural gas, the BCUC's Energy Supply Contract rules for both electricity and natural gas are engaged.[46] However, for the same reason that the factors under section 71(2.21) are largely inapplicable to the Application, both sets of rules have limited applicability to the 2020 TPA. Nevertheless, the Application provides the substantive information required under these rules.

Both sets of Energy Supply Contract rules provide for expeditious processes intended to determine whether a full hearing is required, consistent with the process set out under section 71 of the UCA. For example, the Energy Supply Contract Electricity Rules state that:

> The Commission intends to review energy supply contracts (ESCs) expeditiously and accept them for filing without a hearing where it has been provided with sufficient information to allow it to determine that the ESC is in the public interest.

Consistent with section 71 of the UCA, both sets of Energy Supply Contract rules, and BCUC practice, BC Hydro requests an order accepting the 2020 TPA as filed under section 71 of the UCA without the hearing referred to in section 71(2) of the UCA.[47]

Nevertheless, BC Hydro acknowledges that:

- The 2020 TPA is not a typical Energy Supply Contract;

[46] Refer to Rules for Energy Supply Contracts for Electricity (BCUC Order No. G-61-12) and Rules for Natural Gas Energy Supply Contracts (BCUC Order No. G-130-06).

[47] A draft order is provided as Appendix D.

- The BCUC and interveners are likely to be interested in more detailed information with regards to the 2020 TPA, beyond what is provided in the Application; and
- The COVID-19 pandemic has created new work approaches and pressures that may result in all parties requiring more time to complete certain submissions.

Accordingly, in Table 6 below, BC Hydro proposes a review of the 2020 TPA that balances the legal framework for Energy Supply Contract processes, the expected interest in the 2020 TPA, and resource and logistical demands associated with the COVID-19 pandemic.

Table 6 Proposed Regulatory Timetable

Process	Date
Application Submitted	May 29, 2020
Intervener Registration	July 3, 2020
BCUC Information Request No.1 to BC Hydro	August 7, 2020
Intervener Information Request No. 1 to BC Hydro	August 14, 2020
BC Hydro Responds to BCUC and Intervener Information Request No. 1	September 24, 2020
Procedural Conference, or written submissions, on further process, if any	October 8, 2020

BC Hydro has provided a copy of the Application to interveners in BC Hydro's Fiscal 2020 to Fiscal 2021 Revenue Requirements Application proceeding. Communications regarding the Application should be directed to:

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4 Overview of the 2003 TPA

This section provides a detailed overview of the key components of the 2003 TPA. It is followed by section 5 which provides a similarly detailed overview of the key components of the 2020 TPA. Section 6 concludes by providing an overview of the key features in both agreements, identifying the specific similarities and differences.

The 2003 TPA was the culmination of 15 years of evolving arrangements between BC Hydro and Powerex that provided for:

- The export of electricity that BC Hydro had identified as surplus relative to its Domestic Requirements in the operating time horizon of the BC Hydro system;
- The import of electricity that BC Hydro had identified as deficit relative to its Domestic Requirements in the operating time horizon of the BC Hydro system; and
- The utilization of the Residual System Capability of the BC Hydro system, after any domestic surplus or deficit had been addressed, in support of Powerex's trading activity.

The 2003 TPA was unique because it was the first arrangement to be framed in a manner that brought it squarely within the Energy Supply Contract provisions of the UCA. Specifically, the 2003 TPA clearly and unambiguously established a transfer pricing methodology that was based on the purchase and sale of electricity and natural gas within the scope of section 71 of the UCA. It was developed and filed with the BCUC in the course of the Heritage Contract Inquiry.[48] Since being filed with the BCUC, the 2003 TPA has been amended only once, in 2015. At that time, an

[48] Refer to the BCUC's Report and Recommendations from An Inquiry Into a Heritage Contract for BC Hydro's Existing Generation Resources and Regarding Stepped Rates and Transmission Access, and in particular, to pages 18 to 20 and 34 to 37 and Appendix I (https://www.bcuc.com/Documents/Decisions/2003Dec/Heritage%20LGIC%20Rpt-Recommend.pdf).

amending agreement was executed in order to accommodate an arrangement that Powerex had entered into with FortisBC.[49]

4.1 2003 TPA – Key Electricity Provisions and How it Worked

The 2003 TPA allowed for the recording of the price of energy transfers associated with BC Hydro's energy surplus or deficit as well as the Residual System Capability while ensuring that Powerex's net income represented value added from Powerex's trading activities.

As summarized in section 2.5.1 above, this was achieved through a combination of provisions that had the effect of setting a transfer price on the basis of the day-ahead wholesale market price of electricity at the Mid-C trading hub; allocating imports and exports in a given hour between BC Hydro and Powerex based on threshold prices, if set by BC Hydro; and tracking exports and imports related to Powerex's trade activity in a Trade Account, with imports allocated to Powerex applied as a credit to the account and exports allocated to Powerex applied as a debit to the account, at the Weighted Average Price.

A copy of the 2003 TPA is provided as Appendix C. The following sub-sections explain each of the key provisions in the 2003 TPA, with reference to specific clauses in that agreement.

4.1.1 Key Definitions

Section 1 of the 2003 TPA set out a number of definitions. The following definitions are important to, and used in, the discussion that follows.

[49] The BCUC approved the amendment by BCUC Order No. E-11-15 (https://www.ordersdecisions.bcuc.com/bcuc/orders/en/119544/1/document.do). The copy of the 2003 TPA provided as Appendix C is a conformed (consolidated) copy of the original 2003 TPA and the amendments effected by the amending agreement. The amendments were required because of the CEPSA between Powerex and FortisBC. These amendments had the effect of allocating to Powerex, all energy exchanges between BC Hydro and Powerex that were facilitated by the CEPSA. Similar provisions are not required under the 2020 TPA because, as explained in section 2.5.7, the 2020 TPA removes the need to allocate imports and exports between BC Hydro and Powerex.

- "Surplus System Capability" is defined in the 2003 TPA as "…at any time, the measure of the BC Hydro System's capability, while all Domestic Load requirements are being satisfied, to decrease generation in order to allow purchases of electricity to satisfy Domestic Load and/or to increase generation to allow additional sales, as determined by BC Hydro…".
- "Threshold Purchase Price" is defined in the 2003 TPA as "…the maximum Electricity Purchase Price at which BC Hydro will purchase electricity from Powerex in any period to service Domestic Load, as established by BC Hydro from time to time…".
- "Threshold Sale Price" is defined in the 2003 TPA as "…the minimum Electricity Transfer Price at which BC Hydro will sell Surplus Hydro Electricity to Powerex, as established by BC Hydro from time to time…".
- "Trade Account" is defined in the 2003 TPA as "…the account to which electricity sold or deemed to be sold by Powerex to BC Hydro [for trade activity] is credited and to which electricity sold or deemed to be sold by BC Hydro to Powerex [for trade activity] is debited…".

4.1.2 Exclusive Relationship Between BC Hydro and Powerex

As discussed further in section 2.2 above, since Powerex was established, it has had an exclusive relationship with BC Hydro under which it purchases BC Hydro electricity exports, sells to BC Hydro electricity imports and buys and sells electricity with BC Hydro to utilize any Residual System Capability.

Under the 2003 TPA, this exclusive relationship was set out under section 4 of the agreement.

4.1.3 Allocation, Purchase and Sale of Electricity Between BC Hydro and Powerex

In any hour, there may be one or more scheduled deliveries, between BC Hydro and Powerex, both into and out of the BC Hydro system. The sum of the scheduled deliveries in an hour results in a net physical import or a net physical export from the BC Hydro system. In each hour, it was that net physical import or net physical export that BC Hydro and Powerex purchased and sold under the 2003 TPA.

Section 3.1 of the 2003 TPA set out how net imports and net exports were to be calculated. Section 3.2 of the 2003 TPA set out how net imports and net exports, in a given hour, were to be allocated between BC Hydro and Powerex. In summary:

- If there was a net import and BC Hydro had set a Threshold Purchase Price that was equal to or greater than the Applicable Mid-C Price for that hour then, subject to any maximum quantity specified by BC Hydro, the purchase was allocated to BC Hydro. Otherwise, the purchase was allocated to Powerex.
- If there was a net export and BC Hydro had set a Threshold Sale Price that was equal to or less than the Applicable Mid-C Price for that hour then, subject to any maximum quantity specified by BC Hydro, the sale was allocated to BC Hydro. Otherwise, the sale was allocated to Powerex.[50]

As discussed further in section 2.1 above, to manage the variability and uncertainty in both supply and demand on its system, and to meet its Domestic Requirements cost-effectively, BC Hydro must export electricity that is surplus to demand and must import electricity to meet deficits. Meanwhile, Powerex generally delivers electricity to BC Hydro when it perceives an opportunity to re-sell an equivalent amount at a future time at a higher price and causes deliveries from BC Hydro when there is an opportunity to make a profitable sale into a wholesale market. Subject to system conditions as determined by BC Hydro, and regardless of whether BC Hydro had set

[50] For clarity, for any hour where there was a net import (purchase by BC Hydro) but BC Hydro had not established a Threshold Purchase Price, or there was a net export (sale by BC Hydro) but BC Hydro had not set a Threshold Sale Price, then the net import or net export in that hour was to the account of Powerex.

a threshold price, Powerex had a discretion to deliver electricity to BC Hydro purchased in wholesale markets, and a similar discretion to cause electricity to be delivered from BC Hydro for sale in external wholesale markets.

The provisions set out in section 3.2 of the 2003 TPA enabled BC Hydro to establish a price below which it was willing to make wholesale purchases (Threshold Purchase Price) and a price above which it was willing to make wholesale sales (Threshold Sale Price).

The Threshold Purchase Price served as a ceiling price above which BC Hydro would not buy electricity from wholesale markets for domestic purposes and the Threshold Sale Price served as a floor price below which BC Hydro would not sell electricity into wholesale markets for domestic purposes.

For example, a relatively high Threshold Sale Price would have indicated, all else being equal, that surplus water in BC Hydro's reservoirs should be used to sell surplus energy into wholesale markets in only the higher-priced periods. Similarly, a relatively low Threshold Sale Price would have indicated, all else being equal, that surplus water in BC Hydro's reservoirs should be used to sell surplus energy into wholesale markets in many more periods.

Another effect of these provisions was that, when a threshold price had been set, BC Hydro (not Powerex), was allocated the imports and exports on those days with the more attractive market prices. This was important at the time the 2003 TPA was entered into because government direction limited the amount of Powerex net income that could be used to reduce BC Hydro's annual revenue requirement to $200 million, with any excess going to the Government of B.C. However, this imperative was removed when the Government of B.C. rescinded that direction in May 2012.[51]

Sections 5 and 6 of the 2003 TPA set out how the purchase and sale of electricity would occur under this framework. Specifically:

- When BC Hydro wanted to export electricity, it would set a Threshold Sale Price and at its option, may have notified Powerex of any maximum quantity of electricity available for sale. Then, subject to system constraints, Powerex would use commercially reasonable efforts to export electricity from BC Hydro at any time when it expected the Applicable Mid-C Price to be equal to or greater than the Threshold Sale Price, subject to any maximum quantity specified by BC Hydro. For further details, refer to section 5.1 of the 2003 TPA.
- Similarly, when BC Hydro wanted to import electricity, it would set a Threshold Purchase Price and may have notified Powerex of any maximum quantity it wished to purchase. Then, subject to system constraints, Powerex would use commercially reasonable efforts to import electricity to BC Hydro at any time when it expected the Applicable Mid-C Price to be equal to or less than the

[51] The original government direction was contained within Heritage Special Direction No. HC2 to the BCUC (BC Reg158/2005). Section 1 of that direction originally defined Trade Income as the audited net income of Powerex Corp., according to generally accepted accounting principles, adjusted by adding the amount necessary to make it zero (if it was less than zero) or subtracting any amounts in excess of $200 million (if it was greater than $200 million). An amendment by BC Reg 15/2011 updated the reference to the net income of Powerex Corp. to be the amount included in BC Hydro's audited consolidated financial statements, with the same adjustments stipulated if it were less than zero or greater than $200 million. BC Reg 104/2012 rescinded this definition of Trade Income. With regard to the current definition of Trade Income, refer to footnote 52.

Threshold Purchase Price, subject to any maximum quantity requested by BC Hydro. For further details, refer to section 5.2 of the 2003 TPA.

- Subject to Surplus System Capability as well as the capability of the transmission system and BC Hydro's rights to use the transmission system, Powerex could deliver electricity for sale to BC Hydro, at any time when it expected the Applicable Mid-C Price to be greater than the Threshold Purchase Price or when BC Hydro did not require electricity from Powerex (i.e., BC Hydro had not set a Threshold Purchase Price). The sale would be recorded as a credit to Powerex in the Trade Account in terms of both quantity (MWh) and value ($). For further details, refer to section 6.1 of the 2003 TPA.
- Subject to Surplus System Capability as well as the capability of the transmission system and BC Hydro's rights to use the transmission system, Powerex could request BC Hydro to deliver electricity for purchase by Powerex, at any time when it expected the Applicable Mid-C Price to be less than the Threshold Sale Price or when BC Hydro did not have surplus electricity for sale (i.e., BC Hydro had not set a Threshold Sale Price). The sale would be recorded as a debit to Powerex in the Trade Account in terms of both quantity (MWh) and value ($). For further details, refer to section 6.2 of the 2003 TPA.
- From time to time, BC Hydro would provide Powerex with a forecast of the maximum positive balance in the Trade Account that the BC Hydro system could reliably carry, revising the forecast as required, subject to certain conditions. If the Trade Account had a positive balance and spill conditions occurred, BC Hydro could require Powerex to receive electricity from BC Hydro up to any excess amount. If the electricity was unable to be delivered and a spill actually occurred, there were provisions to record a debit to the volume recorded in the Trade Account. For further details, refer to section 6.6 of the 2003 TPA.

- If there was a negative balance in the Trade Account, Powerex would sell electricity to BC Hydro to eliminate or reduce the negative balance, if required to maintain the BC Hydro system within its physical constraints, as determined by BC Hydro. For further details, refer to section 6.7 of the 2003 TPA.

4.1.4 Payments for Electricity Transactions

Section 8 of the 2003 TPA set out how payments between BC Hydro and Powerex were to be calculated and how the balance in the Trade Account was to be adjusted.

Section 8.1 of the 2003 TPA addressed payments for net imports and net exports allocated to BC Hydro, stating that BC Hydro would pay Powerex the applicable Electricity Transfer Price for net imports and Powerex would pay BC Hydro the applicable Electricity Transfer Price for net exports.

Section 8.2 of the 2003 TPA set out the methodology for making adjustments to the Trade Account balance for net imports and net exports allocated to Powerex. Specifically:

- If the Trade Account balance was zero or positive:
  - the monetary value credited to the Trade Account for net imports would be obtained by multiplying the net imports by the Applicable Mid-C Price.
  - the monetary value debited to the Trade Account for net exports would be obtained by multiplying the net exports by the Weighted Average Price unless and until the balance became negative, in which case, the monetary value debited to the Trade Account thereafter would be obtained by multiplying the remaining net exports by the Applicable Mid-C Price.
- If the Trade Account balance was negative:
  - the monetary value credited to the Trade Account for net imports would be obtained by multiplying the net imports by the Weighted Average Price unless and until the balance zero or positive, in which case, the monetary

value credited to the Trade Account thereafter would be obtained by multiplying the remaining net imports by the Applicable Mid-C Price.

- the monetary value debited to the Trade Account for net exports would be obtained by multiplying the net exports by the Applicable Mid-C Price.

4.1.5 Calculation of the Applicable Mid-C Price

Section 12 of the 2003 TPA set out transfer pricing principles under the agreement. In particular, it declared that the transfer price was 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. Consistent with that principle, all electricity sold and purchased or deemed to be sold and purchased between BC Hydro and Powerex under the agreement was deemed, for transfer pricing purposes, to occur at the British Columbia-United States border.

Appendix A to the 2003 TPA set out the calculation of the Applicable Mid-C Price. Under the terms of Appendix A, the Applicable Mid-C Price was a weighted-average index price of all sales made at the Mid-C electricity trading hub in that hour, as determined by a third-party. Sales were adjusted to account for transmission losses and wheeling charges between the border and Mid-C.

Section 12.4 of the 2003 TPA expressly contemplated that different methods might be appropriate for determining the transfer price in accordance with the transfer pricing principles set out in section 12.1.

4.1.6 Presentation of Electricity Transactions

Electricity transactions under the 2003 TPA were presented in BC Hydro's Fiscal 2020 to Fiscal 2021 Revenue Requirements Application as follows:

- Net imports allocated to BC Hydro were recorded as Market Electricity Purchases under BC Hydro's Cost of Energy;

- Net exports allocated to BC Hydro were recorded as Surplus Sales under BC Hydro's Cost of Energy; and
- Net imports and net exports allocated to Powerex (i.e., transactions using the Residual System Capability) were recorded as Net Purchases (Sales) from Powerex.

Variances between forecast and actual amounts for each of the line items described above were deferred to either the Heritage Deferral Account or the Non-Heritage Deferral Account.

The Trade Account tracked the imports and exports allocated to Powerex trade activity using the Residual System Capability. At any point in time, the Trade Account would have a cumulative quantity that was either positive or negative, and changes in the fair market value of the Trade Account balance resulted in a mark-to-market gain (or loss) for BC Hydro, with a corresponding offsetting loss (or gain) for Powerex.

Trade Income is forecasted and included in BC Hydro's revenue requirements, based on a rolling five-year average, with the difference between forecast and actual Trade Income captured by the Trade Income Deferral Account.[52] Powerex generates Trade Income through:

- Using its transmission rights and market access and knowledge to purchase or sell electricity at more attractive prices than the price it pays to, or receives from, BC Hydro;
- Using the Residual System Capability to make offsetting purchases and sales in different time periods (e.g., buying during periods with relatively lower prices and selling during periods with relatively higher prices.); and

[52] In its Fiscal 2020 to Fiscal 2021 Revenue Requirements Application, BC Hydro defined Trade Income so that if Powerex were to incur a net loss, only the difference between $0 and the forecast amount would be deferred to the Trade Income Deferral Account. This means that ratepayers do not assume the risk of a net loss by Powerex and that any net loss would be to the account of the Government of B.C., as BC Hydro's shareholder.

- trading activities that are entirely unrelated to the BC Hydro system.

4.2 2003 TPA – Natural Gas Provisions

The 2003 TPA provisions related to natural gas were limited and comparatively simpler than those for electricity transfers. Specifically, when BC Hydro determined a need to operate a natural gas generating unit, it would request Powerex to procure and deliver natural gas supply to the associated delivery point. Consistent with the transfer pricing principle discussed above, the 2003 TPA defined the natural gas transfer price based on published daily and monthly index prices. It also contemplated that natural gas generating facilities could be operated pursuant to a request by Powerex, in order to produce energy to support trading activity, in which case Powerex would incur the purchase cost of the natural gas.

5 Overview of the 2020 TPA

The 2020 TPA maintains the roles and responsibilities between BC Hydro and Powerex, as set out in the 2003 TPA, and removes the transfer price risk that discouraged Powerex from relying on the BC Hydro system to support third-party purchase and sale transactions. New and revised provisions to achieve the latter objective permeate the entire agreement. In addition, a number of minor changes were made to reflect changes in circumstances, to modernize language and to address interpretation issues that had arisen over the life of the 2003 TPA.

Accordingly, there are too many differences between the two agreements to provide a meaningful word-by-word comparison. Instead, the following sub-sections explain the key provisions and concepts under the 2020 TPA and then the following section provides a comparison of the key features between the 2003 TPA and the 2020 TPA.

5.1 2020 TPA – Key Electricity Provisions and How it Works

Like the 2003 TPA, the 2020 TPA allows for the recording of the price of energy transfers associated with BC Hydro's energy surplus or deficit as well as the Residual System Capability while ensuring that Powerex's net income represented value added from Powerex's trading activities.

As summarized in section 2.5.7 above, the 2020 TPA achieves this while also removing the transfer price risk associated with the one day at a time allocation and transfer pricing approach in the 2003 TPA because it does not require transactions to be allocated between BC Hydro and Powerex. Rather, it establishes a transfer price that, with the limited exception of transactions requested by BC Hydro at specific times,[53] is independent of whether imports or exports are driven by the need to manage BC Hydro's energy surpluses or deficits or by Powerex's trade activity using the Residual System Capability; and it replaces the Trade Account with a Transfer Volume Account that includes not only the volume and value of Powerex's trade activity using the Residual System Capability but also the volume and value of BC Hydro's actual Annual Flexible Surplus/Deficit.

A copy of the 2020 TPA is provided as Appendix A and an annotated version is provided as Appendix B.

[53] These are referred to as either Non-Flexible Imports or Non-Flexible Exports which are explained throughout the remainder of this section.

5.1.1 Key Definitions

Section 1 of the 2020 TPA sets out a number of definitions. The following definitions are important to, and used in, the discussion that follows.

- "Electricity Transfer Price" is defined in the 2020 TPA as "…for an hour, the price (in US$/MWh) set forth in Appendix A [of the 2020 TPA] for electricity sold or purchased on or after the Commencement Date between BC Hydro and Powerex…".[54]
- "Flexible Export Schedule" is defined in the 2020 TPA as "…a schedule of electricity described in Section 4.3.1, and subject to Section 4.6, any schedule deemed to be a flexible Export Schedule in Section 4.5...".[55]
- "Flexible Import Schedule" is defined in the 2020 TPA as "…a schedule of electricity described in Section 4.2.1, a Skagit Schedule,[56] and, subject to Section 4.6, any schedule deemed to be a Flexible Import Schedule in Section 4.5…".[57]
- "Non-Flexible Export Schedule" is defined in the 2020 TPA as "…a schedule of electricity described in Section 4.3.2 and any schedule deemed to be a Non-Flexible Export Schedule in Section 4.6…".[58]

54 This definition is very similar to the definition of "Electricity Transfer Price" in the 2003 TPA.

55 In summary, a Flexible Export Schedule is a schedule of electricity from BC Hydro to Powerex, at Powerex's request. If an export is scheduled in response to a Specified Quantity Request from BC Hydro, it is considered to be flexible unless it is determined to be in response to an Extraordinary Event, in which case it will be considered to be non-flexible. An Extraordinary Event is discussed in section 4.6 of the 2020 TPA.

56 For an explanation of the Skagit Schedule, refer to the note to section 4.7 of the 2020 TPA in Appendix B.

57 In summary, a Flexible Import Schedule is a schedule of electricity from Powerex to BC Hydro, at Powerex's request, or a Skagit Schedule. If an import is scheduled in response to a Specified Quantity Request from BC Hydro, it is considered to be flexible unless it is determined to be in response to an Extraordinary Event, in which case it will be considered to be non-flexible. An Extraordinary Event is discussed in section 4.6 of the 2020 TPA.

58 In summary, a Non-Flexible Export Schedule is a schedule of electricity from BC Hydro to Powerex, at BC Hydro's request, for the purposes of responding to System Constraints. If an export is scheduled in response to a Specified Quantity Request from BC Hydro, it is considered to be non-flexible if it is in response to an Extraordinary Event (see section 4.6 of the 2020 TPA). An example of a Non-Flexible Export would be forced exports during the spring freshet if BC Hydro's minimum generation is higher than its Domestic Load requirements.

- "Non-Flexible Import Schedule" is defined in the 2020 TPA as "a schedule of electricity described in Section 4.2.2 and any schedule deemed to be a Non-Flexible Import Schedule in Section 4.6…".[59]
- "Residual System Capability" is defined in the 2020 TPA as "…at any time and as determined by BC Hydro in its sole discretion, the capability of the BC Hydro System, while all Domestic Load requirements and Interutility Agreement obligations (including pursuant to operating procedures) are being satisfied and System Constraints are being responded to, to allow purchases of electricity products and services by BC Hydro from Powerex and/or to allow sales of electricity products and services from BC Hydro to Powerex.
- "Specified Quantity Request" is described in Section 4.5 of the 2020 TPA as "…BC Hydro may in its discretion from time to time request in writing that Powerex schedule a specified aggregate quantity of electricity to or from the B.C. Hydro System over a specified period of time for the purposes of serving Domestic Load requirements, satisfying Interutility Agreement obligations (including under any operating procedures),and responding to System Constraints.[60]
- "System Constraints" is defined in the 2020 TPA as "…any outage, suspension, constraint or curtailment in the operation of the BC Hydro System or the Transmission System, including forced outages on the BC Hydro System, forced outages on the Transmission System, and constraints arising as a result of minimum or maximum generation requirements or environmental, regulatory or reservoir management requirements…".

[59] In summary, a Non-Flexible Import Schedule is a schedule of electricity from Powerex to BC Hydro, at BC Hydro's request, for the purposes of serving Domestic Requirements. An example of a Non-Flexible Import would be a request from BC Hydro to import during cold days in winter to meet high peak loads.

[60] Subject to constraints set out in Section 4.4 of the 2020 TPA, Powerex determines when and in which quantities each hour to schedule the aggregate amount of electricity in order to satisfy its obligation to BC Hydro.

5.1.2 Exclusive Relationship Between BC Hydro and Powerex

Like the 2003 TPA, the 2020 TPA sets out an exclusive relationship between BC Hydro and Powerex for the purchase and sale of electricity and the use of BC Hydro's Residual System Capability. Under the 2020 TPA, this is set out under section 3.1 and section 4.1.

5.1.3 Purchase and Sale of Electricity Between BC Hydro and Powerex

Section 4 of the 2020 TPA sets out the details regarding the purchase and sale of electricity between BC Hydro and Powerex and in particular, how flexible and non-flexible schedules of electricity are differentiated. For ease of understanding, the discussion below explains the key sub-sections under section 4 of the 2020 TPA in a different order than the agreement itself.

Section 4.1 of the 2020 TPA, referenced in the sub-section above, describes how BC Hydro and Powerex will communicate and act in good faith to enable BC Hydro to maximize benefits to all ratepayers and to enhance BC Hydro's energy reliability.

Section 4.4 sets out the constraints that electricity schedules under the 2020 TPA are subject to, including the availability of Residual System Capability, applicable laws/limitations, BC Hydro's rights to use – and any constraints on – the Transmission System, Powerex's rights to use – and any constraints on – transmission facilities required to deliver/receive electricity to/from BC Hydro, and Powerex's ability to purchase/sell electricity to/from external markets.

Section 4.2 provides for scheduling of electricity deliveries to BC Hydro from Powerex (Flexible Import Schedules, section 4.2.1; Non-Flexible Import Schedules, section 4.2.2) and section 4.3 provides for scheduling of electricity deliveries to Powerex from BC Hydro (Flexible Export Schedules, section 4.3.1; Non-Flexible Export Schedules, section 4.3.2).

The terms "flexible" and "non-flexible" are used to differentiate between schedules where Powerex has discretion over when, and in which quantities, to schedule

electricity each hour and schedules where BC Hydro requests Powerex to import or export specific quantities each hour. The distinction between flexible and non-flexible is important because, as explained further in section 5.1.4 below, flexible imports and exports are priced differently from non-flexible imports and exports.

Section 4.5 defines a Specified Quantity Request which enables BC Hydro to request Powerex to schedule a specified aggregate quantity of electricity to/from the BC Hydro System over a specified period of time for the purposes of serving Domestic Requirements.

Section 4.6 provides that, where a Specified Quantity Request is made to respond to an extraordinary, significant and reasonably unforeseeable event which requires Powerex to make substantial ongoing imports or exports outside the ordinary course of its business in order to meet its obligation to BC Hydro, schedules of electricity required to implement the Specified Quantity Request may be deemed non-flexible.

Section 4.9 addresses the purchase and sale of electricity between BC Hydro and Powerex (BC Hydro purchases net imports from Powerex and Powerex purchases net exports from BC Hydro) and Section 4.10 states that those purchases are made at the applicable Electricity Transfer Price.

Section 4.11 allows BC Hydro to develop and implement a procedure to determine payments between BC Hydro and Powerex related to wear and tear resulting from Powerex's import and export decisions under the 2020 TPA.[61] Import and export decisions by Powerex can either increase or decrease wear and tear on the BC Hydro system because those decisions can either reduce or increase starts and stops and cycling of generating units.

Section 4.13 allows Powerex to request that BC Hydro increase the Residual System Capability to accommodate increased imports or increased exports, with Powerex paying any associated incremental cost. BC Hydro determines whether

[61] To-date, BC Hydro has not developed a procedure as contemplated by this section.

there are changes to the operation of the BC Hydro system that may be taken to increase the Residual System Capability over the period specified by Powerex. Powerex determines whether the associated incremental cost is economic, considering any trade opportunities it may have identified.

5.1.4 Calculation of Electricity Transfer Price

Section 9 of the 2020 TPA sets out transfer pricing principles under the agreement. 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. Consistent with this principle, all electricity sold and purchased or deemed to be sold and purchased between BC Hydro and Powerex under the agreement is deemed, for transfer pricing purposes, to occur at the British Columbia-United States border.

Appendix A to the 2020 TPA sets out the calculation of the Electricity Transfer Price. The appendix defines the following prices:

- Non-Flexible Price (the applicable Hourly Index Price[62]);
- Flexible Price (either the applicable Hourly Index Price or the Weighted Average Price, as explained further below);
- Annual Price (applied to BC Hydro's actual Annual Flexible Surplus/Deficit,[63] as explained further below).

Appendix A also explains how these prices are applied, including their application to the Transfer Volume Account. In summary:

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62 The Hourly Index Price is, for each On-Peak Hour, the price (in US$/MWh) obtained by adding to the On-Peak Price the Transmission Costs and Losses; and for each Off-Peak Hour, the price (in US$/MWh) obtained by adding to the Off-Peak Price the Transmission Costs and Losses. The On-Peak Price and the Off-Peak Price are determined by the ICE Mid-C Index as set out in section 11 of Appendix A to the 2020 TPA. The term "Hourly Index Price" (defined in the 2020 TPA) corresponds to the expression "Applicable Mid-C Price" (used in reference to the 2003 TPA).

63 Section 9.1 of Appendix A to the 2020 TPA explains how the Annual Flexible Surplus/Deficit is determined. In summary, it is BC Hydro's annual surplus/deficit minus non-flexible imports and exports.

- The Non-Flexible Price is the applicable Hourly Index Price and does not result in an adjustment to the Transfer Volume Account. This maintains the appropriate alignment of accountabilities between BC Hydro and Powerex by ensuring that the balances in the Transfer Volume Account are not applied towards transactions where Powerex lacks the flexibility to time deliveries in order to maximize revenues.
- Similar to the Trade Account under the 2003 TPA, adjustments to the balance in the Transfer Volume Account are made hourly as follows:

  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).

  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.

- The Annual Price is calculated as the simple average annual Mid-C index price,[64] multiplied by either the Deficit Multiplier or the Surplus Multiplier. The Deficit Multiplier and Surplus Multiplier are multipliers included in the Annual Price so that the Annual Price for BC Hydro's actual Annual Flexible Surplus/Deficit reflects the transfer pricing principle set out in section 9 of the 2020 TPA (i.e., is a sale price that reflects the fair market value of the electricity at which parties acting on an arms-length basis would be willing to transact).[65] As ratepayers receive the full benefit of Trade Income,[66] the multipliers do not affect the allocation of revenue between ratepayers and taxpayers.
- The System Adjustment Value is the net financial value, as determined by BC Hydro of the impact resulting from Powerex's import and export decisions, on head gains and losses and on spill in the BC Hydro system.

  The System Adjustment Value recognizes that Powerex's import and export decisions can result in increases or decreases to the operational efficiency of the BC Hydro System. For example, increased energy imports can lead to higher reservoir elevations, increasing the hydraulic head and enabling more electricity to be produced with a given volume of water through the turbines. Conversely, increased energy imports can bring reservoirs closer to their maximum elevations, increasing the risk of spill.

64 This is calculated as the average of the on-peak and off-peak prices, as applicable to each hour over the year, plus/less the applicable transmission costs and losses.

65 The multipliers were determined based on a historical analysis of the average value actually received by BC Hydro for its surplus energy and the average cost actually paid by BC Hydro for energy deficits, under the 2003 TPA, relative to the annual average index price at Mid-C. The Surplus Multiplier is a mutually agreed value between 1.05 and 1.25 and is initially set at 1.15. The Deficit Multiplier is a mutually agreed value between 0.75 and 0.95 and is initially set at 0.85.

66 Ratepayers do not assume the risk of a net loss by Powerex. For further discussion, refer to section 4.1.6.

Table 7 below provides a summary of these pricing concepts.

Table 7 Pricing Concepts in the 2020 TPA

Price	Application	Concept
Non-Flexible Price	Hourly Index Price Does not result in an adjustment to the Transfer Volume Account	Ensures that the existing balance in the Transfer Volume Account is not applied towards transactions where Powerex lacks the flexibility to maximize revenue through market timing decisions.
Flexible Price	Hourly Index Price or Weighted Average Price Adjusts the balance of the Transfer Volume Account for imports and exports for which Powerex has discretion on market timing.	Similar to the concept of the Trade Account in the 2003 TPA, imports and exports for which Powerex has discretion on market timing should result in adjustments based on either the applicable Hourly Index Price (if adding to the existing balance) or the Weighted Average Price (if offsetting the existing balance).
Annual Price	Simple average of on-peak and off peak prices for all hours during the year times a pre-determined multiplier. Adjusts the balance of the Transfer Volume Account 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.	Provides a consistent way of accounting for the value of BC Hydro energy surpluses or deficits in a given year, without requiring that this valuation occur each day, thereby avoiding the inherent "transfer price risk" in the 2003 TPA.

5.1.5 Financial Presentation of Electricity Transactions

This section describes changes to the presentation of financial information as a result of the 2020 TPA and explains how many principles and components remain unchanged from the 2003 TPA.

As discussed in section 4.1.6 above, under the 2003 TPA, electricity transactions between BC Hydro and Powerex were classified as either “Market Electricity Purchases”, “Surplus Sales” or “Net Purchases (Sales) From Powerex” in BC Hydro’s Fiscal 2020 to Fiscal 2021 Revenue Requirements Application.

Under the 2020 TPA, electricity transactions between BC Hydro and Powerex are no longer allocated between domestic and trade activities. As a result, all electricity transactions between BC Hydro and Powerex under the 2020 TPA are classified as either “System Exports” or “System Imports”. The ability to defer variances between forecast and actual System Exports and System Imports is covered by the scope of existing orders and such variances will be deferred to the Non-Heritage Deferral Account.[67]

The starting balance in the Transfer Volume Account was the balance in the Trade Account upon transition from the 2003 TPA to the 2020 TPA. Similar to the Trade Account, discussed in section 4.1.6 above, the Transfer Volume Account will have a cumulative quantity that is either positive or negative, and changes in the fair market value of the Transfer Volume Account will result in a mark-to-market gain (or loss) for BC Hydro, with a corresponding offsetting loss (or gain) for Powerex. Similar to the 2003 TPA, these gains and losses do not result in any consolidated impact to BC Hydro’s financial statements, or any impact to ratepayers, because these intercompany transactions are offsetting.

Trade Income[68] will continue to be forecast based on a rolling five-year average, with the difference between forecast and actual Trade Income captured by the Trade Income Deferral Account.

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67 In accordance with BCUC Order No. G-96-04, Directive 11, BC Hydro deferred variances between forecast and actual Market Electricity Purchases and Surplus Sales to the Heritage Deferral Account, and in accordance with BCUC Order No. G-96-04, Directive 12, BC Hydro deferred variances between forecast and actual Net Purchases (Sales) from/to Powerex to the Non-Heritage Deferral Account. The scope of variances covered by these existing orders is equivalent to the variances between forecast and actual System Exports and System Imports.

68 Refer to section 4.1.6 for a definition of Trade Income.

The end result is no different from the 2003 TPA, in that continuing to defer variances between plan and actual transactions between BC Hydro and Powerex, and plan and actual Trade Income, ensures that ratepayers receive the full benefit of transactions supported by the BC Hydro system.

Further details on the presentation of financial information under the 2020 TPA are provided in **Appendix F**.

5.2 Comparative Example – Transfer Price Risk

The following comparative example demonstrates how the 2020 TPA removes the transfer price risk that discouraged Powerex from relying on the BC Hydro system to support third-party purchase and sale transactions, under the 2003 TPA. For simplicity, this example is presented in isolation and the Trade Account and Transfer Volume Account are assumed to start at $0.

In this example, Powerex, utilizing BC Hydro's Residual System Capability, purchases 1,000 GWh of energy during the winter, for delivery to the BC Hydro system, at $20/MWh. Powerex then identifies a customer in California that seeks to purchase 500 GWh of energy on a forward basis, to be delivered in the summer, and negotiates a sale price at $40/MWh, expecting to source its commitment with a portion of the energy that it recently purchased and delivered to the BC Hydro system.

Under the 2003 TPA, the first part of this scenario would have resulted in a credit of 1,000 GWh and $20 million to the Trade Account. The result of the second part would have depended on the difference between the Threshold Sale Price and the Applicable Mid-C Price, the day before the electricity was delivered to the customer in California.

- If BC Hydro had set a Threshold Sale Price that was greater than the Applicable Mid-C Price, the export of 500 GWh would have been attributed to Powerex, reducing the balance in the Trade Account at the Weighted Average

Price of $20/MWh from 1,000 GWh to 500 GWh and from $20 million to $10 million. Powerex would then sell that energy to the customer in California for $40/MWh, generating net income of $10 million, as it expected, to the benefit of BC Hydro ratepayers.

- However, if BC Hydro had set a Threshold Sale Price that was less than the Applicable Mid-C Price, the export of 500 GWh would have been attributed to BC Hydro and treated as a sale of BC Hydro's surplus. Powerex would have paid BC Hydro the Applicable Mid-C Price, as determined one-day-at-a-time.
  - If the Applicable Mid-C Price was less than the price Powerex had negotiated with the customer in California (e.g., $30/MWh), Powerex would have paid BC Hydro $30/MWh for the energy and would still have generated net income, albeit a lower amount of $5 million (i.e., 500 GWh x [$40/MWh - $30/MWh]).
  - If the Applicable Mid-C Price was greater than the price Powerex had negotiated with the customer in California (e.g., $50/MWh), however, Powerex would have paid BC Hydro $50/MWh for the energy and, would have incurred a net loss on the transaction of $5 million (i.e., 500 GWh x [$40/MWh - $50/MWh]).
  - In addition, in both cases, the full 1,000 GWh of energy Powerex purchased earlier would still have been in the Trade Account, rather than a reduced amount of 500 GWh, requiring Powerex to seek other, potentially less profitable, sale opportunities for that energy.

Under the 2020 TPA, the first part of the above scenario similarly results in a credit of $20 million to the Transfer Volume Account. When 500 GWh of energy is exported, the balance in the Transfer Volume Account is reduced, by the Weighted Average Price of $20/MWh, from 1,000 GWh to 500 GWh and from $20 million to $10 million. Powerex would then sell that energy to the customer in California for

$40/MWh, generating net income, to the benefit of BC Hydro ratepayers, of $10 million.

At the end of the fiscal year, BC Hydro determines its Annual Flexible Surplus/Deficit (in GWh), which is then added to or subtracted from the Transfer Volume Account. The Weighted Average Price is adjusted at the same time based on the applicable Annual Price and the System Adjustment Value. Powerex receives ongoing forecast information from BC Hydro so that it can make decisions and manage the timing of flexible imports and exports according to BC Hydro's expected overall system energy balance and consistent with all applicable System Constraints, as determined by BC Hydro.

Accordingly, the transfer price risk faced by Powerex under the 2020 TPA is limited to a once-per-year step change, applied on March 31st, to both the volume in the Transfer Volume Account and the associated Weighted Average Price. Throughout each fiscal year, the Weighted Average Price that applies to imports and exports changes only gradually, and solely based on Powerex's import and export decisions. The one-day-at-a-time transfer price risk assumed by Powerex as a result of the multiple potential outcomes under the 2003 TPA, is removed. As a result, BC Hydro ratepayers benefit as Powerex is able to better utilize BC Hydro surplus energy, meet BC Hydro energy deficits and utilize the Residual System Capability beyond the day-ahead market timeframe.

5.3 2020 TPA – Natural Gas Provisions

The natural gas provisions in the 2020 TPA have been revised to reflect current circumstances, including applicable gas prices, and the practices for requesting and scheduling natural gas deliveries to BC Hydro.

With respect to the generation of electricity, BC Hydro will run its Thermal Generation Plants for Domestic Requirements. The BC Hydro purchase of gas and resulting energy output would serve load and that energy would also then be added to the actual Annual Flexible Surplus/Deficit. To better align the gas generation

decision as generally a reliability or capacity based decision, Powerex can purchase the gas at its cost and receive the electricity as an import into the Transfer Volume Account and not have it impact the actual Annual Flexible Surplus/Deficit. This provision allows the plants to be operated for capacity or reliability reasons without altering the overall system energy balance.

6 The 2020 TPA Maintains Key Features of the 2003 TPA and Eliminates the Inherent Transfer Price Risk

As discussed at the beginning of section 5 above, the 2020 TPA maintains the roles and responsibilities between BC Hydro and Powerex, as set out in the 2003 TPA. It also includes new provisions and conceptual changes to remove the transfer price risk that discouraged Powerex from relying on the BC Hydro system to support third-party purchase and sale transactions, as well as a number of minor changes. As a result, 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.

6.1 Comparison of Key Features

Table 8 below provides a comparison of the key features between the 2003 TPA and the 2020 TPA.

Table 8 Comparison of Key Features (2003 TPA vs. 2020 TPA)

2003 TPA	2020 TPA
Exclusive relationship between BC Hydro and Powerex with regard to the purchase and sale of electricity and the utilization of any Residual System Capability.	No change
Allows for the recording of the price of energy transfers associated with BC Hydro's energy surplus or deficit as well as Residual System Capability.	No change
Ensures that Powerex's net income represents value added from Powerex's trading activities (i.e., transactions utilizing the Residual System Capability and transactions separate from the BC Hydro system) and is not conflated with the market value of surplus or deficit energy in the BC Hydro system.	No change
All of the value created from the above activities accrues to BC Hydro's ratepayers.	No change
BC Hydro is solely responsible for the planning and operation of the BC Hydro system.	No change
Powerex decides the timing and volume of imports and exports subject to BC Hydro's constraints and requirements.	No change[69]
BC Hydro has authority to constrain imports and exports in any time period.	No change[69]
BC Hydro has authority to require imports or exports in any time period.	Improved BC Hydro can submit a Specified Quantity Request (of Flexible Import or Flexible Export Schedules) for a specified aggregate quantity of electricity to/from the BC Hydro system over a specified period of time for the purposes of serving Domestic Requirements. BC Hydro can also request Non-Flexible Import and Non-Flexible Export Schedules.

[69] The timing and volume of imports and exports may be determined by BC Hydro-requested Non-Flexible Import and Non-Flexible Export Schedules, or alternatively Flexible Import and Flexible Export Schedules may be limited by BC Hydro issuing requirements and/or constraints.

2003 TPA	2020 TPA
BC Hydro receives market price for surplus electricity sold to Powerex.	No change to concept. BC Hydro is no longer exposed to the one-day-at-a-time market prices associated with the specific timing of sales related to its actual Annual Flexible Surplus/Deficit because it is added to, or subtracted from, the balance in the Transfer Volume Account, at the Annual Price. For Non-Flexible Exports, BC Hydro remains exposed to one-day-at-a-time market prices as it receives the applicable Hourly Index Price. BC Hydro is better able to manage market demand and surplus supply risk by stipulating required volumes of exports from the BC Hydro system over a specified time period. Powerex is then able to manage the volume by selling electricity across a range of time horizons providing increased market demand certainty.
BC Hydro pays market price for electricity purchased from Powerex.	No change to concept. BC Hydro is no longer exposed to the one-day-at-a-time market prices associated with the specific timing of purchases related to its actual annual flexible surplus/deficit because it is added to, or subtracted from, the balance in the Transfer Volume Account and the Weighted Average Price is adjusted at the same time based on the applicable Annual Price and the System Adjustment Value. For Non-Flexible Imports, BC Hydro remains exposed to one-day-at-a-time market prices as it pays the applicable Hourly Index Price. BC Hydro is better able to manage physical supply risk by stipulating required volumes of imports to the BC Hydro system over a specified time period, Powerex is then able to purchase electricity to meet BC Hydro's Domestic Requirements across a range of time horizons providing increased physical supply certainty.

2003 TPA	2020 TPA
BC Hydro can set a Threshold Purchase Price or Threshold Sale Price but has no mechanism to request that Powerex schedule a specific aggregate quantity of electricity to/from the BC Hydro system.	Improved BC Hydro can issue a Specified Quantity Request to Powerex to schedule a specified aggregate quantity of electricity to/from the BC Hydro System over a specified time period for the purposes of serving Domestic Requirements. This mechanism also represents an improvement relative to the 2018 Letter Agreement and 2019 Letter Agreement because it addresses the physical (and financial) supply risks not only with BC Hydro's system import needs but also its system export needs.
Electricity transfers allocated hourly between domestic and trade, based on day-ahead market prices, determined one-day-at-a-time.	Improved BC Hydro's actual Annual Flexible Surplus/Deficit is allocated annually and the Weighted Average Price is adjusted at the same time based on the applicable Annual Price and the System Adjustment Value. Non-Flexible Imports and Non-Flexible Export Schedules remain allocated and priced one-day-at-a-time (but are excluded from the Transfer Volume Account).
Powerex assumes transfer price risk if it commits to forward third-party purchase and sale transactions supported by the BC Hydro system.	Improved Removes the transfer price risk that discouraged Powerex from relying on the BC Hydro system to support forward third-party purchase and sale transactions.
Powerex partially accountable for trade decisions that affect spill if maximum Trade Account balance, as specified by BC Hydro, is exceeded.	Improved Through the System Adjustment Value, Powerex is fully and symmetrically accountable for trade decisions that BC Hydro determines to increase or decrease spill.
Powerex not accountable for impact of trade decisions on system efficiency.	Improved Through the System Adjustment Value, Powerex is fully and symmetrically accountable for trade decisions that BC Hydro determines to increase or decrease system efficiency.

2003 TPA	2020 TPA
Powerex not accountable for impact of trade decisions on BC Hydro unit wear and tear.	Improved Allows for a procedure through which Powerex would be fully and symmetrically accountable for trade decisions that BC Hydro determines to increase or decrease unit wear and tear.
Subject to BCUC approval,[70] BC Hydro may enter into financial hedging contracts with Powerex with respect to forward fixed-price, fixed volume contracts for the purpose of managing BC Hydro's market risk associated with purchases or sales of electricity or natural gas.	No change BC Hydro is not seeking BCUC approval for financial hedging in the Application and would make a separate application if it decided to seek BCUC approval for financial hedging under the 2020 TPA in the future.
BC Hydro has authority to request Powerex to purchase natural gas to operate certain gas generation facilities in the province for reliability or operational needs.	No change
BC Hydro may seek to manage a capacity or energy deficit by purchasing natural gas from Powerex to increase production from gas facilities.	No change to concept for BC Hydro BC Hydro will run its Thermal Generation Plants for Domestic Requirements. The BC Hydro purchase of gas and resulting energy output would serve load and that energy would also then be added to the actual Annual Flexible Surplus/Deficit. To better align the gas generation decision as generally a reliability or capacity based decision, Powerex can purchase the gas at its cost and receive the electricity as an import into the Transfer Volume Account and not have it impact the actual Annual Flexible Surplus/Deficit.

[70] In accordance with BC Hydro's commitment in the Negotiated Settlement Agreement for its Fiscal 2011 Revenue Requirements Application (refer to page 7 of Appendix B to BCUC Order No. G-180-10).

BC Hydro
Power smart

2020 Transfer Pricing Agreement Application

Appendix A

2020 Transfer Pricing Agreement

TRANSFER PRICING AGREEMENT

This Agreement is dated effective as of April 1, 2020:

BETWEEN:

BRITISH COLUMBIA HYDRO AND POWER AUTHORITY, a corporation continued under the Hydro and Power Authority Act

("**B.C. Hydro**")

AND:

POWEREX CORP., a company duly incorporated under the laws of the Province of British Columbia

("**Powerex**")

WHEREAS:

A. B.C. Hydro carries on electrical utility operations in the Province of British Columbia and operates the B.C. Hydro System to: (i) ensure sufficient energy and capacity is available to serve B.C. Hydro's Domestic Load, satisfy B.C. Hydro's obligations under Interutility Agreements and respond to System Constraints; (ii) minimize the cost of serving Domestic Load, satisfying obligations under Interutility Agreements and responding to System Constraints; and (iii) maximize the value of the Residual System Capability;

B. Powerex is engaged in the sale and purchase of energy products, principally with customers and suppliers in other Canadian provinces and the United States, and purchases transmission and transportation capacity in order to support energy product transactions;

C. The parties wish to confirm the relationship between B.C. Hydro and Powerex under which B.C. Hydro will make the Residual System Capability available exclusively to Powerex, including selling exclusively to Powerex electricity that is surplus to B.C.

Hydro's requirements to serve Domestic Load, satisfy obligations under Interutility Agreements and respond to System Constraints, and purchasing exclusively from Powerex electricity required by B.C. Hydro to serve Domestic Load, satisfy obligations under Interutility Agreements and respond to System Constraints that is not supplied from the B.C. Hydro System, and to confirm the manner in which the parties will otherwise purchase and sell electricity to each other to enable B.C. Hydro to maximize benefits to all B.C. Hydro ratepayers and to enhance B.C. Hydro's energy reliability;

D. B.C. Hydro is a purchaser of natural gas and wishes to confirm the relationship between B.C. Hydro and Powerex under which B.C. Hydro will purchase its requirements for natural gas exclusively from Powerex and sell exclusively to Powerex its surplus natural gas; and

E. Both B.C. Hydro and Powerex wish to set out their respective obligations in connection with the foregoing.

NOW, THEREFORE, in consideration of the mutual covenants contained in this Agreement, the parties agree as follows:

1. DEFINITIONS

1.1. Definitions

In this Agreement:

1.1.1. "2003 TPA" means the Transfer Pricing Agreement dated as of April 1, 2003 between B.C. Hydro and Powerex, as amended;

1.1.2. "Additional Daily Quantity" has the meaning set forth in Section 7.4;

1.1.3. "Agreement" means this transfer pricing agreement, together with any appendices, as amended from time to time;

1.1.4. "B.C. Hydro System" means the reservoirs and all generating resources and related facilities that are owned or controlled by B.C. Hydro, and includes

long-term supply contracted by B.C. Hydro from time to time from independent power producers or others;

1.1.5. "Canadian Entitlement" means at any time the downstream power benefits to which Canada is then entitled as described in Articles V(1) and VII of the Columbia River Treaty;

1.1.6. "Columbia River Treaty" means the "Treaty between Canada and the United States of America relating to the Cooperative Development of the Water Resources of the Columbia River Basin" including its Annexes A and B" signed at Washington, District of Columbia, United States of America on the 17th day of January, 1961, and the Protocol brought into force by exchange of instruments of ratification and an exchange of notes on September 16, 1964, as may be amended, supplemented or replaced;

1.1.7. "Commencement Date" means April 1, 2020;

1.1.8. "Domestic Gas Requirements" means the quantity of Gas required by B.C. Hydro for its Thermal Generation Plants to serve Domestic Load, satisfy B.C. Hydro's obligations under Interutility Agreements and Gas Utility Contracts, and respond to System Constraints;

1.1.9. "Domestic Load" means load that B.C. Hydro is obligated to serve under its electricity tariffs by reason of its status as a public utility, including transmission losses within the Province of British Columbia;

1.1.10. "Electricity Transfer Price" means, for an hour, the price (in US$/MWh) set forth in Appendix A for electricity sold or purchased on or after the Commencement Date between B.C. Hydro and Powerex pursuant to Section 4.9 of this Agreement;

1.1.11. "Flexible Export Schedule" means a schedule of electricity described in Section 4.3.1 and, subject to Section 4.6, any schedule deemed to be a Flexible Export Schedule in Section 4.5;

1.1.12. "Flexible Import Schedule" means a schedule of electricity described in Section 4.2.1, a Skagit Schedule, and, subject to Section 4.6, any schedule deemed to be a Flexible Import Schedule in Section 4.5;

1.1.13. "Force Majeure" means any event or circumstance not within the reasonable control of the party seeking to suspend its performance of an obligation, and not avoidable by that party's reasonable diligence, and subject to the foregoing includes: a strike, lockout or labour dispute; an act of God; inability to obtain labour or (other than as set out below relating to supply of electricity or Gas) materials; laws, ordinances, rules, regulations or orders of governmental authorities; enemy or hostile action; civil commotion; fire or other casualty, but does not include: (i) any condition or cause which is the result of the negligence of the claiming party, or which by the exercise of due diligence, the claiming party is or would be able to avoid, cause to be avoided, or overcome; or (ii) lack of finances; (iii) any inability of the claiming party to use or resell the electricity or Gas purchased hereunder; or (iv) the loss or failure of the claiming party's supply of electricity or Gas, if the claiming party is the seller;

1.1.14. "Fort Nelson" means the gas-fired generating plant owned by B.C. Hydro and located in Fort Nelson, British Columbia;

1.1.15. "Gas" means natural gas;

1.1.16. "Gas Delivery Point" means:

1.1.16.1. for Gas purchased for use at a Thermal Generation Plant, the recognized custody transfer point between the applicable Thermal Generation Plant and the gas pipeline that serves it; and

1.1.16.2. for Gas purchased for the purpose of serving the Gas Utility Contracts, the delivery point(s) specified in the Gas Utility Contracts;

1.1.17. "Gas Losses" means for each day, all lost and unaccounted for Gas and Gas burned to fuel compressors, from the applicable Gas Transfer Point to the applicable Gas Delivery Point;

1.1.18. "Gas Transfer Point" means:

1.1.18.1. with respect to Gas forming part of a Specified Contract Quantity, any of the points at which the index prices set out in Section 1.1.4 of Appendix B are determined; and

1.1.18.2. with respect to Gas forming part of an Additional Daily Quantity, any of the points at which the index prices set out in Section 1.1.3 of Appendix B are determined;

1.1.19. "Gas Transfer Price" means the price determined in accordance with Section 1.5 of Appendix B;

1.1.20. "Gas Utility Contracts" means any agreement between B.C. Hydro and one or more third parties in effect from time to time that provides for the supply of Gas by B.C. Hydro on a firm or interruptible basis, but excludes agreements whose purpose is the purchase and sale of gas or gas transportation for profit;

1.1.21. "Island Generation" means the gas-fired generating plant located at Elk Falls, British Columbia;

1.1.22. "Imbalance Charges" means any fees, penalties, costs or charges (in cash or in kind) assessed by the applicable transportation provider(s) in respect of the Transportation Capacity, for failure to satisfy the transportation balance and nomination requirements;

1.1.23. "Interutility Agreement" means:

1.1.23.1. an agreement between B.C. Hydro and one or more third parties related to the coordination of generation, transmission and/or reservoir operations;

1.1.23.2. an agreement between B.C. Hydro and one or more balancing authorities or reliability entities for the purpose of maintaining transmission and generation system reliability;

1.1.23.3. an agreement between B.C. Hydro and one or more third parties relating to international treaty obligations of Canada;

1.1.23.4. an agreement under which B.C. Hydro exports electricity pursuant to a border accommodation electricity export permit issued by the National Energy Board or any successor permit; or

1.1.23.5. any other agreement with one or more third parties under which B.C. Hydro imports or exports electricity to or from the B.C. Hydro System,

but excludes agreements whose purpose is the purchase and sale of transmission or electricity products and services for B.C. Hydro's profit;

1.1.24. "Net Delivered Quantity to B.C. Hydro" has the meaning set forth in Section 4.8;

1.1.25. "Net Delivered Quantity to Powerex" has the meaning set forth in Section 4.8;

1.1.26. "Non-Flexible Export Schedule" means a schedule of electricity described in Section 4.3.2 and any schedule deemed to be a Non-Flexible Export Schedule in Section 4.6;

1.1.27. "Non-Flexible Import Schedule" means a schedule of electricity described in Section 4.2.2 and any schedule deemed to be a Non-Flexible Import Schedule in Section 4.6;

1.1.28. "Open Access Transmission Tariff" means the tariff under which B.C. Hydro provides open-access non-discriminatory services on the Transmission System, as amended from time to time, and including any successor tariff;

1.1.29. "Prime Rate" means the annual rate of interest published by B.C. Hydro's principal banker from time to time as its prime rate;

1.1.30. "Residual System Capability" means, at any time and as determined by B.C. Hydro in its sole discretion, the capability of the B.C. Hydro System, while all Domestic Load requirements and Interutility Agreement obligations (including pursuant to operating procedures) are being satisfied and System Constraints are being responded to, to allow purchases of electricity products and services by B.C. Hydro from Powerex and/or to allow sales of electricity products and services from B.C. Hydro to Powerex;

1.1.31. "RPG" means the gas-fired generating plant owned by B.C. Hydro and located in Prince Rupert, British Columbia;

1.1.32. "Senior Executive" means, for a party, its Chief Executive Officer or such other senior executive with primary responsibility for this Agreement from time to time, or duly appointed delegate;

1.1.33. "Skagit Schedule" has the meaning set forth in Section 4.7;

1.1.34. "Specified Contract Quantity" has the meaning set forth in Section 7.2;

1.1.35. "Specified Quantity Request" has the meaning set forth in Section 4.5;

1.1.36. "System Constraints" means any outage, suspension, constraint or curtailment in the operation of the B.C. Hydro System or the Transmission System, including forced outages on the B.C. Hydro System, forced outages on the Transmission System, and constraints arising as a result of

minimum or maximum generation requirements or environmental, regulatory, or reservoir management requirements;

1.1.37. "Thermal Generation Plants" means the gas-fired generation plants owned or under the control of B.C. Hydro from time to time including Fort Nelson, Island Generation and RPG;

1.1.38. "Transfer Period" means, commencing on the Commencement Date, any one-year period from April 1st until March 31st;

1.1.39. "Transfer Pricing Principle" means the pricing principles established by Sections 9.1 and 9.2;

1.1.40. "Transmission System" means the transmission system owned or operated by B.C. Hydro;

1.1.41. "Transportation Capacity" has the meaning set forth in Section 7.8;

1.1.42. "Variable Operating Costs" means all incremental costs incurred by B.C. Hydro in respect of generation at the Thermal Generation Plants at the request of and for purchase by Powerex pursuant to Sections 5.1 or 5.2, as determined in good faith from time to time by B.C. Hydro; and

1.1.43. "Variable Transportation Costs" means all incremental transportation costs incurred by B.C. Hydro in respect of the use of the Transportation Capacity by Powerex for the purposes of trade.

1.2. **Other Defined Terms**

Capitalized words or phrases appearing in this Agreement that are defined in the appendices to this Agreement shall have the meanings ascribed to them in the appendices.

1.3. **Interpretation**

References in this Agreement to sections are references to sections of the body of the Agreement, unless otherwise specified as referring to a section in an appendix. All

references in this Agreement to appendices are to the appendices attached to this Agreement. Reference to any party includes any permitted successor or assignee. The term "including" followed by descriptive words is used in this Agreement by way of example only and is not intended to limit the scope of the provision. The headings used in this Agreement are for convenience and reference purposes only.

2. TERM

2.1. Term

The effective date of this Agreement is April 1, 2020, notwithstanding the actual date of execution or the Commencement Date. This Agreement shall continue in full force and effect until terminated by mutual agreement of the parties or as provided in Section 2.3.

2.2. Transitional Payment

2.2.1. If there is a positive balance in the Trade Account under the 2003 TPA at 12:00 a.m. on April 1, 2020, B.C. Hydro will pay to Powerex in a timely manner the amount obtained by multiplying the volume in MWh of the positive balance in the Trade Account under the 2003 TPA by the weighted average price of each MWh in the Trade Account under the 2003 TPA, in each case at 12:00 a.m. on April 1, 2020.

2.2.2. If there is a negative balance in the Trade Account under the 2003 TPA at 12:00 a.m. on April 1, 2020, Powerex will pay to B.C. Hydro in a timely manner the amount obtained by multiplying the volume in MWh of the negative balance in the Trade Account under the 2003 TPA by the weighted average price of each MWh in the Trade Account under the 2003 TPA, in each case at 12:00 a.m. on April 1, 2020.

2.3. Early Termination

Either party may terminate this Agreement at the end of a Transfer Period provided that written notice is given to the other party at least 60 days prior to the end of the applicable Transfer Period; for greater certainty, notice of termination given in the 60-day period prior to the end of a Transfer Period will have no effect. A termination effected by notice

given in accordance with this section will take effect immediately following the annual adjustments for the Transfer Period provided for in Section 7.3 of Appendix A (the "Early Termination Time").

2.4. **Negotiation of New Transfer Pricing Agreement**

Following the delivery of a notice of termination by either party under Section 2.3, the parties will negotiate a new agreement to confirm the relationship under which the parties will purchase and sell electricity and natural gas to each other following termination of this Agreement, including provisions to address any existing commitments or liabilities of the parties that exist on and extend beyond the termination of this Agreement.

2.5. **Effect of Termination**

Notwithstanding any termination of this Agreement, provisions respecting obligations which have arisen or accrued prior to the date of termination will continue in full force and effect in accordance with their respective terms until such obligations have been fully satisfied.

2.6. **Calculation of Net Settlement Amount on Termination**

2.6.1. Within seven days of the Early Termination Time, the parties will, in good faith and in a commercially reasonable manner, determine the value of the gains or losses applicable to the Transfer Volume Account. The parties will determine the value of any such gains and losses by (i) calculating the market value of the volume in the Transfer Volume Account at the replacement or resale price (as applicable) at the British Columbia-United States border, relative to (ii) the value of the Transfer Volume Account determined by multiplying the volume in the Transfer Volume Account by the Weighted Average Price, discounted to present value. If consideration for any such gains or losses is included in the terms of a new or replacement transfer pricing agreement, then any gains or losses under this Agreement will be zero.

2.6.2. The parties will aggregate such gains or losses and any other amounts then owing but unpaid in respect of the period prior to the Termination Date into a single net amount (the "Net Settlement Amount").

2.6.3. The party owing the Net Settlement Amount will pay the party owed the Net Settlement Amount such amount, in cash, within three business days of the parties agreeing to such calculation.

3. RESIDUAL SYSTEM CAPABILITY

3.1. Residual System Capability

B.C. Hydro shall make the Residual System Capability available exclusively to Powerex to support the sale and purchase to or from third parties of electricity products and services by Powerex. For greater certainty, B.C. Hydro is not providing any storage services to Powerex under this Agreement.

4. PURCHASE AND SALE OF ELECTRICITY

4.1. Purchase and Sale of Electricity

B.C. Hydro shall purchase and sell electricity exclusively from and to Powerex as contemplated by this Agreement, and in doing so, B.C. Hydro will make electricity available to Powerex and Powerex will make import and export decisions, both acting in good faith and with the objectives of enabling B.C. Hydro to maximize benefits to all B.C. Hydro ratepayers and enhancing B.C. Hydro's energy reliability. In support of this objective, B.C. Hydro will communicate to Powerex on a regular basis forecasts of the anticipated electricity surplus or deficit and the Residual System Capability in the B.C. Hydro System and Powerex will communicate to B.C. Hydro on a regular basis forecasts of its anticipated electricity import and export activities, and both parties will regularly communicate to each other any anticipated constraints referred to in Section 4.4 on their abilities to satisfy their obligations under this Part 4, all in accordance with Section 10.1.

4.2. **Schedules to B.C. Hydro**

Subject to Sections 4.4 and 4.5:

4.2.1. Powerex may at any time and in its discretion schedule electricity to B.C. Hydro on an hourly or sub-hourly basis, including electricity that Powerex has purchased from B.C. Hydro under Sections 5.1 or 5.2 or from independent power producers or other entities within British Columbia (each, a "Flexible Import Schedule"); and

4.2.2. Powerex will schedule electricity to B.C. Hydro on an hourly or sub-hourly basis as requested by B.C. Hydro for the purposes of serving Domestic Load requirements, satisfying Interutility Agreement obligations (including under any operating procedures), and responding to System Constraints, and, for greater certainty, Powerex may schedule for that purpose electricity that Powerex has purchased from B.C. Hydro under Sections 5.1 or 5.2 or from independent power producers or other entities within British Columbia (each, a "Non-Flexible Import Schedule").

4.3. **Schedules to Powerex**

Subject to Sections 4.4 and 4.5:

4.3.1. B.C. Hydro will at Powerex's request at any time schedule electricity to Powerex on an hourly or sub-hourly basis (each, a "Flexible Export Schedule"); and

4.3.2. Powerex will accept a schedule of electricity from B.C. Hydro on an hourly or sub-hourly basis as requested by B.C. Hydro for the purposes of responding to System Constraints (each, a "Non-Flexible Export Schedule").

4.4. **Constraints on Scheduling**

The rights and obligations of the parties to schedule electricity under Sections 4.2, 4.3, 4.5, 4.6, and 4.7 shall be subject to:

4.4.1. availability of Residual System Capability;

4.4.2. applicable laws and/or limitations imposed on the parties by regulatory authorities with jurisdiction over their respective operations;

4.4.3. B.C. Hydro's rights under the Open Access Transmission Tariff to use, and any constraints on, the Transmission System;

4.4.4. Powerex's rights to use, and any constraints on, any transmission facilities required for Powerex to deliver or receive electricity to or from B.C. Hydro, as determined by Powerex at the time of the applicable request by B.C. Hydro; and

4.4.5. Powerex's ability, as determined by Powerex at the time of the applicable request by B.C. Hydro, to purchase or sell electricity to or from external markets, provided that Powerex is complying with its obligations under Section 4.1 and, if requested by B.C. Hydro, provides B.C. Hydro with the reason(s) for its inability to satisfy such request.

4.5. **Long-Term System Requirements**

In addition to and without limiting B.C. Hydro's rights under Sections 4.2.2 and 4.3.2, B.C. Hydro may in its discretion from time to time request in writing that Powerex schedule a specified aggregate quantity of electricity to or from the B.C. Hydro System over a specified period of time for the purposes of serving Domestic Load requirements, satisfying Interutility Agreement obligations (including under any operating procedures), and responding to System Constraints (each request, a "Specified Quantity Request"). Subject to the conditions listed in Section 4.4, Powerex will schedule the aggregate amount of electricity subject to a Specified Quantity Request to or from the B.C. Hydro System during the specified period of time, provided that Powerex will in its discretion

determine when and in what quantities each hour to schedule such aggregate amount of electricity in order to satisfy its obligation to B.C. Hydro under this Section 4.5. Subject to Section 4.6, any such schedules will be deemed for the purposes of this Agreement to be either a Flexible Import Schedule or Flexible Export Schedule, as the case may be. B.C. Hydro may from time to time revoke or replace any Specified Quantity Request made under this Section 4.5.

4.6. **Extraordinary Event**

If agreed in writing by the Senior Executives of the parties that a Specified Quantity Request was necessary to respond to an extraordinary, significant and reasonably unforeseeable event that would require Powerex to make substantial ongoing imports or exports of electricity outside of the ordinary course of Powerex's business in order to meet its obligation to import or export the aggregate amount of electricity subject to a Specified Quantity Request, any schedules required to implement the Specified Quantity Request will be deemed for the purposes of this Agreement to be either a Non-Flexible Import Schedule or Non-Flexible Export Schedule, as the case may be. For greater certainty, variations in forecasted load or hydrology or outages occurring in the normal course of business will not be considered to be extraordinary, significant and reasonably unforeseeable events for the purposes of this Section 4.6.

4.7. **External Deliveries to Satisfy B.C. Hydro Interutility Agreement Obligations**

The parties acknowledge that, pursuant to certain agreements among the Province of British Columbia, the City of Seattle (including its division Seattle City Light) and B.C. Hydro, B.C. Hydro is the assignee of certain obligations to deliver electricity to Seattle City Light, and that B.C. Hydro subsequently assigned to Powerex certain of the operating obligations as they relate to delivery of electricity (the "**Skagit Agreements**"). In connection with Powerex delivering electricity under the Skagit Agreements, Powerex has the discretion whether to supply electricity to Seattle City Light from the B.C. Hydro System or from sources outside of the B.C. Hydro System. If, in an hour, Powerex schedules energy to Seattle City Light that it has acquired from sources outside of the B.C. Hydro System to satisfy the obligations under the Skagit Agreements (each, a "**Skagit Schedule**"):

4.7.1. the Skagit Schedule in that hour will be deemed to be a Flexible Import Schedule for the purposes of Section 3.1.1 of Appendix A; and

4.7.2. B.C. Hydro will pay Powerex the amount obtained by multiplying each MWh associated with the Skagit Schedule in that hour by the applicable Flexible Import Price. For greater certainty, the MWh associated with the Skagit Schedule will not be included in the Net Delivered Quantity to B.C. Hydro calculated in Section 4.8.1 for the hour, and no additional amounts will be payable under Section 4.10 in respect of the MWh associated with the Skagit Schedule.

In the event that B.C. Hydro and Powerex enter into any similar agreement whereby Powerex supplies electricity to a party located outside of the B.C. Hydro System and has the discretion to supply such electricity from a source outside of the B.C. Hydro System, the parties agree that the provisions of this Section 4.7 will apply similarly to any such agreement.

4.8. **Determination of Net Delivered Quantities**

The parties shall for each hour determine the quantity (in MWh) of:

4.8.1. all electricity actually delivered by Powerex to B.C. Hydro under this Agreement within the hour; and

4.8.2. all electricity actually delivered by B.C. Hydro to Powerex under this Agreement within the hour, excluding any electricity delivered to Powerex under Sections 5.1 or 5.2 and any electricity delivered to Powerex and then scheduled by Powerex to satisfy B.C. Hydro's obligations under Interutility Agreements.

If in an hour the amount (in MWh) of electricity referred to in Section 4.8.1 exceeds the amount of electricity referred to in Section 4.8.2, such excess will be a "Net Delivered Quantity to B.C. Hydro", and if in an hour the amount (in MWh) of electricity referred to in Section 4.8.2 exceeds the amount of electricity referred to in Section 4.8.1, such excess will be a "Net Delivered Quantity to Powerex".

4.9. **Purchase and Sale of Electricity**

In each hour of a Transfer Period:

4.9.1. B.C. Hydro will purchase from Powerex and Powerex will sell to B.C. Hydro any Net Delivered Quantity to B.C. Hydro; and

4.9.2. Powerex will purchase from B.C. Hydro and B.C. Hydro will sell to Powerex any Net Delivered Quantity to Powerex.

4.10. **Payments for Electricity Transactions**

The parties acknowledge and agree that:

4.10.1. B.C. Hydro will pay to Powerex the amount obtained by multiplying each MWh associated with the sale of a Net Delivered Quantity to B.C. Hydro by the applicable Electricity Transfer Price; and

4.10.2. Powerex will pay to B.C. Hydro the amount obtained by multiplying each MWh associated with the sale of a Net Delivered Quantity to Powerex by the applicable Electricity Transfer Price.

4.11. **Annual Payment for Wear and Tear Associated with Powerex Import and Export Decisions**

4.11.1. B.C. Hydro will, acting reasonably, develop and implement a procedure that will: (a) outline the factors that B.C. Hydro will take into account in determining whether or not Powerex's import and export decisions during a Transfer Period will result in increased or decreased wear and tear on the B.C. Hydro System (each, a "Wear and Tear Determination"); and (b) provide: (i) the method by which wear and tear on the B.C. Hydro System is calculated and attributed to Powerex's import and export decisions; and (ii) the methodology for determining the cost of, or cost saved in respect of, the increased or decreased wear and tear subject to the Wear and Tear Determination. B.C. Hydro may amend or replace such procedure from time to time, provided that any amended or replacement procedure will

only take effect for the purposes of Section 4.11.2 on the first day of the next Transfer Period.

4.11.2. If B.C. Hydro determines, in accordance with a procedure established pursuant to Section 4.11.1, that Powerex's import and export decisions during a Transfer Period have resulted in increased or decreased wear and tear on the B.C. Hydro System for a Transfer Period, B.C. Hydro will notify Powerex of such determination (including the applicable cost) within 30 days after the end of the Transfer Period. Provided that Powerex received a copy of the procedure referred to in Section 4.11.1 (including any applicable amendments) prior to the beginning of the applicable Transfer Period, Powerex will pay to B.C. Hydro within a further 30 days the amount determined by B.C. Hydro in accordance with such procedure to be the cost of the applicable increase in wear and tear, or B.C. Hydro will pay to Powerex the amount determined by B.C. Hydro in accordance with such procedure to be the cost saved as a result of any the applicable decrease in wear and tear.

4.12. **Maintenance Schedules**

B.C. Hydro will use commercially reasonable efforts to schedule the maintenance of the B.C. Hydro System in as efficient a manner as possible to optimize the capability of the B.C. Hydro System and to assist the parties in achieving the objectives of enabling B.C. Hydro to maximize benefits to all B.C. Hydro ratepayers and enhancing B.C. Hydro's energy reliability.

4.13. **Increase in Residual System Capability**

Powerex may from time to time request that B.C. Hydro consider increasing the Residual System Capability over a specified period to support a higher level of electricity import or export activity under Sections 4.2.1 and 4.3.1. B.C. Hydro will review any such request and consider whether there are changes that may be made in the operation of the B.C. Hydro System to accommodate the request. If B.C. Hydro determines in its sole discretion that it is desirable and in keeping with B.C. Hydro's obligations under Section

4.1 to make changes in the operation of the B.C. Hydro to increase the Residual System Capability to accommodate the request by Powerex, B.C. Hydro will notify Powerex reasonably in advance of the proposed change in operation and of the associated incremental costs, if any, that B.C. Hydro intends to charge to Powerex. Powerex may retract its request at any time prior to the implementation of the change in operation, provided that Powerex will reimburse B.C. Hydro for any incremental costs incurred by B.C. Hydro in taking steps to implement the change in operation prior to the retraction. Provided that Powerex was notified reasonably in advance of any incremental costs associated with a change of operation of the B.C. Hydro System to accommodate a request made by Powerex under this Section 4.13 and did not retract its request, Powerex will reimburse B.C. Hydro for the associated incremental costs if B.C. Hydro changes the operation of the B.C. Hydro System to increase Residual System Capability as requested by Powerex.

5. GAS-FIRED GENERATION PLANTS

5.1. Transfer to Powerex from B.C. Hydro's Gas-Fired Generation Plants

At any time when the generating capacity of the Thermal Generation Plants is not required to serve Domestic Load, satisfy B.C. Hydro's obligations under Interutility Agreements or respond to System Constraints, B.C. Hydro may, at the request of Powerex, operate such Thermal Generation Plants to generate electricity. If B.C. Hydro agrees to Powerex's request, B.C. Hydro will sell to Powerex and Powerex will purchase all such electricity generated pursuant to Powerex's request, provided that Powerex will supply, at its own cost, all Gas required to generate the requested electricity and pay to B.C. Hydro the Variable Operating Costs to generate the requested electricity and any Variable Transportation Costs incurred by B.C. Hydro to deliver the Gas to the Thermal Generation Plant and no further payment will be payable by Powerex to B.C. Hydro in respect of the sale and purchase of such electricity. In the event that a Thermal Generation Plant is being operated to generate electricity both for B.C. Hydro's use and at Powerex's request in the same hour, the quantity of electricity generated at Powerex's request shall be the aggregate quantity of electricity measured at the relevant generation meter for the applicable Thermal Generation Plant less the amount of generation

requested by B.C. Hydro. Otherwise, the quantity of electricity generated at Powerex's request will be as measured at the relevant generation meter for the applicable Thermal Generation Plant. Electricity purchased by Powerex under this Section 5.1 shall be made available and title and risk of loss shall pass from B.C. Hydro to Powerex at the point of interconnection between the applicable Thermal Generation Plant and the Transmission System.

5.2. **Powerex Option to Purchase Thermal Generation**

At any time when B.C. Hydro is operating any of the Thermal Generation Plants for its own purposes, Powerex will have the option, exercisable by notice in writing to B.C. Hydro, to purchase from B.C. Hydro the electricity generated by that operation on the terms set out in Section 5.1 for the purchase by Powerex of electricity from a Thermal Generation Plant, including with respect to the supply of Gas by Powerex and the payment by Powerex of the Variable Operating Costs and any Variable Transportation Costs. Electricity purchased by Powerex under this Section 5.2 shall be made available and title and risk of loss shall pass from B.C. Hydro to Powerex at the point of interconnection between the applicable Thermal Generation Plant and the Transmission System.

6. DELIVERY POINT, TRANSMISSION CHARGES, ANCILLARY SERVICES. SCHEDULING

6.1. **Delivery Point, Title and Risk**

Unless the parties agree otherwise:

6.1.1. subject to Sections 6.1.2 and 6.1.3, electricity sold and purchased under this Agreement shall be made available, and title and risk of loss shall pass from the seller to the buyer, at either the British Columbia-United States border or the British Columbia-Alberta border, as determined by Powerex;

6.1.2. electricity purchased by Powerex under Sections 5.1 or 5.2 and then sold to B.C. Hydro under this Agreement shall be made available and title and risk of loss shall pass from Powerex to B.C. Hydro at the point of

interconnection between the applicable Thermal Generation Plant and the Transmission System; and

6.1.3. electricity purchased by Powerex from independent power producers or other entities in British Columbia and sold to B.C. Hydro under this Agreement shall be made available and title and risk of loss shall pass from Powerex to B.C. Hydro at the point of interconnection between the third party and the Transmission System.

6.2. **Transmission Charges and Ancillary Services**

B.C. Hydro shall acquire and pay for all necessary wholesale transmission services, including losses and ancillary services, on the Transmission System for electricity transactions under this Agreement. For greater certainty, B.C. Hydro may self-supply losses and ancillary services. Unless otherwise determined by B.C. Hydro, acting reasonably, Powerex will pay to B.C. Hydro an amount equal to the parties' reasonable estimate of:

6.2.1. the point-to-point transmission costs incurred by B.C. Hydro presently under the Open Access Transmission Tariff in respect of transactions under this Agreement, but excluding

6.2.2. the point-to-point transmission costs incurred by B.C. Hydro for the purposes of serving Domestic Load requirements, satisfying Interutility Agreement obligations (including under any operating procedures), responding to System Constraints, satisfying B.C. Hydro's obligation to manage the Annual Flexible Surplus/Deficit (as defined in Appendix A) and delivering electricity pursuant to Non-Flexible Export Schedules, and receiving and/or delivering the Canadian Entitlement,

in accordance with Section 12. Such amount is the parties' reasonable allocation of the point-to-point transmission costs incurred by B.C. Hydro in respect of Powerex's trading activities.

7. GAS MARKETING

7.1. Purchase and Sale of B.C. Hydro's Gas Requirements

Powerex shall use commercially reasonable efforts to make available to B.C. Hydro, and B.C. Hydro shall purchase exclusively from Powerex, B.C. Hydro's Domestic Gas Requirements. B.C. Hydro shall purchase from Powerex and Powerex shall sell to B.C. Hydro all Gas requested by B.C. Hydro under this Agreement from time to time. In performing their obligations under this Section 7.1, both B.C. Hydro and Powerex will act in good faith with the objectives of enabling B.C. Hydro to maximize benefits to all B.C. Hydro ratepayers and enhancing B.C. Hydro's energy reliability. In support of this objective, B.C. Hydro will communicate to Powerex on a regular basis forecasts of B.C. Hydro's surplus Gas position (if any), demand for Gas and the status of physical storage and delivery for B.C. Hydro's Gas, all in accordance with Section 10.1.

7.2. Notification of Monthly Requirements

B.C. Hydro will notify Powerex (each, a "Monthly Gas Notice") by the 15th day of each month from and after the Commencement Date until the end of the term of this Agreement (or if that day is not a business day, then the next ensuing business day) of its Domestic Gas Requirements (in GJ/day) for each day of the next following month (or months), specifying the quantity of Gas (in GJ/day) required for each Thermal Generation Plant and for each Gas Utility Contract (the aggregate amount of Gas required for each such day, the "Specified Contract Quantity"). B.C. Hydro agrees to purchase the Specified Contract Quantity from Powerex.

7.3. Monthly Market Indices

To the extent that B.C. Hydro holds firm Transportation Capacity from one or more Gas Transfer Points to a Gas Delivery Point specified in a Monthly Gas Notice, B.C. Hydro may in the Monthly Gas Notice also specify that the Monthly Index Price(s) determined at the applicable Gas Transfer Point(s) will be used during the month in which B.C. Hydro holds such firm Transportation Capacity for the purposes of determining the Gas Transfer Price applicable for any Specified Contract Quantity to be delivered to that Gas

Delivery Point during that month. If B.C. Hydro does not hold such firm Transportation Capacity, B.C. Hydro may request that a Monthly Index Price determined at a specified Gas Transfer Point be used for the purposes of determining the Gas Transfer Price applicable for such deliveries during the month, but Powerex will not be obligated to deliver such amounts of Gas at the specified Monthly Index Price. Such request by B.C. Hydro for pricing at a specified Gas Transfer Point shall be for pricing purposes only and shall in no way determine the source from which Powerex is to purchase the Gas to be sold by Powerex to B.C. Hydro hereunder. Otherwise, Powerex shall use commercially reasonable efforts to purchase Gas for delivery to B.C. Hydro under this Agreement at the most favourable Monthly Index Price, taking into account transportation costs and availability and in view of the obligations of the parties under Section 7.1.

7.4. **Notification of Daily Requirements**

B.C. Hydro may notify Powerex (each, a "Daily Gas Notice") at any time during a month, of the Domestic Gas Requirements (in GJ/day), in addition to the Specified Contract Quantity, that it projects will be required during any remaining day in the month specified by B.C. Hydro. B.C. Hydro's notice shall specify the quantity of Gas (in GJ/day) required for each Thermal Generation Plant and for the Gas Utility Contracts (in each case, the "Additional Daily Quantity"). B.C. Hydro agrees to purchase the Additional Daily Quantity from Powerex.

7.5. **Daily Market Indices**

To the extent that B.C. Hydro holds firm Transportation Capacity from one or more Gas Transfer Points to a Gas Delivery Point specified in a Daily Gas Notice, B.C. Hydro may in the Daily Gas Notice also specify that the Daily Index Price(s) determined at the applicable Gas Transfer Point(s) will be used during the period of time in which B.C. Hydro holds such firm Transportation Capacity for the purposes of determining the Gas Transfer Price applicable for any Additional Contract Quantity to be delivered to such Gas Delivery Point on that day. If B.C. Hydro does not hold such firm Transportation Capacity, B.C. Hydro may request that a Daily Index Price determined at a specified Gas Transfer Point be used for the purposes of determining the Gas Transfer Price applicable

for any such deliveries on that day, but Powerex will not be obligated to deliver such amounts of Gas at the specified Daily Index Price. Such request by B.C. Hydro for pricing at a specified Gas Transfer Point shall be for pricing purposes only and shall in no way determine the source from which Powerex is to purchase the Gas to be sold by Powerex to B.C. Hydro hereunder. Otherwise, Powerex shall use commercially reasonable efforts to purchase Gas for delivery to B.C. Hydro under this Agreement at the most favourable Daily Index Price, taking into account transportation costs and availability and in view of the obligations of the parties under Section 7.1.

7.6. **Payments for B.C. Hydro's Gas Requirements**

B.C. Hydro shall pay to Powerex the amount obtained by multiplying the applicable Gas Transfer Price by:

7.6.1. the Specified Contract Quantity actually delivered by Powerex to B.C. Hydro each day (in GJ) in accordance with this Agreement plus all Gas Losses applicable to such quantities of Gas actually delivered; and

7.6.2. the Additional Daily Quantity actually delivered by Powerex to B.C. Hydro each day (in GJ) in accordance with this Agreement plus all Gas Losses applicable to such quantities of Gas actually delivered.

All quantities of Gas delivered during any day by Powerex to B.C. Hydro under this Agreement shall be deemed for the purpose of this Agreement to be delivered firstly on account of the Specified Contract Quantity up to the Specified Contract Quantity, and thereafter on account of the Additional Daily Quantity.

7.7. **Title and Risk**

Possession of, title to and all risk of loss respecting the Gas delivered under this Agreement shall pass from Powerex to B.C. Hydro at the applicable Gas Transfer Point, unless Powerex in its sole discretion elects to deliver Gas directly to B.C. Hydro at the Gas Delivery Point in which case title and all risk of loss shall pass from Powerex to B.C. Hydro at the Gas Delivery Point.

7.8. **Gas Transportation and Storage**

B.C. Hydro shall be responsible for obtaining all third-party Gas transportation and storage capacity required to deliver B.C. Hydro's Domestic Gas Requirements from the Gas Transfer Point to the applicable Gas Delivery Point (such transportation and storage capacity referred to herein as the "Transportation Capacity"), unless Powerex in its sole discretion elects to deliver Gas directly to B.C. Hydro at the Gas Delivery Point. All costs and expenses of transporting and delivering the Gas to the Gas Transfer Point shall be borne by Powerex and all costs and expenses of transporting the Gas beyond the Gas Transfer Point shall be borne by B.C. Hydro, including all reservation, demand and other charges. Powerex will assist B.C. Hydro, as and when requested by B.C. Hydro and at B.C. Hydro's cost and expense, to obtain the Transportation Capacity. B.C. Hydro hereby grants to Powerex the exclusive right and authority to use any of the Transportation Capacity and B.C. Hydro shall take all necessary steps to enable Powerex to fully use and nominate such Transportation Capacity for Powerex's own use, when not required to deliver B.C. Hydro's Domestic Gas Requirements. Powerex shall pay to B.C. Hydro the Variable Transportation Costs, if applicable, for such use by Powerex of the Transportation Capacity. Powerex shall be responsible for arranging all third-party Gas transportation required to sell Gas that is surplus to B.C. Hydro's Domestic Gas Requirements.

7.9. **B.C. Hydro's Failure to Receive Gas**

If B.C. Hydro fails to receive all or part of the Specified Contract Quantity or Additional Daily Quantity, unless excused by Powerex's failure to perform, then:

7.9.1. B.C. Hydro will pay to Powerex an amount for each GJ of such Gas not received by B.C. Hydro, equal to the positive difference, if any, obtained by subtracting the Sales Price from the applicable Gas Transfer Price; or

7.9.2. Powerex will pay to B.C. Hydro an amount for each GJ of such Gas not received by B.C. Hydro, equal to the positive difference, if any, obtained by subtracting the applicable Gas Transfer Price from the Sales Price,

where "Sales Price" for the purpose of this Section 7.9, means the Daily Index Price contemplated by Section 1.1.3(b) of Appendix B (or otherwise as specified in any amendment thereto).

7.10. **Gas Imbalance Inventory**

B.C. Hydro acknowledges and agrees that all Gas imbalance inventories in the Transportation Capacity recorded with the applicable transportation providers, shall belong to Powerex, to use as it may determine in its sole discretion. If and to the extent that any Thermal Generation Plant consumes in any day more Gas than has been requested by B.C. Hydro, and such excess quantity of Gas is delivered to the Gas Delivery Point from the Gas imbalance inventories of Powerex on an unscheduled basis, B.C. Hydro shall pay to Powerex the Daily Index Price (which Daily Index shall be determined by Powerex in its sole discretion) for such excess quantity of Gas. Otherwise, Gas scheduled and delivered by Powerex to B.C. Hydro from the Gas Imbalance Inventories shall be priced in accordance with Sections 7.3 and 7.5.

7.11. **Imbalance Charges**

The parties shall use commercially reasonable efforts to avoid imposition of any Imbalance Charges. If Imbalance Charges are incurred as a result of B.C. Hydro's actions or inactions (which shall include, but shall not be limited to, B.C. Hydro's failure to accept quantities of Gas equal to the quantities requested by B.C. Hydro), then B.C. Hydro shall pay such Imbalance Charges, or reimburse Powerex for such Imbalance Charges paid by Powerex to the applicable transportation provider. If the Imbalance Charges were incurred as a result of Powerex's actions or inactions (which shall include, but shall not be limited to, Powerex's failure to deliver quantities of Gas equal to the quantities requested by B.C. Hydro), then Powerex shall pay for such Imbalance Charges or reimburse B.C. Hydro for such Imbalance Charges paid by B.C. Hydro to the applicable transportation provider.

7.12. **Taxes**

B.C. Hydro shall pay or reimburse Powerex for all sales, carbon, motor fuel, transfer and other taxes incurred by Powerex in connection with the purchase of Gas by Powerex from third parties for sale to B.C. Hydro under this Agreement or otherwise applicable to the purchase of Gas by B.C. Hydro from Powerex under this Agreement.

8. FORWARD PURCHASES AND SALES FOR B.C. HYDRO

8.1. Forward Purchases and Sales for B.C. Hydro

B.C. Hydro and Powerex may from time to time enter into forward fixed-price, fixed-volume contracts for the purpose of managing market risk associated with expected Annual Flexible Surplus/Deficit volumes or with expected Non-Flexible Import Schedules and Non-Flexible Export Schedules or managing market risk associated with purchases of Gas to meet Domestic Load, satisfy B.C. Hydro's obligations under Interutility Agreements or Gas Utility Contracts or respond to System Constraints. Such forward contracts will be executed at agreed-upon prices based on prevailing market conditions and will be financially-settled against an agreed-upon market index. B.C. Hydro and Powerex may agree to wholly or partially close any resulting forward position by entering into an offsetting forward contract at an agreed-upon fixed price based on then prevailing market conditions.

9. TRANSFER PRICING PRINCIPLES

9.1. Electricity Transfer Pricing Principle

The parties acknowledge and agree that all electricity sold and purchased between B.C. Hydro and Powerex pursuant to this Agreement other than electricity purchased and sold pursuant to Sections 5.1 or 5.2 is deemed for transfer pricing purposes to occur at the British Columbia-United States border. B.C. Hydro and Powerex declare 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 during the heavy load hours in a day or the light load hours in a day, whichever is applicable, at which parties acting on an arms-length basis would be willing to transact.

9.2. **Gas Transfer Pricing Principle**

The parties acknowledge and agree that all Gas sold to B.C. Hydro by Powerex pursuant to Section 7 of this Agreement is deemed for transfer pricing purposes to occur at the Gas Transfer Point corresponding to the applicable index price specified by B.C. Hydro or determined by Powerex in accordance with Sections 7.3 or 7.5. B.C. Hydro and Powerex declare that the Gas Transfer Price is intended to be established as a sale price that reflects the fair market value of Gas delivered at such applicable Gas Transfer Point on a monthly or daily basis, as applicable, at which parties acting on an arms-length basis would be willing to transact.

9.3. **Electricity Transfer Price and Gas Transfer Price**

The parties agree that the pricing methodology for determining the Electricity Transfer Price is as set forth in Appendix A and the Gas Transfer Price is as set forth in Appendix B.

9.4. **TPA Values**

B.C. Hydro and Powerex acknowledge that, from time to time during the term of this Agreement, it may be appropriate or necessary to replace or modify the method of determining one or more of the following terms or values in this Agreement: the Monthly Index Price, the Daily Index Price, the exchange rate described in Section 12.3, the interest rate described in Section 12.3, the Prime Rate, the Deficit Multiplier, the Surplus Multiplier, the Mid-C Index Price, a Bid Week or any other published index price on which the Gas Transfer Price may be based (each, a "**TPA Value**"). If a party believes that one of the TPA Values then in use under this Agreement should or must be replaced or its method of determination modified, the party may, by notice to the other party, propose a replacement or modification for the applicable TPA Value (or its method of determination). If the proposal is accepted, the agreed replacement or modification of the applicable TPA Value (or its method of determination) will become effective at the beginning of the month immediately following the 90th day after the initial notice or such earlier date as the parties may agree. If the proposal is not accepted, the parties will negotiate in good faith to agree on, within 90 days of such notice, a replacement or

modification of the TPA Value (or its method of determination). If the parties are unable to agree on a replacement or modification of the TPA Value (or its method of determination) within such time, either party may submit the matter to dispute resolution pursuant to Section 16. Upon agreement or determination by dispute resolution of a replacement or modification of the TPA Value (or its method of determination), the replaced or modified TPA Value (or its method of determination) shall become effective at the beginning of the month immediately following the 90th day after the agreement or determination, as the case may be, or such earlier date as the parties may agree, and the parties shall adjust any amounts paid that depend on the TPA Value (or its method of determination) from that date. In no event shall the parties adjust the amounts paid or payable, if applicable, for any period prior to the effective date of the new TPA Value (or new method of determination of the TPA Value).

10. INFORMATION AND FORECASTS

10.1. Information and Forecasts

The parties shall provide information to each other on system and market conditions, including the forecasts to be provided pursuant to Sections 4.1 and 7.1, provided, however that the foregoing and any information sharing with respect to the transmission capabilities of the B.C. Hydro System shall be done only within the information sharing limits set forth in the Standards of Conduct (Transmission) or successor policies of B.C. Hydro published from time to time by B.C. Hydro and applicable information sharing limits regarding transmission system capabilities imposed by pertinent Canadian and United States regulatory authorities.

11. CONFIDENTIAL INFORMATION

11.1. Powerex Information Is Confidential

B.C. Hydro acknowledges that Powerex operates in a highly competitive market and that disclosure of information relating to Powerex, its business and operations could be reasonably expected to significantly harm the competitive position of Powerex or interfere with the negotiating position of Powerex with trading counterparties.

Accordingly, information provided by Powerex to B.C. Hydro under this Agreement, including information provided in connection with B.C. Hydro's audit from time to time, is proprietary and is provided only on condition that it shall be kept confidential by B.C. Hydro and not disclosed to any third party, unless Powerex otherwise agrees or except as required by law or any authority having jurisdiction or if the same has entered the public domain other than through unauthorized disclosure by B.C. Hydro.

11.2. **B.C. Hydro Information Is Confidential**

Information provided by B.C. Hydro to Powerex under this Agreement is proprietary and is provided only on condition that it shall be kept confidential by Powerex and not disclosed to any third party, unless B.C. Hydro otherwise agrees or except as required by law or any authority having jurisdiction or if the same has entered the public domain other than through unauthorized disclosure by Powerex.

12. **BILLING; PAYMENTS.**

12.1. **Powerex to Provide Statement for Electricity and Gas Transactions**

Powerex shall send to B.C. Hydro for each calendar month statements setting forth:

12.1.1. the total electricity that was delivered in each hour during that month, and

12.1.2. the total Gas that was delivered in each hour during that month,

in each case with sufficient detail to enable the parties to determine the amount received and the payments due in connection therewith. Statements shall be sent within 15 days of the end of the month.

12.2. **B.C. Hydro to Provide Statement**

B.C. Hydro shall send to Powerex for each calendar month statements setting forth the amount owing by Powerex to B.C. Hydro or by B.C. Hydro to Powerex pursuant to Sections 4.7.2, 4.10, 5.1 or 5.2 (Variable Operating Costs), 6.2 and 7.8 (Variable Transportation Costs) for that month, with sufficient detail to enable the parties to

determine the payment due in connection therewith. Statements shall be sent within 15 days of the end of the month.

12.3. **Netting and Payment**

The amounts that each party owes to the other as determined under Section 12.2 for electricity and Gas under this Agreement for each month shall be aggregated and the party, if any, owing the greater aggregate amount shall pay to the other party the difference between the amounts owed. Unless otherwise agreed between the parties, payments shall be made by wire transfer or other agreed manner. Payment is due by the 25th calendar day of each month for the prior month. Any late payments will accrue interest at the Prime Rate plus 1.5%. US dollars shall be converted to Canadian dollars using the applicable Bank of Canada Daily Exchange Rate for each day of the month during which the applicable payment obligations were incurred.

12.4. **Dispute of Invoices**

Each party shall have the right to dispute any amount which is set out in any statement or invoice in accordance with the procedure set out in Section 16. All statement and invoice amounts shall be paid pending resolution of any dispute.

13. REPRESENTATIVES OF THE PARTIES

13.1. **Designated Representatives**

B.C. Hydro and Powerex may from time to time designate representatives for the purpose of giving or confirming any approval required pursuant to this Agreement. As of the date hereof, the representative of B.C. Hydro shall be its Chief Executive Officer or delegate, and the representative of Powerex shall be its Chief Executive Officer or delegate.

14. FORCE MAJEURE

14.1. **Suspension for Force Majeure**

If either party is or was wholly or partly unable because of a Force Majeure to perform an obligation arising from this Agreement and claims that a Force Majeure is occurring or

has occurred and reasonably establishes that fact, then the performance of the obligation shall be deemed to be suspended provided always that:

14.1.1. the suspension shall be of no greater scope and no longer duration than the Force Majeure;

14.1.2. the non-performing party shall make its best efforts to counter the Force Majeure or to otherwise remedy its inability to perform the obligation;

14.1.3. a performance required at a time other than when the Force Majeure is occurring shall not be excused by the Force Majeure; and

14.1.4. an obligation to pay any fees when due shall not be excused by the Force Majeure; however, to the extent that there are any savings to either party as a result of the Force Majeure, that party shall pass on any savings to the other party so as to reduce its obligation accordingly.

15. INDEMNITY AND CONSEQUENTIAL DAMAGES

15.1. Powerex Indemnity

Powerex will indemnify B.C. Hydro and hold it harmless against any claims, demands, losses, costs, damages, actions, suits or other proceedings made, sustained, brought or prosecuted against B.C. Hydro by a third party arising out of, or in any way based upon, any act or omission by Powerex in making import or export decisions in respect of electricity or Gas as contemplated under this Agreement (each, a "B.C. Hydro Claim"), unless caused or contributed to by the gross negligence or wilful misconduct of B.C. Hydro. Powerex will assume, upon request of B.C. Hydro, the defence of all such B.C. Hydro Claims, provided that B.C. Hydro will be entitled to participate in the defence of any such B.C. Hydro Claims and to employ counsel to assist in the handling of any such B.C. Hydro Claims.

15.2. B.C. Hydro Indemnity

B.C. Hydro will indemnify Powerex and hold it harmless against any claims, demands, losses, costs, damages, actions, suits or other proceedings made, sustained, brought or

prosecuted against Powerex by a third party arising out of, or in any way based upon, any act or omission by B.C. Hydro in its operation of the B.C. Hydro System to ensure sufficient energy and capacity is available to serve B.C. Hydro's Domestic Load, satisfy B.C. Hydro's obligations under Interutility Agreements and Gas Utility Contracts, and respond to System Constraints (each, a "Powerex Claim"), unless caused or contributed to by the gross negligence or wilful misconduct of Powerex. B.C. Hydro will assume, upon request of Powerex, the defence of all such Powerex Claims, provided that Powerex will be entitled to participate in the defence of any such Powerex Claims and to employ counsel to assist in the handling of any such Powerex Claims.

15.3. **Consequential Damages**

In no event shall either party be liable to the other or to any third party for incidental, indirect, special or consequential damages, howsoever caused and on any theory of liability, arising out of or related to the performance of this Agreement.

16. DISPUTE RESOLUTION

16.1. **Disputes Defined**

For purposes of this Section 16, "Dispute" means any dispute that arises under or in connection with this Agreement and includes any failure to agree upon the Electricity Transfer Price, the Gas Transfer Price or the amounts contemplated by Section 6.2 or any of the factors that go into determining such prices.

16.2. **Senior Executives**

The parties shall use reasonable efforts to settle all Disputes. In the event any Dispute is not settled within 30 days after the date such Dispute arises, each party shall within 10 days refer the matter in dispute to its Senior Executive. The Senior Executives shall meet within 21 days to attempt to negotiate a resolution of the Dispute. Settlement offers shall not be admissible in any subsequent dispute resolution process.

16.3. **Arbitration**

If the parties have not succeeded in negotiating a resolution of the Dispute within 30 days after the first meeting of the Senior Executives or if the Senior Executives do not meet within 21 days, the parties shall be deemed to be at an impasse and either party may commence arbitration procedures in accordance with this Section. Unless the parties otherwise agree, any arbitration commenced in accordance with this Section 16 shall be determined by a single arbitrator and shall proceed in accordance with the Domestic Commercial Arbitration Rules of Procedure of the British Columbia International Commercial Arbitration Centre, as they may be in force at the time of the arbitration. The arbitrator will not have the jurisdiction to amend or vary the terms of this Agreement except as expressly provided in Section 9.4.

16.4. **Sole Means of Resolving Dispute**

The parties declare that arbitration pursuant to this Section 16 shall be the exclusive means of resolving any Dispute and the determination of the arbitrator shall be final and binding. The parties expressly declare that the arbitrator shall have the express authority to determine the Electricity Transfer Price, the Gas Transfer Price or the amounts contemplated by Section 6.2 in the event of a Dispute.

17. **NOTICES**

17.1. **Notices**

Any notice or other communication provided for herein or given hereunder to a party shall be in writing and shall be delivered by electronic transmission, or in person to the individual listed below:

17.1.1. to Powerex:

Powerex Corp.
Suite 1300, Park Place
666 Burrard Street
Vancouver, British Columbia
V6C 2X8

Attention: Tom Bechard, President and CEO

Email address: tom.bechard@powerex.com

17.1.2. to B.C. Hydro:

British Columbia Hydro and Power Authority
333 Dunsmuir Street
Vancouver, British Columbia
V6B 5R3

Attention: Heather Matthews, Director, Generation System Operations

Email address: heather.matthews@bchydro.com

or such other address with respect to a party as such party shall notify the other in writing as above provided. Notices by electronic transmission shall be deemed given upon verification of successful transmission and notice in person shall be deemed given upon actual delivery.

18. MISCELLANEOUS

18.1. No Partnership or Agency

This Agreement does not create an association, joint venture or partnership between parties or impose any partnership obligation or liability upon either of them. Neither party will have any right, power or authority under this Agreement to enter into any agreement or undertaking for, or act on behalf of, or to act as an agent or representative of, the other.

18.2. Waiver by Agreement

This Agreement and any provision hereof may only be amended, waived, discharged, or terminated by an instrument in writing signed by the party against whom enforcement of the amendment, waiver, discharge, or termination is sought. No waiver or successive waivers by a party of any provision of this Agreement shall operate as a discharge of such covenant, agreement, or condition or render the same invalid or impair the right of one party to enforce the same in the event of any subsequent breach or breaches by the other.

18.3. **Amendments**

If at any time during this Agreement the parties consider it necessary or expedient to make an amendment, supplement, waiver, or other modification to this Agreement they may do so only by means of a written agreement between them.

18.4. **Severability**

If any term, covenant, or condition of this Agreement or application thereof to any person or circumstances shall to any extent be invalid, illegal, or unenforceable in any respect, the remainder of this Agreement or application of such term, covenant, or condition to such person or circumstance other than those as to which it is held invalid, illegal or unenforceable shall not be affected thereby, and each term, covenant, or condition of this Agreement and this Agreement shall be valid and legal and shall be enforced to the fullest extent permitted by law.

18.5. **Complete Agreement**

This Agreement represents the entire agreement of the parties with respect to the subject matter hereof, and for greater certainty, will replace and supersede on the Commencement Date the 2003 TPA and the TPA Amending Agreement dated as of March 9, 2015.

18.6. **Other Agreements**

If there is any conflict between the provisions of this Agreement and any other agreement entered into prior to this Agreement, then the provisions of this Agreement shall control.

18.7. **Governing Laws**

This Agreement and the rights and obligations of the parties hereto shall be governed by and be construed in accordance with the laws of the Province of British Columbia.

18.8. **Assignment**

This Agreement may not be assigned, in whole or in part, by either party without the prior written consent of the other party.

18.9. **Successors And Assigns**

This Agreement is binding upon and shall inure to the benefit of the parties hereto and their respective successors and permitted assigns.

18.10. **Counterparts**

This Agreement may be executed and delivered by electronic means and in two or more counterparts, each of which shall be deemed an original but all of which shall constitute but one instrument.

18.11. **Third Party Beneficiaries**

Except as provided expressly by this Agreement, nothing in this Agreement nor its performance shall be relied upon by third parties or create any rights or obligations to third parties.

[Remainder of page intentionally blank.]

18.12. **Non Restriction**

Nothing in this Agreement is intended to limit Powerex from conducting transactions outside of this Agreement.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of the day and year first above written.

BRITISH COLUMBIA HYDRO AND POWER AUTHORITY

By:_____

POWEREX CORP.

By: _____

APPENDIX A

CALCULATION OF ELECTRICITY TRANSFER PRICE

1. INTERPRETATION

1.1. Interpretation

In this Appendix A, a reference to a section is a reference to a section of this Appendix A unless otherwise specified as referring to the Agreement, in which case the reference refers to a section in the main body of the Agreement.

1.2. Definitions

For purposes of this Appendix A, the following words and terms shall have the following meanings:

1.2.1. "Annual Price" means, for any Transfer Period, the price determined under Section 8.

1.2.2. "Annual Flexible Surplus/Deficit" means, for each Transfer Period, the amount of energy determined as set forth in Section 9.1.

1.2.3. "BPA" means Bonneville Power Administration.

1.2.4. "Deficit Multiplier" means a mutually agreed multiplier included in the Annual Price when the Annual Flexible Surplus/Deficit for a Transfer Period is a negative number, such that the parties agree that the impact on the Electricity Transfer Price resulting from the adjustment of the Weighted Average Price at the end of the Transfer Period reflects the Electricity Transfer Pricing Principle; the Deficit Multiplier will be a value in the range of 0.75-0.95 and is initially 0.85.

1.2.5. "Electricity Transfer Pricing Principle" means the pricing principle established by Section 9.1 of the Agreement;

1.2.6. "Flexible Export Price" means, for any hour during a Transfer Period, the price determined under Section 4.3.

1.2.7. "Flexible Import Price" means, for any hour during a Transfer Period, the price determined under Section 4.2.

1.2.8. "Flexible Price" means, for an hour during a Transfer Period, the price determined under Section 4.1.

1.2.9. "Hourly Index Price" means, for any hour during a Transfer Period, the price determined under Section 6 for that hour.

1.2.10. "Losses" means the BPA average system-wide loss factor (as a percentage) charged under BPA's tariff multiplied by the On-Peak Price or the Off-Peak Price, as the case may be, for the applicable hour, plus any other charges for ancillary services.

1.2.11. "NERC" means the North American Electric Reliability Council or any successor organization.

1.2.12. "Net Scheduled Flexible Quantity to B.C. Hydro" has the meaning set forth in Section 3.1;

1.2.13. "Net Scheduled Flexible Quantity to Powerex" has the meaning set forth in Section 3.1;

1.2.14. "Non-Flexible Export Price" means, for any hour during a Transfer Period, the price determined under Section 5.3.

1.2.15. "Non-Flexible Import Price" means, for any hour during a Transfer Period, the price determined under Section 5.2.

1.2.16. "Non-Flexible Price" means, for any hour during a Transfer Period, the price determined under Section 5.1.

1.2.17. "Off-Peak Hours" means the hours ending 1 through 6 and the hours ending 23 and 24, Monday through Saturday, and all hours on Sunday and NERC holidays.

1.2.18. "Off-Peak Price" means, for an Off-Peak Hour, the ICE Mid-C Off-Peak Index price (in US$/MWh) for that hour.

1.2.19. "On-Peak Hours" means the hours ending 7 through 22, Monday through Saturday, excluding NERC holidays.

1.2.20. "On-Peak Price" means, for an On-Peak Hour, the ICE Mid-C Peak Index price (in US$/MWh) for that hour.

1.2.21. "Scheduled Non-Flexible Quantity to B.C. Hydro" has the meaning set forth in Section 3.2;

1.2.22. "Scheduled Non-Flexible Quantity to Powerex" has the meaning set forth in Section 3.2;

1.2.23. "System Adjustment Value" means, for any Transfer Period, the value determined in accordance with Section 10.

1.2.24. "Surplus Multiplier" means a mutually agreed multiplier included in the Annual Price when the Annual Flexible Surplus/Deficit for a Transfer Period is a positive number, such that the parties agree that the impact on the Electricity Transfer Price resulting from the adjustment of the Weighted Average Price at the end of the Transfer Period reflects the Electricity Transfer Pricing Principle; the Surplus Multiplier will be a value in the range of 1.05-1.25 and is initially 1.15.

1.2.25. "Transfer Volume Account" means, at any time from the first hour on the Commencement Date until the end of term of the Agreement, the volume of electricity (in MWh) determined in accordance with Section 7.

1.2.26. "Transmission Costs" means the rate under the prevailing BPA tariff for hourly non-firm transmission in the applicable hour.

1.2.27. "Weighted Average Price" means, at any time from the first hour on the Commencement Date until the end of term of the Agreement, the weighted average price (in US$/MWh) of each MWh comprising the Transfer Volume Account, determined in accordance with Section 7.

2. CALCULATION OF ELECTRICITY TRANSFER PRICE

2.1. Electricity Transfer Price

For each hour during a Transfer Period, the Electricity Transfer Price will be the weighted average of:

2.1.1. the Flexible Price associated with the volume (if any) of the Net Scheduled Flexible Quantity for that hour; and

2.1.2. the Non-Flexible Price associated with the volume (if any) of the Scheduled Non-Flexible Quantity for that hour.

3. NET SCHEDULED QUANTITIES

3.1. Net Scheduled Flexible Quantities

The parties shall for each hour determine the quantity (in MWh) of:

3.1.1. all electricity scheduled by Powerex to B.C. Hydro pursuant to a Flexible Import Schedule within the hour; and

3.1.2. all electricity scheduled by B.C. Hydro to Powerex pursuant to a Flexible Export Schedule within the hour.

If in an hour the amount (in MWh) of electricity referred to in Section 3.1.1 exceeds the amount of electricity referred to in Section 3.1.2, such excess will be a "Net Scheduled Flexible Quantity to B.C. Hydro", and if in an hour the amount (in MWh) of electricity referred to in Section 3.1.2 exceeds the amount of electricity referred to in Section 3.1.1,

such excess will be a "Net Scheduled Flexible Quantity to Powerex". In each hour during a Transfer Period, the "Net Scheduled Flexible Quantity" will be the Net Scheduled Flexible Quantity to B.C. Hydro or the Net Scheduled Flexible Quantity to Powerex, whichever is applicable.

3.2. **Scheduled Non-Flexible Quantities**

The parties shall for each hour determine the quantity (in MWh) of:

3.2.1. electricity scheduled by Powerex to B.C. Hydro pursuant to a Non-Flexible Import Schedule within the hour, the quantity (in MWh) of such electricity will be a "Scheduled Non-Flexible Quantity to B.C. Hydro"; and

3.2.2. electricity scheduled by B.C. Hydro to Powerex pursuant to a Non-Flexible Export Schedule within the hour, the quantity (in MWh) of such electricity will be a "Scheduled Non-Flexible Quantity to Powerex";

and the "Scheduled Non-Flexible Quantity" for the hour will be the Scheduled Non-Flexible Quantity to B.C. Hydro or the Scheduled Non-Flexible Quantity to Powerex, whichever is applicable.

4. FLEXIBLE PRICE

4.1. **Flexible Price**

In each hour during a Transfer Period, the "Flexible Price" will be:

4.1.1. where there is a Net Scheduled Flexible Quantity to B.C. Hydro in that hour, the Flexible Import Price; and

4.1.2. where there is a Net Scheduled Flexible Quantity to Powerex in that hour, the Flexible Export Price.

4.2. **Flexible Import Price**

In any hour during a Transfer Period in which there is a Net Scheduled Flexible Quantity to B.C. Hydro, the "Flexible Import Price" will be:

4.2.1. if at the beginning of the hour the Transfer Volume Account is zero or a positive amount, the applicable Hourly Index Price specified in Section 6.1; and

4.2.2. if at the beginning of the relevant hour the Transfer Volume Account is a negative amount, the Weighted Average Price, unless and until the Transfer Volume Account during that hour becomes positive as the volume of the associated Net Scheduled Flexible Quantity to B.C. Hydro is added to the Transfer Volume Account, in which case, the "Flexible Import Price" for each MWh of electricity thereafter scheduled as a Net Scheduled Flexible Quantity to B.C. Hydro in that hour shall be the Hourly Index Price applicable thereto.

4.3. **Flexible Export Price**

In any hour during a Transfer Period in which there is a Net Scheduled Flexible Quantity to Powerex, the "Flexible Export Price" will be:

4.3.1. if at the beginning of the relevant hour the Transfer Volume Account is zero or a positive amount, the Weighted Average Price, unless and until the Transfer Volume Account during that hour becomes negative as the volume of the associated Net Scheduled Flexible Quantity to Powerex is subtracted from the Transfer Volume Account, in which case, the "Flexible Export Price" for each MWh of electricity thereafter scheduled as a Net Scheduled Flexible Quantity to Powerex during that hour shall be the Hourly Index Price applicable thereto; and

4.3.2. if at the beginning of the relevant hour the Transfer Volume Account is a negative amount, the applicable Hourly Index Price specified in Section 6.2.

5. NON-FLEXIBLE PRICE

5.1. Non-Flexible Price

In each hour during a Transfer Period, the "Non-Flexible Price" will be:

5.1.1. where there is a Scheduled Non-Flexible Quantity to B.C. Hydro in that hour, the Non-Flexible Import Price; or

5.1.2. where there is a Scheduled Non-Flexible Quantity to Powerex in that hour, the Non-Flexible Export Price.

5.2. Non-Flexible Import Price

In any hour during a Transfer Period in which there is a Scheduled Non-Flexible Quantity to B.C. Hydro, the Non-Flexible Import Price will be the applicable Hourly Index Price specified in Section 6.1.

5.3. Non-Flexible Export Price

In any hour during a Transfer Period in which there is a Scheduled Non-Flexible Quantity to Powerex, the Non-Flexible Export Price will be the applicable Hourly Index Price specified in Section 6.2.

6. HOURLY INDEX PRICE

6.1. Net Delivered or Scheduled Quantities to B.C. Hydro

In any hour during a Transfer Period, the Hourly Index Price applicable to a Net Delivered Quantity to B.C. Hydro, a Net Scheduled Flexible Quantity to B.C. Hydro or a Scheduled Non-Flexible Quantity to B.C. Hydro will be:

6.1.1. for each On-Peak Hour, the price (in US$/MWh) obtained by adding to the On-Peak Price the Transmission Costs and Losses; and

6.1.2. for each Off-Peak Hour, the price (in US$/MWh) obtained by adding to the Off-Peak Price the Transmission Costs and Losses.

6.2. **Net Delivered or Scheduled Quantities to Powerex**

In any hour during a Transfer Period, the Hourly Index Price applicable to a Net Delivered Quantity to Powerex, a Net Scheduled Flexible Quantity to Powerex or a Scheduled Non-Flexible Quantity to Powerex shall be:

6.2.1. for each On-Peak Hour, the price in (US$/MWh) obtained by subtracting from the On-Peak Price for that hour, the Transmission Costs and Losses; and

6.2.2. for each Off-Peak Hour, the price (in US$/MWh) obtained by subtracting from the Off-Peak Price for that hour, the Transmission Costs and Losses.

7. TRANSFER VOLUME ACCOUNT AND WEIGHTED AVERAGE PRICE

7.1. Initial Values of Transfer Volume Account and Weighted Average Price

7.1.1. The volume of the Transfer Volume Account at 12:00 a.m. on the Commencement Date will be the volume (in MWh) of the Trade Account under the 2003 TPA at 11:59 p.m. on March 31, 2020.

7.1.2. The "Weighted Average Price" at 12:00 a.m. on the Commencement Date will be the weighted average price of each MWh in the Trade Account under the 2003 TPA at 11:59 p.m. on March 31, 2020.

7.2. Hourly Adjustments

7.2.1. In each hour of a Transfer Period, the Transfer Volume Account will be adjusted by adding the volume of any Net Scheduled Flexible Quantity to B.C. Hydro in that hour or subtracting the volume of any Net Scheduled Flexible Quantity to Powerex in that hour, as the case may be.

7.2.2. At the time of each hourly adjustment of the Transfer Volume Account, the Weighted Average Price will be adjusted on a weighted average basis, applying the applicable Flexible Price to each MWh of the volume of the adjustment.

7.2.3. There will be no hourly adjustment to the Transfer Volume Account or the Weighted Average Price to account for a Scheduled Non-Flexible Quantity in any hour.

7.3. **Annual Adjustments**

7.3.1. Immediately before the end of each Transfer Period, the Transfer Volume Account will be adjusted by adding the Annual Flexible Surplus/Deficit for the Transfer Period to the Transfer Volume Account (each, an "Annual Surplus Adjustment" if the Annual Flexible Surplus/Deficit for the Transfer Period is a positive amount, or an "Annual Deficit Adjustment" if the Annual Flexible Surplus/Deficit for the Transfer Period is a negative amount).

7.3.2. At the time of each Annual Surplus Adjustment, the Weighted Average Price will be adjusted on a weighted average basis, applying the following price to each MWh of the volume of the Annual Surplus Adjustment:

7.3.2.1. the applicable Annual Price; less

7.3.2.2. the System Adjustment Value divided by the volume of the Annual Surplus Adjustment.

7.3.3. At the time of each Annual Deficit Adjustment, the Weighted Average Price will be adjusted on a weighted average basis, applying the following prices to each MWh of the volume of the Annual Deficit Adjustment:

7.3.3.1. the applicable Annual Price; plus

7.3.3.2. the System Adjustment Value divided by the volume of the Annual Deficit Adjustment.

8. **ANNUAL PRICE**

8.1. **Annual Flexible Surplus/Deficit – Deficit**

The Annual Price for a Transfer Period when the applicable Annual Flexible Surplus/Deficit is a negative number will be:

8.1.1. the simple average of the On-Peak Prices and Off-Peak Prices, as applicable to each hour, for all hours during the Transfer Period, multiplied by the Deficit Multiplier; plus

8.1.2. the applicable Transmission Costs and Losses.

8.2. **Annual Flexible Surplus/Deficit – Surplus**

The Annual Price for a Transfer Period when the applicable Annual Flexible Surplus/Deficit is a positive number will be:

8.2.1. the simple average of the On-Peak Prices and Off-Peak Prices, as applicable to each hour, for all hours during the Transfer Period, multiplied by the Surplus Multiplier; less

8.2.2. the applicable Transmission Costs and Losses.

9. **ANNUAL FLEXIBLE SURPLUS/DEFICIT**

9.1. **Calculation of Annual Flexible Surplus/Deficit**

For each Transfer Period, the Annual Flexible Surplus/Deficit will be determined, for the purposes of this Agreement, as follows:

9.1.1. the total stored energy at B.C. Hydro's large basin reservoirs at the end of the Transfer Period; less

9.1.2. the total stored energy at B.C. Hydro's large basin reservoirs at the beginning of the Transfer Period; less

9.1.3. the net scheduled imports into British Columbia at the British Columbia-United States border during the Transfer Period; plus

9.1.4. the net scheduled third-party imports into British Columbia at the British Columbia-United States border during the Transfer Period, as may be adjusted to appropriately account for net third-party imports occurring within British Columbia; less

9.1.5. the net scheduled imports into British Columbia at the British Columbia-Alberta border during the Transfer Period; plus

9.1.6. the net scheduled third-party imports into British Columbia at the British Columbia-Alberta border during the Transfer Period, as may be adjusted to appropriately account for net third-party imports occurring within British Columbia; less

9.1.7. any electricity purchased in British Columbia by Powerex and sold to B.C. Hydro, including for greater certainty electricity purchased from B.C. Hydro under Sections 5.1 or 5.2 of the Agreement or from independent power producers or other entities; plus

9.1.8. the aggregate amount of Scheduled Non-Flexible Quantities to B.C. Hydro during the Transfer Period; less

9.1.9. the aggregate amount of Scheduled Non-Flexible Quantities to Powerex during the Transfer Period; less

9.1.10. the net amount of electricity scheduled by Powerex to satisfy B.C. Hydro's obligations under Interutility Agreements.

10. SYSTEM ADJUSTMENT VALUE

10.1. System Adjustment Value

At the end of each Transfer Period, B.C. Hydro will determine the net financial value (the "**System Adjustment Value**") of:

10.1.1. the impact resulting from Powerex's decisions on the timing and hourly volume of imports and exports on head gains and losses and on spill in the B.C. Hydro System during the Transfer Period; and

10.1.2. the incremental financial impact on B.C. Hydro associated with Powerex's decisions on the timing and hourly volume of imports and exports on the Scheduled Non-Flexible Quantity in each hour during the Transfer Period.

A positive System Adjustment Value will indicate that the impact of Powerex's decisions on the timing and hourly volume of imports and exports on head gains and losses and on spill in the B.C. Hydro System and the incremental financial impact on B.C. Hydro associated with Powerex's decisions on the timing and hourly volume of imports and exports on the Scheduled Non-Flexible Quantities were net positive during the Transfer Period, and a negative System Adjustment Volume will indicate that such impacts were net negative during the Transfer Period.

11. ICE MID-C INDEX PRICE

For purposes of the calculations in this Appendix A, it is assumed that the ICE Mid-C On-Peak Index Price and the ICE Mid-C Off-Peak Index Price are determined in the manner specified in the "ICE Futures U.S. Rulebook Subchapter 18B – Power Futures Contracts" for those indices and published by ICE in the ICE Day Ahead Power Report for transactions reported at the Mid-C hub. In the event that the ICE Mid-C On-Peak Index Price and the ICE Mid-C Off-Peak Index Price referred to in this Appendix A are no longer determined in the manner described in the foregoing publications, then, if the change is material, either party may, by notice to the other party, seek to renegotiate the then current pricing methodology using the process set out in Section 9.4 of the Agreement.

APPENDIX B

CALCULATION OF GAS TRANSFER PRICE

1. INTERPRETATION

1.1. Definitions

For purposes of this Appendix B the following words and terms shall have the following meanings:

1.1.1. "Agreement" means the Transfer Pricing Agreement to which this Appendix B is attached and of which it forms a part.

1.1.2. "Bid Week" means the last 5 trading days of each calendar month, where a trading day is defined as any day that the Intercontinental Exchange (ICE) is trading physical natural gas.

1.1.3. "Daily Index Price" means any one of the following daily index prices applicable to the sale of Gas from Powerex to B.C. Hydro pursuant to this Agreement, as determined by Powerex in accordance with Section 7.5 of the Agreement:

(a) The "NGX SPECTRA - Stn2 DAY AHEAD AVERAGE" index, as published by Canadian Gas Price Reporter Daily, being the weighted average of all daily fixed price trades at Station 2 on the ICE/NGX platform;

(b) The Midpoint of Northwest, Canadian border (Sumas) index price set out in Gas Daily, as published by Platts, a division of The McGraw-Hill Companies Inc., being the weighted average of all daily fixed price trades at Sumas daily, reported by index participants.

(c) The AECO-NIT Daily Spot gas index price set out in the Canadian Gas Price Reporter, as published by Canadian Enerdata Ltd., being

the volume-weighted average of all gas trades that occur on the NGX trading platform for a particular delivery day.

(d) The Midpoint of PG&E-GTNW, Kingsgate index price, set out in Gas Daily as published by Platts, a division of The McGraw-Hill Companies Inc. being the weighted average of all daily fixed trades at Kingsgate daily, reported by index participants.

1.1.4. "Monthly Index Price" means any one of the following monthly index prices applicable to the sale of Gas from Powerex to B.C. Hydro pursuant to this Agreement, as specified by B.C. Hydro or determined by Powerex in accordance with Section 7.3 of the Agreement:

(a) The Station 2 one-month spot gas index price as set out in Canadian Gas Price Reporter, published by Canadian Enerdata Ltd., being the volume-weighted average of all monthly fixed price trades as reported by index participants.

(b) The Northwest Pipeline Corp., Canadian Border Index price as set out in FERC's gas market report monthly prices of spot gas delivered to pipelines at Sumas, as published by Platts, a division of The McGraw-Hill Companies Inc., being the weighted average of all monthly fixed price trades reported at Sumas during the Bid-Week prior to the month of delivery.

(c) The AECO-NIT One-Month spot gas index price set out in the Canadian Gas Price Reporter, as published by Canadian Enerdata Ltd., being a volume-weighted average of all gas trades that occur on the NGX trading platform for a particular prompt delivery month.

1.2. **Interpretation**

In this Appendix B, references to Sections are references to Sections of this Appendix B unless otherwise specified.

1.3. **Conversion**

Any references to MMBtu's in any Daily Index Price or Monthly Index Price, shall be converted to GJ on the basis that one MMBtu equals 1.055056 GJ's.

1.4. **Index Prices**

In the event that a Monthly Index Price or Daily Index Price, or any other published index price on which the Gas Transfer Price may be based ceases to exist, or ceases to be representative of the price for daily or monthly, as the case may be, fixed price Gas trades, at the applicable trading hub, or the manner of determining such index price materially changes, or if either party wish to use another such index price for any reason, then either party may, by notice to the other party, seek to renegotiate the applicability of that Monthly Index Price or Daily Index Price and a suitable replacement therefore, using the process set out in Section 9.4 of the Agreement.

1.5. **Gas Transfer Price**

The Gas Transfer Prices payable by B.C. Hydro to Powerex are as follows:

1.5.1. the Monthly Index Price as specified by B.C. Hydro or determined by Powerex in accordance with Section 7.3 of the Agreement, for each day in which B.C. Hydro has requested a Specified Contract Quantity for use at a Thermal Generation Plant or for the purpose of serving a Gas Utility Contract, as the case may be; and

1.5.2. the Daily Index Price as specified by B.C. Hydro or determined by Powerex in accordance with Section 7.5 of the Agreement, for each day in which B.C. Hydro has requested an Additional Daily Quantity for use at a Thermal Generation Plant or for the purpose of serving a Gas Utility Contract, as the case may be.

18.12. **Non Restriction**

Nothing in this Agreement is intended to limit Powerex from conducting transactions outside of this Agreement.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of the day and year first above written.

BRITISH COLUMBIA HYDRO AND POWER AUTHORITY

By:_____

POWEREX CORP.

By: _____

18.12. **Non Restriction**

Nothing in this Agreement is intended to limit Powerex from conducting transactions outside of this Agreement.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of the day and year first above written.

BRITISH COLUMBIA HYDRO AND POWER AUTHORITY

By:_____

POWEREX CORP.

By: 

2020 Transfer Pricing Agreement Application

Appendix B

2020 Transfer Pricing Agreement
Annotated Version

Disclaimer: The explanatory notes in this appendix are provided for convenience only. To the extent of any inconsistency between the explanatory notes and the text of the 2020 TPA, the latter prevails.

TRANSFER PRICING AGREEMENT

This Agreement is dated effective as of April 1, 2020:

BETWEEN:

BRITISH COLUMBIA HYDRO AND POWER AUTHORITY, a corporation continued under the Hydro and Power Authority Act

("**B.C. Hydro**")

AND:

POWEREX CORP., a company duly incorporated under the laws of the Province of British Columbia

("**Powerex**")

WHEREAS:

The recitals below set out the context and objectives of the 2020 TPA and are consistent with the recitals contained in the 2003 TPA.

A. B.C. Hydro carries on electrical utility operations in the Province of British Columbia and operates the B.C. Hydro System to: (i) ensure sufficient energy and capacity is available to serve B.C. Hydro's Domestic Load, satisfy B.C. Hydro's obligations under Interutility Agreements and respond to System Constraints; (ii) minimize the cost of serving Domestic Load, satisfying obligations under Interutility Agreements and responding to System Constraints; and (iii) maximize the value of the Residual System Capability;

B. Powerex is engaged in the sale and purchase of energy products, principally with customers and suppliers in other Canadian provinces and the United States, and

purchases transmission and transportation capacity in order to support energy product transactions;

C. The parties wish to confirm the relationship between B.C. Hydro and Powerex under which B.C. Hydro will make the Residual System Capability available exclusively to Powerex, including selling exclusively to Powerex electricity that is surplus to B.C. Hydro's requirements to serve Domestic Load, satisfy obligations under Interutility Agreements and respond to System Constraints, and purchasing exclusively from Powerex electricity required by B.C. Hydro to serve Domestic Load, satisfy obligations under Interutility Agreements and respond to System Constraints that is not supplied from the B.C. Hydro System, and to confirm the manner in which the parties will otherwise purchase and sell electricity to each other to enable B.C. Hydro to maximize benefits to all B.C. Hydro ratepayers and to enhance B.C. Hydro's energy reliability;

D. B.C. Hydro is a purchaser of natural gas and wishes to confirm the relationship between B.C. Hydro and Powerex under which B.C. Hydro will purchase its requirements for natural gas exclusively from Powerex and sell exclusively to Powerex its surplus natural gas; and

E. Both B.C. Hydro and Powerex wish to set out their respective obligations in connection with the foregoing.

NOW, THEREFORE, in consideration of the mutual covenants contained in this Agreement, the parties agree as follows:

1. DEFINITIONS

Each of the Definitions set out below have a specific legal meaning for the purpose of the 2020 TPA. Key Definitions set out below include:

- **Flexible Export Schedule and Flexible Import Schedule as well as Non-Flexible Export Schedule and Non-Flexible Import Schedule. These terms are used to differentiate between schedules where Powerex has discretion over when, and in which quantities to schedule electricity each hour (flexible) and schedules where BC Hydro requests Powerex to import or export specific quantities each hour (non-flexible). For further information on why this distinction is important, refer to section 5.1.4 of the Application.**

- **Net Delivered Quantity to BC Hydro and Net Delivered Quantity to Powerex which are defined terms to refer to net imports in a given hour and net exports in a given hour, respectively. Determining the net amount is important because, in a given hour, there may be both imports (deliveries to BC Hydro) and exports (deliveries to Powerex). Net delivered quantities are what is purchased and sold between BC Hydro and Powerex. In any hour, there may be either a Net Delivered Quantity to BC Hydro or a Net Delivered Quantity to Powerex but not both.**

- **Residual System Capability refers to the ability of the system, as determined by BC Hydro, to allow imports or exports, after satisfying all requirements/obligations and responding to all constraints. Powerex utilizes the Residual System Capability to generate net income by making offsetting purchases and sales that are timed to take advantage of market prices. The net income generated from this activity benefits ratepayers by offsetting BC Hydro's revenue requirements.**

1.1. Definitions

In this Agreement:

1.1.1. "2003 TPA" means the Transfer Pricing Agreement dated as of April 1, 2003 between B.C. Hydro and Powerex, as amended;

1.1.2. "Additional Daily Quantity" has the meaning set forth in Section 7.4;

1.1.3. "Agreement" means this transfer pricing agreement, together with any appendices, as amended from time to time;

1.1.4. "B.C. Hydro System" means the reservoirs and all generating resources and related facilities that are owned or controlled by B.C. Hydro, and includes

long-term supply contracted by B.C. Hydro from time to time from independent power producers or others;

1.1.5. "Canadian Entitlement" means at any time the downstream power benefits to which Canada is then entitled as described in Articles V(1) and VII of the Columbia River Treaty;

1.1.6. "Columbia River Treaty" means the "Treaty between Canada and the United States of America relating to the Cooperative Development of the Water Resources of the Columbia River Basin" including its Annexes A and B" signed at Washington, District of Columbia, United States of America on the 17th day of January, 1961, and the Protocol brought into force by exchange of instruments of ratification and an exchange of notes on September 16, 1964, as may be amended, supplemented or replaced;

1.1.7. "Commencement Date" means April 1, 2020;

1.1.8. "Domestic Gas Requirements" means the quantity of Gas required by B.C. Hydro for its Thermal Generation Plants to serve Domestic Load, satisfy B.C. Hydro's obligations under Interutility Agreements and Gas Utility Contracts, and respond to System Constraints;

1.1.9. "Domestic Load" means load that B.C. Hydro is obligated to serve under its electricity tariffs by reason of its status as a public utility, including transmission losses within the Province of British Columbia;

1.1.10. "Electricity Transfer Price" means, for an hour, the price (in US$/MWh) set forth in Appendix A for electricity sold or purchased on or after the Commencement Date between B.C. Hydro and Powerex pursuant to Section 4.9 of this Agreement;

1.1.11. "Flexible Export Schedule" means a schedule of electricity described in Section 4.3.1 and, subject to Section 4.6, any schedule deemed to be a Flexible Export Schedule in Section 4.5;

1.1.12. "Flexible Import Schedule" means a schedule of electricity described in Section 4.2.1, a Skagit Schedule, and, subject to Section 4.6, any schedule deemed to be a Flexible Import Schedule in Section 4.5;

1.1.13. "Force Majeure" means any event or circumstance not within the reasonable control of the party seeking to suspend its performance of an obligation, and not avoidable by that party's reasonable diligence, and subject to the foregoing includes: a strike, lockout or labour dispute; an act of God; inability to obtain labour or (other than as set out below relating to supply of electricity or Gas) materials; laws, ordinances, rules, regulations or orders of governmental authorities; enemy or hostile action; civil commotion; fire or other casualty, but does not include: (i) any condition or cause which is the result of the negligence of the claiming party, or which by the exercise of due diligence, the claiming party is or would be able to avoid, cause to be avoided, or overcome; or (ii) lack of finances; (iii) any inability of the claiming party to use or resell the electricity or Gas purchased hereunder; or (iv) the loss or failure of the claiming party's supply of electricity or Gas, if the claiming party is the seller;

1.1.14. "Fort Nelson" means the gas-fired generating plant owned by B.C. Hydro and located in Fort Nelson, British Columbia;

1.1.15. "Gas" means natural gas;

1.1.16. "Gas Delivery Point" means:

1.1.16.1.for Gas purchased for use at a Thermal Generation Plant, the recognized custody transfer point between the applicable Thermal Generation Plant and the gas pipeline that serves it; and

1.1.16.2.for Gas purchased for the purpose of serving the Gas Utility Contracts, the delivery point(s) specified in the Gas Utility Contracts;

1.1.17. "Gas Losses" means for each day, all lost and unaccounted for Gas and Gas burned to fuel compressors, from the applicable Gas Transfer Point to the applicable Gas Delivery Point;

1.1.18. "Gas Transfer Point" means:

1.1.18.1. with respect to Gas forming part of a Specified Contract Quantity, any of the points at which the index prices set out in Section 1.1.4 of Appendix B are determined; and

1.1.18.2. with respect to Gas forming part of an Additional Daily Quantity, any of the points at which the index prices set out in Section 1.1.3 of Appendix B are determined;

1.1.19. "Gas Transfer Price" means the price determined in accordance with Section 1.5 of Appendix B;

1.1.20. "Gas Utility Contracts" means any agreement between B.C. Hydro and one or more third parties in effect from time to time that provides for the supply of Gas by B.C. Hydro on a firm or interruptible basis, but excludes agreements whose purpose is the purchase and sale of gas or gas transportation for profit;

1.1.21. "Island Generation" means the gas-fired generating plant located at Elk Falls, British Columbia;

1.1.22. "Imbalance Charges" means any fees, penalties, costs or charges (in cash or in kind) assessed by the applicable transportation provider(s) in respect of the Transportation Capacity, for failure to satisfy the transportation balance and nomination requirements;

1.1.23. "Interutility Agreement" means:

1.1.23.1. an agreement between B.C. Hydro and one or more third parties related to the coordination of generation, transmission and/or reservoir operations;

1.1.23.2. an agreement between B.C. Hydro and one or more balancing authorities or reliability entities for the purpose of maintaining transmission and generation system reliability;

1.1.23.3. an agreement between B.C. Hydro and one or more third parties relating to international treaty obligations of Canada;

1.1.23.4. an agreement under which B.C. Hydro exports electricity pursuant to a border accommodation electricity export permit issued by the National Energy Board or any successor permit; or

1.1.23.5. any other agreement with one or more third parties under which B.C. Hydro imports or exports electricity to or from the B.C. Hydro System,

but excludes agreements whose purpose is the purchase and sale of transmission or electricity products and services for B.C. Hydro's profit;

1.1.24. "Net Delivered Quantity to B.C. Hydro" has the meaning set forth in Section 4.8;

1.1.25. "Net Delivered Quantity to Powerex" has the meaning set forth in Section 4.8;

1.1.26. "Non-Flexible Export Schedule" means a schedule of electricity described in Section 4.3.2 and any schedule deemed to be a Non-Flexible Export Schedule in Section 4.6;

1.1.27. "Non-Flexible Import Schedule" means a schedule of electricity described in Section 4.2.2 and any schedule deemed to be a Non-Flexible Import Schedule in Section 4.6;

1.1.28. "Open Access Transmission Tariff" means the tariff under which B.C. Hydro provides open-access non-discriminatory services on the Transmission System, as amended from time to time, and including any successor tariff;

1.1.29. "Prime Rate" means the annual rate of interest published by B.C. Hydro's principal banker from time to time as its prime rate;

1.1.30. "Residual System Capability" means, at any time and as determined by B.C. Hydro in its sole discretion, the capability of the B.C. Hydro System, while all Domestic Load requirements and Interutility Agreement obligations (including pursuant to operating procedures) are being satisfied and System Constraints are being responded to, to allow purchases of electricity products and services by B.C. Hydro from Powerex and/or to allow sales of electricity products and services from B.C. Hydro to Powerex;

1.1.31. "RPG" means the gas-fired generating plant owned by B.C. Hydro and located in Prince Rupert, British Columbia;

1.1.32. "Senior Executive" means, for a party, its Chief Executive Officer or such other senior executive with primary responsibility for this Agreement from time to time, or duly appointed delegate;

1.1.33. "Skagit Schedule" has the meaning set forth in Section 4.7;

1.1.34. "Specified Contract Quantity" has the meaning set forth in Section 7.2;

1.1.35. "Specified Quantity Request" has the meaning set forth in Section 4.5;

1.1.36. "System Constraints" means any outage, suspension, constraint or curtailment in the operation of the B.C. Hydro System or the Transmission System, including forced outages on the B.C. Hydro System, forced outages on the Transmission System, and constraints arising as a result of minimum or maximum generation requirements or environmental, regulatory, or reservoir management requirements;

1.1.37. "Thermal Generation Plants" means the gas-fired generation plants owned or under the control of B.C. Hydro from time to time including Fort Nelson, Island Generation and RPG;

1.1.38. "Transfer Period" means, commencing on the Commencement Date, any one-year period from April 1st until March 31st;

1.1.39. "Transfer Pricing Principle" means the pricing principles established by Sections 9.1 and 9.2;

1.1.40. "Transmission System" means the transmission system owned or operated by B.C. Hydro;

1.1.41. "Transportation Capacity" has the meaning set forth in Section 7.8;

1.1.42. "Variable Operating Costs" means all incremental costs incurred by B.C. Hydro in respect of generation at the Thermal Generation Plants at the request of and for purchase by Powerex pursuant to Sections 5.1 or 5.2, as determined in good faith from time to time by B.C. Hydro; and

1.1.43. "Variable Transportation Costs" means all incremental transportation costs incurred by B.C. Hydro in respect of the use of the Transportation Capacity by Powerex for the purposes of trade.

1.2. Other Defined Terms

Capitalized words or phrases appearing in this Agreement that are defined in the appendices to this Agreement shall have the meanings ascribed to them in the appendices.

1.3. Interpretation

References in this Agreement to sections are references to sections of the body of the Agreement, unless otherwise specified as referring to a section in an appendix. All references in this Agreement to appendices are to the appendices attached to this Agreement. Reference to any party includes any permitted successor or assignee. The term "including" followed by descriptive words is used in this Agreement by way of example only and is not intended to limit the scope of the provision. The headings used in this Agreement are for convenience and reference purposes only.

2. TERM

The 2020 TPA was effective on April 1, 2020.

2.1. Term

The effective date of this Agreement is April 1, 2020, notwithstanding the actual date of execution or the Commencement Date. This Agreement shall continue in full force and effect until terminated by mutual agreement of the parties or as provided in Section 2.3.

2.2. Transitional Payment

This section settles any outstanding financial or energy obligations between BC Hydro and Powerex, as represented by the balance in the Trade Account under the 2003 TPA, upon the retirement of the 2003 TPA.

2.2.1. If there is a positive balance in the Trade Account under the 2003 TPA at 12:00 a.m. on April 1, 2020, B.C. Hydro will pay to Powerex in a timely manner the amount obtained by multiplying the volume in MWh of the positive balance in the Trade Account under the 2003 TPA by the weighted average price of each MWh in the Trade Account under the 2003 TPA, in each case at 12:00 a.m. on April 1, 2020.

2.2.2. If there is a negative balance in the Trade Account under the 2003 TPA at 12:00 a.m. on April 1, 2020, Powerex will pay to B.C. Hydro in a timely manner the amount obtained by multiplying the volume in MWh of the negative balance in the Trade Account under the 2003 TPA by the weighted average price of each MWh in the Trade Account under the 2003 TPA, in each case at 12:00 a.m. on April 1, 2020.

2.3. Early Termination

Either party may terminate this Agreement at the end of a Transfer Period provided that written notice is given to the other party at least 60 days prior to the end of the applicable Transfer Period; for greater certainty, notice of termination given in the 60-day period prior to the end of a Transfer Period will have no effect. A termination effected by notice given in accordance with this section will take effect immediately following the annual

adjustments for the Transfer Period provided for in Section 7.3 of Appendix A (the "Early Termination Time").

2.4. Negotiation of New Transfer Pricing Agreement

Following the delivery of a notice of termination by either party under Section 2.3, the parties will negotiate a new agreement to confirm the relationship under which the parties will purchase and sell electricity and natural gas to each other following termination of this Agreement, including provisions to address any existing commitments or liabilities of the parties that exist on and extend beyond the termination of this Agreement.

2.5. Effect of Termination

Notwithstanding any termination of this Agreement, provisions respecting obligations which have arisen or accrued prior to the date of termination will continue in full force and effect in accordance with their respective terms until such obligations have been fully satisfied.

2.6. Calculation of Net Settlement Amount on Termination

This section explains how financial obligations between BC Hydro and Powerex are settled in the event that the 2020 TPA is terminated. It refers to the Transfer Volume Account which replaces the Trade Account under the 2003 TPA. For further information on the Transfer Volume Account, refer to section 5.1 of the Application.

2.6.1. Within seven days of the Early Termination Time, the parties will, in good faith and in a commercially reasonable manner, determine the value of the gains or losses applicable to the Transfer Volume Account. The parties will determine the value of any such gains and losses by (i) calculating the market value of the volume in the Transfer Volume Account at the replacement or resale price (as applicable) at the British Columbia-United States border, relative to (ii) the value of the Transfer Volume Account determined by multiplying the volume in the Transfer Volume Account by the Weighted Average Price discounted to present value. If consideration for any such gains or losses is included in the terms of a new or replacement transfer pricing agreement, then any gains or losses under this Agreement will be zero.

2.6.2. The parties will aggregate such gains or losses and any other amounts then owing but unpaid in respect of the period prior to the Termination Date into a single net amount (the "Net Settlement Amount").

2.6.3. The party owing the Net Settlement Amount will pay the party owed the Net Settlement Amount such amount, in cash, within three business days of the parties agreeing to such calculation.

3. RESIDUAL SYSTEM CAPABILITY

Consistent with the 2003 TPA, the 2020 TPA makes the Residual System Capability available exclusively to Powerex. Among other things, the Transfer Volume Account tracks imports and exports associated with Powerex's use of the Residual System Capability and represents contractual (not physical) rights and obligations between BC Hydro and Powerex.

3.1. Residual System Capability

B.C. Hydro shall make the Residual System Capability available exclusively to Powerex to support the sale and purchase to or from third parties of electricity products and services by Powerex. For greater certainty, B.C. Hydro is not providing any storage services to Powerex under this Agreement.

4. PURCHASE AND SALE OF ELECTRICITY

4.1. Purchase and Sale of Electricity

This section sets out the responsibilities of BC Hydro and Powerex with regard to the purchase and sale of electricity. In particular, BC Hydro and Powerex must act in good faith and communicate information to support the objective of maximizing benefits to ratepayers and enhancing energy reliability.

B.C. Hydro shall purchase and sell electricity exclusively from and to Powerex as contemplated by this Agreement, and in doing so, B.C. Hydro will make electricity available to Powerex and Powerex will make import and export decisions, both acting in good faith and with the objectives of enabling B.C. Hydro to maximize benefits to all B.C. Hydro ratepayers and enhancing B.C. Hydro's energy reliability. In support of this objective, B.C. Hydro will communicate to Powerex on a regular basis forecasts of the anticipated electricity surplus or deficit and the Residual System Capability in the B.C. Hydro System and Powerex will communicate to B.C. Hydro on a regular basis

forecasts of its anticipated electricity import and export activities, and both parties will regularly communicate to each other any anticipated constraints referred to in Section 4.4 on their abilities to satisfy their obligations under this Part 4, all in accordance with Section 10.1.

4.2. Schedules to B.C. Hydro

As discussed in the note to the Definitions section above, the 2020 TPA differentiates between flexible and non-flexible schedules of electricity.

Powerex has discretion to determine Flexible Import Schedules (to BC Hydro) and Flexible Export Schedules (to Powerex), subject to constraints (section 4.4) and Specified Quantity Requests (section 4.5).

Non-Flexible Import Schedules (e.g., imports that are required to meet peak winter demand) and Non-Flexible Export Schedules (e.g., forced exports due to minimum generation requirements exceeding load) are schedules requested by BC Hydro (i.e., Powerex does not have discretion to determine the timing).

Subject to Sections 4.4 and 4.5:

4.2.1. Powerex may at any time and in its discretion schedule electricity to B.C. Hydro on an hourly or sub-hourly basis, including electricity that Powerex has purchased from B.C. Hydro under Sections 5.1 or 5.2 or from independent power producers or other entities within British Columbia (each, a "Flexible Import Schedule"); and

4.2.2. Powerex will schedule electricity to B.C. Hydro on an hourly or sub-hourly basis as requested by B.C. Hydro for the purposes of serving Domestic Load requirements, satisfying Interutility Agreement obligations (including under any operating procedures), and responding to System Constraints, and, for greater certainty, Powerex may schedule for that purpose electricity that Powerex has purchased from B.C. Hydro under Sections 5.1 or 5.2 or from independent power producers or other entities within British Columbia (each, a "Non-Flexible Import Schedule").

4.3. Schedules to Powerex

Subject to Sections 4.4 and 4.5:

4.3.1. B.C. Hydro will at Powerex's request at any time schedule electricity to Powerex on an hourly or sub-hourly basis (each, a "Flexible Export Schedule"); and

4.3.2. Powerex will accept a schedule of electricity from B.C. Hydro on an hourly or sub-hourly basis as requested by B.C. Hydro for the purposes of responding to System Constraints (each, a "Non-Flexible Export Schedule").

4.4. Constraints on Scheduling

The rights and obligations of the parties to schedule electricity under Sections 4.2, 4.3, 4.5, 4.6, and 4.7 shall be subject to:

4.4.1. availability of Residual System Capability;

4.4.2. applicable laws and/or limitations imposed on the parties by regulatory authorities with jurisdiction over their respective operations;

4.4.3. B.C. Hydro's rights under the Open Access Transmission Tariff to use, and any constraints on, the Transmission System;

4.4.4. Powerex's rights to use, and any constraints on, any transmission facilities required for Powerex to deliver or receive electricity to or from B.C. Hydro, as determined by Powerex at the time of the applicable request by B.C. Hydro; and

4.4.5. Powerex's ability, as determined by Powerex at the time of the applicable request by B.C. Hydro, to purchase or sell electricity to or from external markets, provided that Powerex is complying with its obligations under Section 4.1 and, if requested by B.C. Hydro, provides B.C. Hydro with the reason(s) for its inability to satisfy such request.

4.5. Long-Term System Requirements

Under the 2003 TPA, BC Hydro could set a Threshold Purchase Price or Threshold Sale Price but had no mechanism to request that Powerex schedule a specific aggregate quantity of electricity to/from the BC Hydro System.

Under the 2020 TPA, BC Hydro can issue a Specified Quantity Request to Powerex to schedule a specified aggregate quantity of electricity to/from the BC Hydro System over a specified time period for the purpose of serving Domestic Requirements.

This mechanism also represents an improvement relative to the 2018 Letter Agreement and 2019 Letter Agreement because it addresses the physical (and financial) supply risks not only with BC Hydro's system import needs but also its system export needs. For more information on the Letter Agreements, refer to section 2.5.5 of the Application.

In response to a Specified Quantity Request, Powerex retains the discretion to determine when, and in what quantity, to schedule the electricity to meet its aggregate obligation to BC Hydro. Accordingly, net exports and net imports in response to a Specified Quantity Request are flexible, unless determined to be in response to an Extraordinary Event (see section 4.6).

In addition to and without limiting B.C. Hydro's rights under Sections 4.2.2 and 4.3.2, B.C. Hydro may in its discretion from time to time request in writing that Powerex schedule a specified aggregate quantity of electricity to or from the B.C. Hydro System over a specified period of time for the purposes of serving Domestic Load requirements, satisfying Interutility Agreement obligations (including under any operating procedures), and responding to System Constraints (each request, a "Specified Quantity Request"). Subject to the conditions listed in Section 4.4, Powerex will schedule the aggregate amount of electricity subject to a Specified Quantity Request to or from the B.C. Hydro System during the specified period of time, provided that Powerex will in its discretion determine when and in what quantities each hour to schedule such aggregate amount of electricity in order to satisfy its obligation to B.C. Hydro under this Section 4.5. Subject to Section 4.6, any such schedules will be deemed for the purposes of this Agreement to be either a Flexible Import Schedule or Flexible Export Schedule, as the case may be. B.C. Hydro may from time to time revoke or replace any Specified Quantity Request made under this Section 4.5.

4.6. Extraordinary Event

Net imports and net exports in response to a Specified Quantity Request are considered to be flexible unless the Senior Executives of BC Hydro and Powerex agree that they were made to respond to an extraordinary, significant and reasonably unforeseeable event that required substantial ongoing imports or exports, outside the ordinary course of Powerex's business in order to meet its obligation to BC Hydro.

If agreed in writing by the Senior Executives of the parties that a Specified Quantity Request was necessary to respond to an extraordinary, significant and reasonably unforeseeable event that would require Powerex to make substantial ongoing imports or exports of electricity outside of the ordinary course of Powerex's business in order to meet its obligation to import or export the aggregate amount of electricity subject to a Specified Quantity Request, any schedules required to implement the Specified Quantity Request will be deemed for the purposes of this Agreement to be either a Non-Flexible Import Schedule or Non-Flexible Export Schedule, as the case may be. For greater certainty, variations in forecasted load or hydrology or outages occurring in the normal course of business will not be considered to be extraordinary, significant and reasonably unforeseeable events for the purposes of this Section 4.6.

4.7. External Deliveries to Satisfy B.C. Hydro Interutility Agreement Obligations

In 1984, the Government of B.C. and the City of Seattle signed an agreement concerning the supply of electricity to the City of Seattle. The Government of B.C. subsequently assigned certain rights and obligations from this agreement to BC Hydro and BC Hydro subsequently assigned certain obligations, related to the delivery of electricity, to Powerex.

Powerex has discretion to supply electricity to Seattle City Light from the BC Hydro System or from sources outside the BC Hydro System.

The electricity associated with this obligation is accounted for under the 2020 TPA as a BC Hydro load. This section sets out the required payment and adjustments if Powerex meets this obligation with electricity from outside the B.C. Hydro System.

The parties acknowledge that, pursuant to certain agreements among the Province of British Columbia, the City of Seattle (including its division Seattle City Light) and B.C. Hydro, B.C. Hydro is the assignee of certain obligations to deliver electricity to Seattle City Light, and that B.C. Hydro subsequently assigned to Powerex certain of the operating obligations as they relate to delivery of electricity (the "**Skagit Agreements**"). In connection with Powerex delivering electricity under the Skagit Agreements, Powerex

has the discretion whether to supply electricity to Seattle City Light from the B.C. Hydro System or from sources outside of the B.C. Hydro System. If, in an hour, Powerex schedules energy to Seattle City Light that it has acquired from sources outside of the B.C. Hydro System to satisfy the obligations under the Skagit Agreements (each, a "**Skagit Schedule**"):

4.7.1. the Skagit Schedule in that hour will be deemed to be a Flexible Import Schedule for the purposes of Section 3.1.1 of Appendix A; and

4.7.2. B.C. Hydro will pay Powerex the amount obtained by multiplying each MWh associated with the Skagit Schedule in that hour by the applicable Flexible Import Price. For greater certainty, the MWh associated with the Skagit Schedule will not be included in the Net Delivered Quantity to B.C. Hydro calculated in Section 4.8.1 for the hour, and no additional amounts will be payable under Section 4.10 in respect of the MWh associated with the Skagit Schedule.

In the event that B.C. Hydro and Powerex enter into any similar agreement whereby Powerex supplies electricity to a party located outside of the B.C. Hydro System and has the discretion to supply such electricity from a source outside of the B.C. Hydro System, the parties agree that the provisions of this Section 4.7 will apply similarly to any such agreement.

4.8. Determination of Net Delivered Quantities

In any hour, there may be one or more scheduled deliveries, between BC Hydro and Powerex, both into and out of the BC Hydro system. The sum of the actual deliveries in an hour results in either a net import or a net export or exactly 0 MW from the BC Hydro system. As with the 2003 TPA, the net import or net export in a given hour is what is purchased or sold under the 2020 TPA.

This section sets out how these amounts are determined – in particular, electricity scheduled by Powerex from outside the BC Hydro System to satisfy BC Hydro's Interutility Agreements (e.g., the agreement with Seattle City Light), is excluded from the Net Delivered Quantities under section 4.8.1 because BC Hydro is already paying for that energy under section 4.7.1. When BC Hydro-sourced energy is used to satisfy the Interutility Agreements, the delivery from BC Hydro to Powerex is excluded from section 4.8.2 because it is BC Hydro energy, being used to serve a BC Hydro load obligation, and therefore, should not impact the Net Delivered Quantities.

Electricity purchased by Powerex pursuant to a request from Powerex to BC Hydro to generate electricity at its Thermal Generation Plants is also excluded from the net export amount because the price paid by Powerex to BC Hydro for this electricity is calculated differently (see section 5.1). As Powerex now owns that energy, it is included under section 4.8.1 as a delivery from Powerex to BC Hydro.

The parties shall for each hour determine the quantity (in MWh) of:

4.8.1. all electricity actually delivered by Powerex to B.C. Hydro under this Agreement within the hour; and

4.8.2. all electricity actually delivered by B.C. Hydro to Powerex under this Agreement within the hour, excluding any electricity delivered to Powerex under Sections 5.1 or 5.2 and any electricity delivered to Powerex and then scheduled by Powerex to satisfy B.C. Hydro's obligations under Interutility Agreements.

If in an hour the amount (in MWh) of electricity referred to in Section 4.8.1 exceeds the amount of electricity referred to in Section 4.8.2, such excess will be a "Net Delivered Quantity to B.C. Hydro", and if in an hour the amount (in MWh) of electricity referred to in Section 4.8.2 exceeds the amount of electricity referred to in Section 4.8.1, such excess will be a "Net Delivered Quantity to Powerex".

4.9. Purchase and Sale of Electricity

In each hour of a Transfer Period:

4.9.1. B.C. Hydro will purchase from Powerex and Powerex will sell to B.C. Hydro any Net Delivered Quantity to B.C. Hydro; and

4.9.2. Powerex will purchase from B.C. Hydro and B.C. Hydro will sell to Powerex any Net Delivered Quantity to Powerex.

4.10. Payments for Electricity Transactions

The parties acknowledge and agree that:

4.10.1. B.C. Hydro will pay to Powerex the amount obtained by multiplying each MWh associated with the sale of a Net Delivered Quantity to B.C. Hydro by the applicable Electricity Transfer Price; and

4.10.2. Powerex will pay to B.C. Hydro the amount obtained by multiplying each MWh associated with the sale of a Net Delivered Quantity to Powerex by the applicable Electricity Transfer Price.

4.11. Annual Payment for Wear and Tear Associated with Powerex Import and

Import and export decisions by Powerex can either increase or decrease wear and tear on the BC Hydro System because those decisions can either reduce or increase starts and stops and cycling of generating units.

This section allows BC Hydro to develop and implement a procedure to determine payments between BC Hydro and Powerex related to wear and tear resulting from Powerex's import and export decisions under the 2020 TPA.

Export Decisions

4.11.1. B.C. Hydro will, acting reasonably, develop and implement a procedure that will: (a) outline the factors that B.C. Hydro will take into account in determining whether or not Powerex's import and export decisions during a Transfer Period will result in increased or decreased wear and tear on the B.C. Hydro System (each, a "Wear and Tear Determination"); and (b) provide: (i) the method by which wear and tear on the B.C. Hydro System

is calculated and attributed to Powerex's import and export decisions; and (ii) the methodology for determining the cost of, or cost saved in respect of, the increased or decreased wear and tear subject to the Wear and Tear Determination. B.C. Hydro may amend or replace such procedure from time to time, provided that any amended or replacement procedure will only take effect for the purposes of Section 4.11.2 on the first day of the next Transfer Period.

4.11.2. If B.C. Hydro determines, in accordance with a procedure established pursuant to Section 4.11.1, that Powerex's import and export decisions during a Transfer Period have resulted in increased or decreased wear and tear on the B.C. Hydro System for a Transfer Period, B.C. Hydro will notify Powerex of such determination (including the applicable cost) within 30 days after the end of the Transfer Period. Provided that Powerex received a copy of the procedure referred to in Section 4.11.1 (including any applicable amendments) prior to the beginning of the applicable Transfer Period, Powerex will pay to B.C. Hydro within a further 30 days the amount determined by B.C. Hydro in accordance with such procedure to be the cost of the applicable increase in wear and tear, or B.C. Hydro will pay to Powerex the amount determined by B.C. Hydro in accordance with such procedure to be the cost saved as a result of any the applicable decrease in wear and tear.

4.12. Maintenance Schedules

B.C. Hydro will use commercially reasonable efforts to schedule the maintenance of the B.C. Hydro System in as efficient a manner as possible to optimize the capability of the B.C. Hydro System and to assist the parties in achieving the objectives of enabling B.C. Hydro to maximize benefits to all B.C. Hydro ratepayers and enhancing B.C. Hydro's energy reliability.

4.13. Increase in Residual System Capability

There may be changes to the operation of the B.C. Hydro System that BC Hydro can make to increase the Residual System Capability over a specified period. Powerex may make a request to BC Hydro to increase the Residual System Capability to accommodate increased imports or increased exports and if BC Hydro determines to do so, this section allows BC Hydro to receive payment from Powerex for any associated incremental cost.

Powerex may from time to time request that B.C. Hydro consider increasing the Residual System Capability over a specified period to support a higher level of electricity import or export activity under Sections 4.2.1 and 4.3.1. B.C. Hydro will review any such request and consider whether there are changes that may be made in the operation of the B.C. Hydro System to accommodate the request. If B.C. Hydro determines in its sole discretion that it is desirable and in keeping with B.C. Hydro's obligations under Section 4.1 to make changes in the operation of the B.C. Hydro to increase the Residual System Capability to accommodate the request by Powerex, B.C. Hydro will notify Powerex reasonably in advance of the proposed change in operation and of the associated incremental costs, if any, that B.C. Hydro intends to charge to Powerex. Powerex may retract its request at any time prior to the implementation of the change in operation, provided that Powerex will reimburse B.C. Hydro for any incremental costs incurred by B.C. Hydro in taking steps to implement the change in operation prior to the retraction. Provided that Powerex was notified reasonably in advance of any incremental costs associated with a change of operation of the B.C. Hydro System to accommodate a request made by Powerex under this Section 4.13 and did not retract its request, Powerex will reimburse B.C. Hydro for the associated incremental costs if B.C. Hydro changes the operation of the B.C. Hydro System to increase Residual System Capability as requested by Powerex.

5. GAS-FIRED GENERATION PLANTS

5.1. Transfer to Powerex from B.C. Hydro's Gas-Fired Generation Plants

Powerex can request that BC Hydro generate electricity at its Thermal Generation Plants, if that generating capacity is not required to serve Domestic Loads, satisfy Interutility Agreement obligations or respond to System Constraints. As with the 2003 TPA, if BC Hydro agrees, Powerex will pay for that electricity as follows:

a) Powerex will supply, at its own cost, all natural gas required to generate that electricity
b) Powerex will pay BC Hydro the variable operating costs to generate that electricity
c) Powerex will pay BC Hydro any variable transportation costs incurred by BC Hydro to deliver the natural gas to the Thermal Generation Plant

At any time when the generating capacity of the Thermal Generation Plants is not required to serve Domestic Load, satisfy B.C. Hydro's obligations under Interutility Agreements or respond to System Constraints, B.C. Hydro may, at the request of Powerex, operate such Thermal Generation Plants to generate electricity. If B.C. Hydro agrees to Powerex's request, B.C. Hydro will sell to Powerex and Powerex will purchase all such electricity generated pursuant to Powerex's request, provided that Powerex will supply, at its own cost, all Gas required to generate the requested electricity and pay to B.C. Hydro the Variable Operating Costs to generate the requested electricity and any Variable Transportation Costs incurred by B.C. Hydro to deliver the Gas to the Thermal Generation Plant and no further payment will be payable by Powerex to B.C. Hydro in respect of the sale and purchase of such electricity. In the event that a Thermal Generation Plant is being operated to generate electricity both for B.C. Hydro's use and at Powerex's request in the same hour, the quantity of electricity generated at Powerex's request shall be the aggregate quantity of electricity measured at the relevant generation meter for the applicable Thermal Generation Plant less the amount of generation requested by B.C. Hydro. Otherwise, the quantity of electricity generated at Powerex's request will be as measured at the relevant generation meter for the applicable Thermal Generation Plant. Electricity purchased by Powerex under this Section 5.1 shall be made available and title and risk of loss shall pass from B.C. Hydro to Powerex at the point of interconnection between the applicable Thermal Generation Plant and the Transmission System.

5.2. Powerex Option to Purchase Thermal Generation

At any time when B.C. Hydro is operating any of the Thermal Generation Plants for its own purposes, Powerex will have the option, exercisable by notice in writing to B.C. Hydro, to purchase from B.C. Hydro the electricity generated by that operation on the terms set out in Section 5.1 for the purchase by Powerex of electricity from a Thermal Generation Plant, including with respect to the supply of Gas by Powerex and the payment by Powerex of the Variable Operating Costs and any Variable Transportation Costs. Electricity purchased by Powerex under this Section 5.2 shall be made available and title and risk of loss shall pass from B.C. Hydro to Powerex at the point of interconnection between the applicable Thermal Generation Plant and the Transmission System.

6. DELIVERY POINT, TRANSMISSION CHARGES, ANCILLARY SERVICES. SCHEDULING

6.1. Delivery Point, Title and Risk

Unless the parties agree otherwise:

6.1.1. subject to Sections 6.1.2 and 6.1.3, electricity sold and purchased under this Agreement shall be made available, and title and risk of loss shall pass from the seller to the buyer, at either the British Columbia-United States border or the British Columbia-Alberta border, as determined by Powerex;

6.1.2. electricity purchased by Powerex under Sections 5.1 or 5.2 and then sold to B.C. Hydro under this Agreement shall be made available and title and risk of loss shall pass from Powerex to B.C. Hydro at the point of interconnection between the applicable Thermal Generation Plant and the Transmission System; and

6.1.3. electricity purchased by Powerex from independent power producers or other entities in British Columbia and sold to B.C. Hydro under this Agreement shall be made available and title and risk of loss shall pass from

Powerex to B.C. Hydro at the point of interconnection between the third party and the Transmission System.

6.2. Transmission Charges and Ancillary Services

As with the 2003 TPA, BC Hydro acquires and pays for all necessary wholesale transmission services on the Transmission System for electricity transactions under the 2020 TPA. Powerex pays BC Hydro for a reasonable allocation of the point-to-point transmission costs incurred by BC Hydro in respect of Powerex's trading activities, as determined by BC Hydro and Powerex.

The allocation serves to incent economically efficient decision-making by Powerex and BC Hydro but its precise calculation has no effect on BC Hydro's revenue requirements.

B.C. Hydro shall acquire and pay for all necessary wholesale transmission services, including losses and ancillary services, on the Transmission System for electricity transactions under this Agreement. For greater certainty, B.C. Hydro may self-supply losses and ancillary services. Unless otherwise determined by B.C. Hydro, acting reasonably, Powerex will pay to B.C. Hydro an amount equal to the parties' reasonable estimate of:

6.2.1. the point-to-point transmission costs incurred by B.C. Hydro presently under the Open Access Transmission Tariff in respect of transactions under this Agreement, but excluding

6.2.2. the point-to-point transmission costs incurred by B.C. Hydro for the purposes of serving Domestic Load requirements, satisfying Interutility Agreement obligations (including under any operating procedures), responding to System Constraints, satisfying B.C. Hydro's obligation to manage the Annual Flexible Surplus/Deficit (as defined in Appendix A) and delivering electricity pursuant to Non-Flexible Export Schedules, and receiving and/or delivering the Canadian Entitlement,

in accordance with Section 12. Such amount is the parties' reasonable allocation of the point-to-point transmission costs incurred by B.C. Hydro in respect of Powerex's trading activities.

7. GAS MARKETING

7.1. Purchase and Sale of B.C. Hydro's Gas Requirements

Amendments have been made throughout to modernize this part of this agreement and to reflect the current practices for requesting and delivering natural gas.

Powerex shall use commercially reasonable efforts to make available to B.C. Hydro, and B.C. Hydro shall purchase exclusively from Powerex, B.C. Hydro's Domestic Gas Requirements. B.C. Hydro shall purchase from Powerex and Powerex shall sell to B.C. Hydro all Gas requested by B.C. Hydro under this Agreement from time to time. In performing their obligations under this Section 7.1, both B.C. Hydro and Powerex will act in good faith with the objectives of enabling B.C. Hydro to maximize benefits to all B.C. Hydro ratepayers and enhancing B.C. Hydro's energy reliability. In support of this objective, B.C. Hydro will communicate to Powerex on a regular basis forecasts of B.C. Hydro's surplus Gas position (if any), demand for Gas and the status of physical storage and delivery for B.C. Hydro's Gas, all in accordance with Section 10.1.

7.2. Notification of Monthly Requirements

B.C. Hydro will notify Powerex (each, a "Monthly Gas Notice") by the 15th day of each month from and after the Commencement Date until the end of the term of this Agreement (or if that day is not a business day, then the next ensuing business day) of its Domestic Gas Requirements (in GJ/day) for each day of the next following month (or months), specifying the quantity of Gas (in GJ/day) required for each Thermal Generation Plant and for each Gas Utility Contract (the aggregate amount of Gas required for each such day, the "Specified Contract Quantity"). B.C. Hydro agrees to purchase the Specified Contract Quantity from Powerex.

7.3. Monthly Market Indices

To the extent that B.C. Hydro holds firm Transportation Capacity from one or more Gas Transfer Points to a Gas Delivery Point specified in a Monthly Gas Notice, B.C. Hydro may in the Monthly Gas Notice also specify that the Monthly Index Price(s) determined at the applicable Gas Transfer Point(s) will be used during the month in which B.C. Hydro holds such firm Transportation Capacity for the purposes of determining the

Gas Transfer Price applicable for any Specified Contract Quantity to be delivered to that Gas Delivery Point during that month. If B.C. Hydro does not hold such firm Transportation Capacity, B.C. Hydro may request that a Monthly Index Price determined at a specified Gas Transfer Point be used for the purposes of determining the Gas Transfer Price applicable for such deliveries during the month, but Powerex will not be obligated to deliver such amounts of Gas at the specified Monthly Index Price. Such request by B.C. Hydro for pricing at a specified Gas Transfer Point shall be for pricing purposes only and shall in no way determine the source from which Powerex is to purchase the Gas to be sold by Powerex to B.C. Hydro hereunder. Otherwise, Powerex shall use commercially reasonable efforts to purchase Gas for delivery to B.C. Hydro under this Agreement at the most favourable Monthly Index Price, taking into account transportation costs and availability and in view of the obligations of the parties under Section 7.1.

7.4. Notification of Daily Requirements

B.C. Hydro may notify Powerex (each, a "Daily Gas Notice") at any time during a month, of the Domestic Gas Requirements (in GJ/day), in addition to the Specified Contract Quantity, that it projects will be required during any remaining day in the month specified by B.C. Hydro. B.C. Hydro's notice shall specify the quantity of Gas (in GJ/day) required for each Thermal Generation Plant and for the Gas Utility Contracts (in each case, the "Additional Daily Quantity"). B.C. Hydro agrees to purchase the Additional Daily Quantity from Powerex.

7.5. Daily Market Indices

To the extent that B.C. Hydro holds firm Transportation Capacity from one or more Gas Transfer Points to a Gas Delivery Point specified in a Daily Gas Notice, B.C. Hydro may in the Daily Gas Notice also specify that the Daily Index Price(s) determined at the applicable Gas Transfer Point(s) will be used during the period of time in which B.C. Hydro holds such firm Transportation Capacity for the purposes of determining the Gas Transfer Price applicable for any Additional Contract Quantity to be delivered to such Gas Delivery Point on that day. If B.C. Hydro does not hold such firm Transportation Capacity, B.C. Hydro may request that a Daily Index Price determined at

a specified Gas Transfer Point be used for the purposes of determining the Gas Transfer Price applicable for any such deliveries on that day, but Powerex will not be obligated to deliver such amounts of Gas at the specified Daily Index Price. Such request by B.C. Hydro for pricing at a specified Gas Transfer Point shall be for pricing purposes only and shall in no way determine the source from which Powerex is to purchase the Gas to be sold by Powerex to B.C. Hydro hereunder. Otherwise, Powerex shall use commercially reasonable efforts to purchase Gas for delivery to B.C. Hydro under this Agreement at the most favourable Daily Index Price, taking into account transportation costs and availability and in view of the obligations of the parties under Section 7.1.

7.6. Payments for B.C. Hydro's Gas Requirements

B.C. Hydro shall pay to Powerex the amount obtained by multiplying the applicable Gas Transfer Price by:

7.6.1. the Specified Contract Quantity actually delivered by Powerex to B.C. Hydro each day (in GJ) in accordance with this Agreement plus all Gas Losses applicable to such quantities of Gas actually delivered; and

7.6.2. the Additional Daily Quantity actually delivered by Powerex to B.C. Hydro each day (in GJ) in accordance with this Agreement plus all Gas Losses applicable to such quantities of Gas actually delivered.

All quantities of Gas delivered during any day by Powerex to B.C. Hydro under this Agreement shall be deemed for the purpose of this Agreement to be delivered firstly on account of the Specified Contract Quantity up to the Specified Contract Quantity, and thereafter on account of the Additional Daily Quantity.

7.7. Title and Risk

Possession of, title to and all risk of loss respecting the Gas delivered under this Agreement shall pass from Powerex to B.C. Hydro at the applicable Gas Transfer Point, unless Powerex in its sole discretion elects to deliver Gas directly to B.C. Hydro at the Gas Delivery Point in which case title and all risk of loss shall pass from Powerex to B.C. Hydro at the Gas Delivery Point.

7.8. Gas Transportation and Storage

B.C. Hydro shall be responsible for obtaining all third-party Gas transportation and storage capacity required to deliver B.C. Hydro's Domestic Gas Requirements from the Gas Transfer Point to the applicable Gas Delivery Point (such transportation and storage capacity referred to herein as the "Transportation Capacity"), unless Powerex in its sole discretion elects to deliver Gas directly to B.C. Hydro at the Gas Delivery Point. All costs and expenses of transporting and delivering the Gas to the Gas Transfer Point shall be borne by Powerex and all costs and expenses of transporting the Gas beyond the Gas Transfer Point shall be borne by B.C. Hydro, including all reservation, demand and other charges. Powerex will assist B.C. Hydro, as and when requested by B.C. Hydro and at B.C. Hydro's cost and expense, to obtain the Transportation Capacity. B.C. Hydro hereby grants to Powerex the exclusive right and authority to use any of the Transportation Capacity and B.C. Hydro shall take all necessary steps to enable Powerex to fully use and nominate such Transportation Capacity for Powerex's own use, when not required to deliver B.C. Hydro's Domestic Gas Requirements. Powerex shall pay to B.C. Hydro the Variable Transportation Costs, if applicable, for such use by Powerex of the Transportation Capacity. Powerex shall be responsible for arranging all third-party Gas transportation required to sell Gas that is surplus to B.C. Hydro's Domestic Gas Requirements.

7.9. B.C. Hydro's Failure to Receive Gas

If B.C. Hydro fails to receive all or part of the Specified Contract Quantity or Additional Daily Quantity, unless excused by Powerex's failure to perform, then:

7.9.1. B.C. Hydro will pay to Powerex an amount for each GJ of such Gas not received by B.C. Hydro, equal to the positive difference, if any, obtained by subtracting the Sales Price from the applicable Gas Transfer Price; or

7.9.2. Powerex will pay to B.C. Hydro an amount for each GJ of such Gas not received by B.C. Hydro, equal to the positive difference, if any, obtained by subtracting the applicable Gas Transfer Price from the Sales Price,

where "Sales Price" for the purpose of this Section 7.9, means the Daily Index Price contemplated by Section 1.1.3(b) of Appendix B (or otherwise as specified in any amendment thereto).

7.10. Gas Imbalance Inventory

B.C. Hydro acknowledges and agrees that all Gas imbalance inventories in the Transportation Capacity recorded with the applicable transportation providers, shall belong to Powerex, to use as it may determine in its sole discretion. If and to the extent that any Thermal Generation Plant consumes in any day more Gas than has been requested by B.C. Hydro, and such excess quantity of Gas is delivered to the Gas Delivery Point from the Gas imbalance inventories of Powerex on an unscheduled basis, B.C. Hydro shall pay to Powerex the Daily Index Price (which Daily Index shall be determined by Powerex in its sole discretion) for such excess quantity of Gas. Otherwise, Gas scheduled and delivered by Powerex to B.C. Hydro from the Gas Imbalance Inventories shall be priced in accordance with Sections 7.3 and 7.5.

7.11. Imbalance Charges

The parties shall use commercially reasonable efforts to avoid imposition of any Imbalance Charges. If Imbalance Charges are incurred as a result of B.C. Hydro's actions or inactions (which shall include, but shall not be limited to, B.C. Hydro's failure to accept quantities of Gas equal to the quantities requested by B.C. Hydro), then B.C. Hydro shall pay such Imbalance Charges, or reimburse Powerex for such Imbalance Charges paid by Powerex to the applicable transportation provider. If the Imbalance Charges were incurred as a result of Powerex's actions or inactions (which shall include, but shall not be limited to, Powerex's failure to deliver quantities of Gas equal to the quantities requested by B.C. Hydro), then Powerex shall pay for such Imbalance Charges or reimburse B.C. Hydro for such Imbalance Charges paid by B.C. Hydro to the applicable transportation provider.

7.12. Taxes

B.C. Hydro shall pay or reimburse Powerex for all sales, carbon, motor fuel, transfer and other taxes incurred by Powerex in connection with the purchase of Gas by Powerex from third parties for sale to B.C. Hydro under this Agreement or otherwise applicable to the purchase of Gas by B.C. Hydro from Powerex under this Agreement.

8. FORWARD PURCHASES AND SALES FOR B.C. HYDRO

The 2020 TPA, like the 2003 TPA, contemplates that BC Hydro may enter into financial hedging contracts with Powerex with respect to forward fixed price, fixed volume contracts for the purpose of managing BC Hydro's market risk associated with purchases or sales of electricity or natural gas.

In accordance with BC Hydro's commitment in the Negotiated Settlement Agreement for its Fiscal 2011 Revenue Requirements Application, BC Hydro will seek BCUC approval to enter into financial hedges under this section of the 2020 TPA.

8.1. Forward Purchases and Sales for B.C. Hydro

B.C. Hydro and Powerex may from time to time enter into forward fixed-price, fixed-volume contracts for the purpose of managing market risk associated with expected Annual Flexible Surplus/Deficit volumes or with expected Non-Flexible Import Schedules and Non-Flexible Export Schedules or managing market risk associated with purchases of Gas to meet Domestic Load, satisfy B.C. Hydro's obligations under Interutility Agreements or Gas Utility Contracts or respond to System Constraints. Such forward contracts will be executed at agreed-upon prices based on prevailing market conditions and will be financially-settled against an agreed-upon market index. B.C. Hydro and Powerex may agree to wholly or partially close any resulting forward position by entering into an offsetting forward contract at an agreed-upon fixed price based on then prevailing market conditions.

9. TRANSFER PRICING PRINCIPLES

The transfer pricing principles in the 2020 TPA are the same as the 2003 TPA. Specifically, the transfer price is intended to be a price that reflects the fair market value at which parties acting on an arms-length basis would be willing to transact.

9.1. Electricity Transfer Pricing Principle

The parties acknowledge and agree that all electricity sold and purchased between B.C. Hydro and Powerex pursuant to this Agreement other than electricity purchased and sold pursuant to Sections 5.1 or 5.2 is deemed for transfer pricing purposes to occur at the British Columbia-United States border. B.C. Hydro and Powerex declare 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 during the heavy load hours in a day or the light load hours in a day, whichever is applicable, at which parties acting on an arms-length basis would be willing to transact.

9.2. Gas Transfer Pricing Principle

The parties acknowledge and agree that all Gas sold to B.C. Hydro by Powerex pursuant to Section 7 of this Agreement is deemed for transfer pricing purposes to occur at the Gas Transfer Point corresponding to the applicable index price specified by B.C. Hydro or determined by Powerex in accordance with Sections 7.3 or 7.5. B.C. Hydro and Powerex declare that the Gas Transfer Price is intended to be established as a sale price that reflects the fair market value of Gas delivered at such applicable Gas Transfer Point on a monthly or daily basis, as applicable, at which parties acting on an arms-length basis would be willing to transact.

9.3. Electricity Transfer Price and Gas Transfer Price

The parties agree that the pricing methodology for determining the Electricity Transfer Price is as set forth in Appendix A and the Gas Transfer Price is as set forth in Appendix B.

9.4. TPA Values

Like the 2003 TPA, the 2020 TPA contemplates that it may be appropriate or necessary to replace or modify the method of determining terms or values in the Agreement, from time to time, so that the transfer price continues to reflect the principle of being a fair market value at which parties acting on an arms-length basis would be willing to transact.

The 2003 TPA provided for a general right to the parties to revise the pricing methodology for determining the Electricity Transfer Price or the Gas Transfer Price.

Under the 2020 TPA, the parties are restricted to updating specified variables, namely the Monthly Index Price, the Daily Index Price, the exchange rate, the interest rate, the Prime Rate, the Deficit Multiplier (within the specified range), the Surplus Multiplier (within the specified range), the Mid-C Index Price, a Bid Week or any other published index price on which the Gas Transfer Price may be based.

BC Hydro will inform the BCUC of any term or value updates made in accordance with this section of the 2020 TPA.

B.C. Hydro and Powerex acknowledge that, from time to time during the term of this Agreement, it may be appropriate or necessary to replace or modify the method of determining one or more of the following terms or values in this Agreement: the Monthly Index Price, the Daily Index Price, the exchange rate described in Section 12.3, the interest rate described in Section 12.3, the Prime Rate, the Deficit Multiplier, the Surplus Multiplier, the Mid-C Index Price, a Bid Week or any other published index price on which the Gas Transfer Price may be based (each, a "**TPA Value**"). If a party believes that one of the TPA Values then in use under this Agreement should or must be replaced or its method of determination modified, the party may, by notice to the other party, propose a replacement or modification for the applicable TPA Value (or its method of determination). If the proposal is accepted, the agreed replacement or modification of the applicable TPA Value (or its method of determination) will become effective at the beginning of the month immediately following the 90th day after the initial notice or such earlier date as the parties may agree. If the proposal is not accepted, the parties will negotiate in good faith to agree on, within 90 days of such notice, a replacement or modification of the TPA Value (or its method of determination). If the parties are unable to agree on a replacement or modification of the TPA Value (or its method of determination) within such time, either party may submit the matter to dispute resolution pursuant to Section 16. Upon agreement or determination by dispute resolution of a

replacement or modification of the TPA Value (or its method of determination), the replaced or modified TPA Value (or its method of determination) shall become effective at the beginning of the month immediately following the 90th day after the agreement or determination, as the case may be, or such earlier date as the parties may agree, and the parties shall adjust any amounts paid that depend on the TPA Value (or its method of determination) from that date. In no event shall the parties adjust the amounts paid or payable, if applicable, for any period prior to the effective date of the new TPA Value (or new method of determination of the TPA Value).

10. INFORMATION AND FORECASTS

10.1. Information and Forecasts

The parties shall provide information to each other on system and market conditions, including the forecasts to be provided pursuant to Sections 4.1 and 7.1, provided, however that the foregoing and any information sharing with respect to the transmission capabilities of the B.C. Hydro System shall be done only within the information sharing limits set forth in the Standards of Conduct (Transmission) or successor policies of B.C. Hydro published from time to time by B.C. Hydro and applicable information sharing limits regarding transmission system capabilities imposed by pertinent Canadian and United States regulatory authorities.

11. CONFIDENTIAL INFORMATION

11.1. Powerex Information Is Confidential

B.C. Hydro acknowledges that Powerex operates in a highly competitive market and that disclosure of information relating to Powerex, its business and operations could be reasonably expected to significantly harm the competitive position of Powerex or interfere with the negotiating position of Powerex with trading counterparties. Accordingly, information provided by Powerex to B.C. Hydro under this Agreement, including information provided in connection with B.C. Hydro's audit from time to time, is proprietary and is provided only on condition that it shall be kept confidential by B.C. Hydro and not disclosed to any third party, unless Powerex otherwise agrees or

except as required by law or any authority having jurisdiction or if the same has entered the public domain other than through unauthorized disclosure by B.C. Hydro.

11.2. B.C. Hydro Information Is Confidential

Information provided by B.C. Hydro to Powerex under this Agreement is proprietary and is provided only on condition that it shall be kept confidential by Powerex and not disclosed to any third party, unless B.C. Hydro otherwise agrees or except as required by law or any authority having jurisdiction or if the same has entered the public domain other than through unauthorized disclosure by Powerex.

12. BILLING; PAYMENTS.

12.1. Powerex to Provide Statement for Electricity and Gas Transactions

Powerex shall send to B.C. Hydro for each calendar month statements setting forth:

12.1.1. the total electricity that was delivered in each hour during that month, and

12.1.2. the total Gas that was delivered in each hour during that month,

in each case with sufficient detail to enable the parties to determine the amount received and the payments due in connection therewith. Statements shall be sent within 15 days of the end of the month.

12.2. B.C. Hydro to Provide Statement

B.C. Hydro shall send to Powerex for each calendar month statements setting forth the amount owing by Powerex to B.C. Hydro or by B.C. Hydro to Powerex pursuant to Sections 4.7.2, 4.10, 5.1 or 5.2 (Variable Operating Costs), 6.2 and 7.8 (Variable Transportation Costs) for that month, with sufficient detail to enable the parties to determine the payment due in connection therewith. Statements shall be sent within 15 days of the end of the month.

12.3. Netting and Payment

The amounts that each party owes to the other as determined under Section 12.2 for electricity and Gas under this Agreement for each month shall be aggregated and the party, if any, owing the greater aggregate amount shall pay to the other party the difference between the amounts owed. Unless otherwise agreed between the parties, payments shall be made by wire transfer or other agreed manner. Payment is due by the 25th calendar day of each month for the prior month. Any late payments will accrue interest at the Prime Rate plus 1.5%. US dollars shall be converted to Canadian dollars using the applicable Bank of Canada Daily Exchange Rate for each day of the month during which the applicable payment obligations were incurred.

12.4. Dispute of Invoices

Each party shall have the right to dispute any amount which is set out in any statement or invoice in accordance with the procedure set out in Section 16. All statement and invoice amounts shall be paid pending resolution of any dispute.

13. REPRESENTATIVES OF THE PARTIES

13.1. Designated Representatives

B.C. Hydro and Powerex may from time to time designate representatives for the purpose of giving or confirming any approval required pursuant to this Agreement. As of the date hereof, the representative of B.C. Hydro shall be its Chief Executive Officer or delegate, and the representative of Powerex shall be its Chief Executive Officer or delegate.

14. FORCE MAJEURE

14.1. Suspension for Force Majeure

If either party is or was wholly or partly unable because of a Force Majeure to perform an obligation arising from this Agreement and claims that a Force Majeure is occurring or has occurred and reasonably establishes that fact, then the performance of the obligation shall be deemed to be suspended provided always that:

14.1.1. the suspension shall be of no greater scope and no longer duration than the Force Majeure;

14.1.2. the non-performing party shall make its best efforts to counter the Force Majeure or to otherwise remedy its inability to perform the obligation;

14.1.3. a performance required at a time other than when the Force Majeure is occurring shall not be excused by the Force Majeure; and

14.1.4. an obligation to pay any fees when due shall not be excused by the Force Majeure; however, to the extent that there are any savings to either party as a result of the Force Majeure, that party shall pass on any savings to the other party so as to reduce its obligation accordingly.

15. INDEMNITY AND CONSEQUENTIAL DAMAGES

15.1. Powerex Indemnity

Powerex will indemnify B.C. Hydro and hold it harmless against any claims, demands, losses, costs, damages, actions, suits or other proceedings made, sustained, brought or prosecuted against B.C. Hydro by a third party arising out of, or in any way based upon, any act or omission by Powerex in making import or export decisions in respect of electricity or Gas as contemplated under this Agreement (each, a "B.C. Hydro Claim"), unless caused or contributed to by the gross negligence or wilful misconduct of B.C. Hydro. Powerex will assume, upon request of B.C. Hydro, the defence of all such B.C. Hydro Claims, provided that B.C. Hydro will be entitled to participate in the defence of any such B.C. Hydro Claims and to employ counsel to assist in the handling of any such B.C. Hydro Claims.

15.2. B.C. Hydro Indemnity

B.C. Hydro will indemnify Powerex and hold it harmless against any claims, demands, losses, costs, damages, actions, suits or other proceedings made, sustained, brought or prosecuted against Powerex by a third party arising out of, or in any way based upon, any act or omission by B.C. Hydro in its operation of the B.C. Hydro System to ensure sufficient energy and capacity is available to serve B.C. Hydro's Domestic Load, satisfy

B.C. Hydro's obligations under Interutility Agreements and Gas Utility Contracts, and respond to System Constraints (each, a "Powerex Claim"), unless caused or contributed to by the gross negligence or wilful misconduct of Powerex. B.C. Hydro will assume, upon request of Powerex, the defence of all such Powerex Claims, provided that Powerex will be entitled to participate in the defence of any such Powerex Claims and to employ counsel to assist in the handling of any such Powerex Claims.

15.3. Consequential Damages

In no event shall either party be liable to the other or to any third party for incidental, indirect, special or consequential damages, howsoever caused and on any theory of liability, arising out of or related to the performance of this Agreement.

16. DISPUTE RESOLUTION

16.1. Disputes Defined

For purposes of this Section 16, "Dispute" means any dispute that arises under or in connection with this Agreement and includes any failure to agree upon the Electricity Transfer Price, the Gas Transfer Price or the amounts contemplated by Section 6.2 or any of the factors that go into determining such prices.

16.2. Senior Executives

The parties shall use reasonable efforts to settle all Disputes. In the event any Dispute is not settled within 30 days after the date such Dispute arises, each party shall within 10 days refer the matter in dispute to its Senior Executive. The Senior Executives shall meet within 21 days to attempt to negotiate a resolution of the Dispute. Settlement offers shall not be admissible in any subsequent dispute resolution process.

16.3. Arbitration

If the parties have not succeeded in negotiating a resolution of the Dispute within 30 days after the first meeting of the Senior Executives or if the Senior Executives do not meet within 21 days, the parties shall be deemed to be at an impasse and either party may commence arbitration procedures in accordance with this Section. Unless the parties

otherwise agree, any arbitration commenced in accordance with this Section 16 shall be determined by a single arbitrator and shall proceed in accordance with the Domestic Commercial Arbitration Rules of Procedure of the British Columbia International Commercial Arbitration Centre, as they may be in force at the time of the arbitration. The arbitrator will not have the jurisdiction to amend or vary the terms of this Agreement except as expressly provided in Section 9.4.

16.4. Sole Means of Resolving Dispute

The parties declare that arbitration pursuant to this Section 16 shall be the exclusive means of resolving any Dispute and the determination of the arbitrator shall be final and binding. The parties expressly declare that the arbitrator shall have the express authority to determine the Electricity Transfer Price, the Gas Transfer Price or the amounts contemplated by Section 6.2 in the event of a Dispute.

17. NOTICES

17.1. Notices

Any notice or other communication provided for herein or given hereunder to a party shall be in writing and shall be delivered by electronic transmission, or in person to the individual listed below:

17.1.1. to Powerex:

Powerex Corp.
Suite 1300, Park Place
666 Burrard Street
Vancouver, British Columbia
V6C 2X8

Attention: Tom Bechard, President and CEO

Email address: tom.bechard@powerex.com

17.1.2. to B.C. Hydro:

British Columbia Hydro and Power Authority
333 Dunsmuir Street
Vancouver, British Columbia
V6B 5R3

Attention: Heather Matthews, Director, Generation System Operations

Email address: heather.matthews@bchydro.com

or such other address with respect to a party as such party shall notify the other in writing as above provided. Notices by electronic transmission shall be deemed given upon verification of successful transmission and notice in person shall be deemed given upon actual delivery.

18. MISCELLANEOUS

18.1. No Partnership or Agency

The respective roles and responsibilities of BC Hydro and Powerex are discussed in sections 2.1 and 2.2 of the Application. As discussed in those sections, neither BC Hydro nor Powerex can direct the other in its respective area of responsibility. For example, Powerex cannot direct BC Hydro's system operations and BC Hydro cannot direct Powerex's marketing decisions.

This Agreement does not create an association, joint venture or partnership between parties or impose any partnership obligation or liability upon either of them. Neither party will have any right, power or authority under this Agreement to enter into any agreement or undertaking for, or act on behalf of, or to act as an agent or representative of, the other.

18.2. Waiver by Agreement

This Agreement and any provision hereof may only be amended, waived, discharged, or terminated by an instrument in writing signed by the party against whom enforcement of the amendment, waiver, discharge, or termination is sought. No waiver or successive waivers by a party of any provision of this Agreement shall operate as a discharge of such covenant, agreement, or condition or render the same invalid or impair the right of one party to enforce the same in the event of any subsequent breach or breaches by the other.

18.3. Amendments

If at any time during this Agreement the parties consider it necessary or expedient to make an amendment, supplement, waiver, or other modification to this Agreement they may do so only by means of a written agreement between them.

18.4. Severability

If any term, covenant, or condition of this Agreement or application thereof to any person or circumstances shall to any extent be invalid, illegal, or unenforceable in any respect, the remainder of this Agreement or application of such term, covenant, or condition to such person or circumstance other than those as to which it is held invalid, illegal or unenforceable shall not be affected thereby, and each term, covenant, or condition of this Agreement and this Agreement shall be valid and legal and shall be enforced to the fullest extent permitted by law.

18.5. Complete Agreement

This Agreement represents the entire agreement of the parties with respect to the subject matter hereof, and for greater certainty, will replace and supersede on the Commencement Date the 2003 TPA and the TPA Amending Agreement dated as of March 9, 2015.

18.6. Other Agreements

If there is any conflict between the provisions of this Agreement and any other agreement entered into prior to this Agreement, then the provisions of this Agreement shall control.

18.7. Governing Laws

This Agreement and the rights and obligations of the parties hereto shall be governed by and be construed in accordance with the laws of the Province of British Columbia.

18.8. Assignment

This Agreement may not be assigned, in whole or in part, by either party without the prior written consent of the other party.

18.9. Successors And Assigns

This Agreement is binding upon and shall inure to the benefit of the parties hereto and their respective successors and permitted assigns.

18.10. Counterparts

This Agreement may be executed and delivered by electronic means and in two or more counterparts, each of which shall be deemed an original but all of which shall constitute but one instrument.

18.11. Third Party Beneficiaries

Except as provided expressly by this Agreement, nothing in this Agreement nor its performance shall be relied upon by third parties or create any rights or obligations to third parties.

[Remainder of page intentionally blank.]

18.12. Non Restriction

Nothing in this Agreement is intended to limit Powerex from conducting transactions outside of this Agreement.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of the day and year first above written.

BRITISH COLUMBIA HYDRO AND POWER AUTHORITY

By:_____

POWEREX CORP.

By: _____

APPENDIX A

CALCULATION OF ELECTRICITY TRANSFER PRICE

1. INTERPRETATION

1.1. Interpretation

In this Appendix A, a reference to a section is a reference to a section of this Appendix A unless otherwise specified as referring to the Agreement, in which case the reference refers to a section in the main body of the Agreement.

1.2. Definitions

Each of the Definitions set out below has a specific legal meaning for the purpose of the 2020 TPA.

A number of prices are defined below including the Annual Price, Flexible Price (either the Flexible Export Price or Flexible Import Price), Hourly Index Price, Non-Flexible Price (either the Non-Flexible Export Price or Non-Flexible Import Price) and Weighted Average Price.

The application and concept of each of these prices are summarized in Table 6 of the Application.

For purposes of this Appendix A, the following words and terms shall have the following meanings:

1.2.1. "Annual Price" means, for any Transfer Period, the price determined under Section 8.

1.2.2. "Annual Flexible Surplus/Deficit" means, for each Transfer Period, the amount of energy determined as set forth in Section 9.1.

1.2.3. "BPA" means Bonneville Power Administration.

1.2.4. "Deficit Multiplier" means a mutually agreed multiplier included in the Annual Price when the Annual Flexible Surplus/Deficit for a Transfer Period is a negative number, such that the parties agree that the impact on the Electricity Transfer Price resulting from the adjustment of the Weighted

Average Price at the end of the Transfer Period reflects the Electricity Transfer Pricing Principle; the Deficit Multiplier will be a value in the range of 0.75-0.95 and is initially 0.85.

1.2.5. "Electricity Transfer Pricing Principle" means the pricing principle established by Section 9.1 of the Agreement;

1.2.6. "Flexible Export Price" means, for any hour during a Transfer Period, the price determined under Section 4.3.

1.2.7. "Flexible Import Price" means, for any hour during a Transfer Period, the price determined under Section 4.2.

1.2.8. "Flexible Price" means, for an hour during a Transfer Period, the price determined under Section 4.1.

1.2.9. "Hourly Index Price" means, for any hour during a Transfer Period, the price determined under Section 6 for that hour.

1.2.10. "Losses" means the BPA average system-wide loss factor (as a percentage) charged under BPA's tariff multiplied by the On-Peak Price or the Off-Peak Price, as the case may be, for the applicable hour, plus any other charges for ancillary services.

1.2.11. "NERC" means the North American Electric Reliability Council or any successor organization.

1.2.12. "Net Scheduled Flexible Quantity to B.C. Hydro" has the meaning set forth in Section 3.1;

1.2.13. "Net Scheduled Flexible Quantity to Powerex" has the meaning set forth in Section 3.1;

1.2.14. "Non-Flexible Export Price" means, for any hour during a Transfer Period, the price determined under Section 5.3.

1.2.15. "Non-Flexible Import Price" means, for any hour during a Transfer Period, the price determined under Section 5.2.

1.2.16. "Non-Flexible Price" means, for any hour during a Transfer Period, the price determined under Section 5.1.

1.2.17. "Off-Peak Hours" means the hours ending 1 through 6 and the hours ending 23 and 24, Monday through Saturday, and all hours on Sunday and NERC holidays.

1.2.18. "Off-Peak Price" means, for an Off-Peak Hour, the ICE Mid-C Off-Peak Index price (in US$/MWh) for that hour.

1.2.19. "On-Peak Hours" means the hours ending 7 through 22, Monday through Saturday, excluding NERC holidays.

1.2.20. "On-Peak Price" means, for an On-Peak Hour, the ICE Mid-C Peak Index price (in US$/MWh) for that hour.

1.2.21. "Scheduled Non-Flexible Quantity to B.C. Hydro" has the meaning set forth in Section 3.2;

1.2.22. "Scheduled Non-Flexible Quantity to Powerex" has the meaning set forth in Section 3.2;

1.2.23. "System Adjustment Value" means, for any Transfer Period, the value determined in accordance with Section 10.

1.2.24. "Surplus Multiplier" means a mutually agreed multiplier included in the Annual Price when the Annual Flexible Surplus/Deficit for a Transfer Period is a positive number, such that the parties agree that the impact on the Electricity Transfer Price resulting from the adjustment of the Weighted Average Price at the end of the Transfer Period reflects the Electricity Transfer Pricing Principle; the Surplus Multiplier will be a value in the range of 1.05-1.25 and is initially 1.15.

1.2.25. "Transfer Volume Account" means, at any time from the first hour on the Commencement Date until the end of term of the Agreement, the volume of electricity (in MWh) determined in accordance with Section 7.

1.2.26. "Transmission Costs" means the rate under the prevailing BPA tariff for hourly non-firm transmission in the applicable hour.

1.2.27. "Weighted Average Price" means, at any time from the first hour on the Commencement Date until the end of term of the Agreement, the weighted average price (in US$/MWh) of each MWh comprising the Transfer Volume Account, determined in accordance with Section 7.

2. CALCULATION OF ELECTRICITY TRANSFER PRICE

2.1. Electricity Transfer Price

For each hour during a Transfer Period, the Electricity Transfer Price will be the weighted average of:

2.1.1. the Flexible Price associated with the volume (if any) of the Net Scheduled Flexible Quantity for that hour; and

2.1.2. the Non-Flexible Price associated with the volume (if any) of the Scheduled Non-Flexible Quantity for that hour.

3. NET SCHEDULED QUANTITIES

In any hour, there may be one or more schedules, between BC Hydro and Powerex, both into and out of the BC Hydro system. These schedules may be both flexible and/or non-flexible.

The sum of the Flexible Import Schedules and Flexible Export Schedules results in the Net Scheduled Flexible Quantity.

There can only be a Non-Flexible Import Schedule or a Non-Flexible Export Schedule in an hour (or neither). There cannot be both in the same hour.

3.1. Net Scheduled Flexible Quantities

The parties shall for each hour determine the quantity (in MWh) of:

3.1.1. all electricity scheduled by Powerex to B.C. Hydro pursuant to a Flexible Import Schedule within the hour; and

3.1.2. all electricity scheduled by B.C. Hydro to Powerex pursuant to a Flexible Export Schedule within the hour.

If in an hour the amount (in MWh) of electricity referred to in Section 3.1.1 exceeds the amount of electricity referred to in Section 3.1.2, such excess will be a "Net Scheduled Flexible Quantity to B.C. Hydro", and if in an hour the amount (in MWh) of electricity referred to in Section 3.1.2 exceeds the amount of electricity referred to in Section 3.1.1, such excess will be a "Net Scheduled Flexible Quantity to Powerex". In each hour during a Transfer Period, the "Net Scheduled Flexible Quantity" will be the Net Scheduled Flexible Quantity to B.C. Hydro or the Net Scheduled Flexible Quantity to Powerex, whichever is applicable.

3.2. Scheduled Non-Flexible Quantities

The parties shall for each hour determine the quantity (in MWh) of:

3.2.1. electricity scheduled by Powerex to B.C. Hydro pursuant to a Non-Flexible Import Schedule within the hour, the quantity (in MWh) of such electricity will be a "Scheduled Non-Flexible Quantity to B.C. Hydro"; and

3.2.2. electricity scheduled by B.C. Hydro to Powerex pursuant to a Non-Flexible Export Schedule within the hour, the quantity (in MWh) of such electricity will be a "Scheduled Non-Flexible Quantity to Powerex";

and the "Scheduled Non-Flexible Quantity" for the hour will be the Scheduled Non-Flexible Quantity to B.C. Hydro or the Scheduled Non-Flexible Quantity to Powerex, whichever is applicable.

4. FLEXIBLE PRICE

4.1. Flexible Price

The Flexible Price is either the Flexible Export Price or the Flexible Import Price depending on whether the Net Scheduled Flexible Quantity in that hour is to BC Hydro (Import) or to Powerex (Export).

In each hour during a Transfer Period, the "Flexible Price" will be:

4.1.1. where there is a Net Scheduled Flexible Quantity to B.C. Hydro in that hour, the Flexible Import Price; and

4.1.2. where there is a Net Scheduled Flexible Quantity to Powerex in that hour, the Flexible Export Price.

4.2. Flexible Import Price

The Flexible Import Price is either the Hourly Index Price (if the balance in the Transfer Volume Account is zero or a positive amount) or the Weighted Average Price (if the balance in the Transfer Volume account is a negative amount, until and unless the balance becomes positive as a result of the import, in which case the Flexible Import Price thereafter is the Hourly Index Price). This pricing concept is consistent with the 2003 TPA.

In any hour during a Transfer Period in which there is a Net Scheduled Flexible Quantity to B.C. Hydro, the "Flexible Import Price" will be:

4.2.1. if at the beginning of the hour the Transfer Volume Account is zero or a positive amount, the applicable Hourly Index Price specified in Section 6.1; and

4.2.2. if at the beginning of the relevant hour the Transfer Volume Account is a negative amount, the Weighted Average Price, unless and until the Transfer Volume Account during that hour becomes positive as the volume of the associated Net Scheduled Flexible Quantity to B.C. Hydro is added to the Transfer Volume Account, in which case, the "Flexible Import Price" for each MWh of electricity thereafter scheduled as a Net Scheduled Flexible Quantity to B.C. Hydro in that hour shall be the Hourly Index Price applicable thereto.

4.3. Flexible Export Price

The Flexible Export Price is either the Hourly Index Price (if the balance in the Transfer Volume Account is negative) or the Weighted Average Price (if the balance in the Transfer Volume account is zero or a positive amount, until and unless the balance becomes negative as a result of the export, in which case the Flexible Export Price thereafter is the Hourly Index Price). This pricing concept is consistent with the 2003 TPA.

In any hour during a Transfer Period in which there is a Net Scheduled Flexible Quantity to Powerex, the "Flexible Export Price" will be:

4.3.1. if at the beginning of the relevant hour the Transfer Volume Account is zero or a positive amount, the Weighted Average Price, unless and until the Transfer Volume Account during that hour becomes negative as the volume of the associated Net Scheduled Flexible Quantity to Powerex is subtracted from the Transfer Volume Account, in which case, the "Flexible Export Price" for each MWh of electricity thereafter scheduled as a Net Scheduled Flexible Quantity to Powerex during that hour shall be the Hourly Index Price applicable thereto; and

4.3.2. if at the beginning of the relevant hour the Transfer Volume Account is a negative amount, the applicable Hourly Index Price specified in Section 6.2.

5. NON-FLEXIBLE PRICE

The component of the Electricity Transfer Price associated with the Non-Flexible Import or Non-Flexible Export Schedules in an hour will always be based only on the Hourly Index Price and never the Weighted Average Price. BC Hydro will, in effect, incur the cost or receive the value of Non-Flexible Import/Exports based on the Hourly Index Price.

This ensures that the balances in the Transfer Volume Account cannot be applied towards transactions where Powerex lacks the flexibility to time transactions and deliveries in order to maximize revenues.

5.1. Non-Flexible Price

In each hour during a Transfer Period, the "Non-Flexible Price" will be:

5.1.1. where there is a Scheduled Non-Flexible Quantity to B.C. Hydro in that hour, the Non-Flexible Import Price; or

5.1.2. where there is a Scheduled Non-Flexible Quantity to Powerex in that hour, the Non-Flexible Export Price.

5.2. Non-Flexible Import Price

In any hour during a Transfer Period in which there is a Scheduled Non-Flexible Quantity to B.C. Hydro, the Non-Flexible Import Price will be the applicable Hourly Index Price specified in Section 6.1.

5.3. Non-Flexible Export Price

In any hour during a Transfer Period in which there is a Scheduled Non-Flexible Quantity to Powerex, the Non-Flexible Export Price will be the applicable Hourly Index Price specified in Section 6.2.

6. HOURLY INDEX PRICE

6.1. Net Delivered or Scheduled Quantities to B.C. Hydro

In any hour during a Transfer Period, the Hourly Index Price applicable to a Net Delivered Quantity to B.C. Hydro, a Net Scheduled Flexible Quantity to B.C. Hydro or a Scheduled Non-Flexible Quantity to B.C. Hydro will be:

6.1.1. for each On-Peak Hour, the price (in US$/MWh) obtained by adding to the On-Peak Price the Transmission Costs and Losses; and

6.1.2. for each Off-Peak Hour, the price (in US$/MWh) obtained by adding to the Off-Peak Price the Transmission Costs and Losses.

6.2. Net Delivered or Scheduled Quantities to Powerex

In any hour during a Transfer Period, the Hourly Index Price applicable to a Net Delivered Quantity to Powerex, a Net Scheduled Flexible Quantity to Powerex or a Scheduled Non-Flexible Quantity to Powerex shall be:

6.2.1. for each On-Peak Hour, the price in (US$/MWh) obtained by subtracting from the On-Peak Price for that hour, the Transmission Costs and Losses; and

6.2.2. for each Off-Peak Hour, the price (in US$/MWh) obtained by subtracting from the Off-Peak Price for that hour, the Transmission Costs and Losses.

7. TRANSFER VOLUME ACCOUNT AND WEIGHTED AVERAGE PRICE

The starting balance in the Transfer Volume Account was the balance in the Trade Account upon transition from the 2003 TPA to the 2020 TPA.

7.1. Initial Values of Transfer Volume Account and Weighted Average Price

7.1.1. The volume of the Transfer Volume Account at 12:00 a.m. on the Commencement Date will be the volume (in MWh) of the Trade Account under the 2003 TPA at 11:59 p.m. on March 31, 2020.

7.1.2. The "Weighted Average Price" at 12:00 a.m. on the Commencement Date will be the weighted average price of each MWh in the Trade Account under the 2003 TPA at 11:59 p.m. on March 31, 2020.

7.2. Hourly Adjustments

The Transfer Volume Account is adjusted each hour by adding the volume of any Net Scheduled Flexible Quantity and adjusting the Weighted Average Price by applying the Flexible Price to each MWh of the volume of the adjustment.

7.2.1. In each hour of a Transfer Period, the Transfer Volume Account will be adjusted by adding the volume of any Net Scheduled Flexible Quantity to B.C. Hydro in that hour or subtracting the volume of any Net Scheduled Flexible Quantity to Powerex in that hour, as the case may be.

7.2.2. At the time of each hourly adjustment of the Transfer Volume Account, the Weighted Average Price will be adjusted on a weighted average basis, applying the applicable Flexible Price to each MWh of the volume of the adjustment.

7.2.3. There will be no hourly adjustment to the Transfer Volume Account or the Weighted Average Price to account for a Scheduled Non-Flexible Quantity in any hour.

7.3. Annual Adjustments

The annual 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.

7.3.1. Immediately before the end of each Transfer Period, the Transfer Volume Account will be adjusted by adding the Annual Flexible Surplus/Deficit for the Transfer Period to the Transfer Volume Account (each, an "Annual Surplus Adjustment" if the Annual Flexible Surplus/Deficit for the Transfer Period is a positive amount, or an "Annual Deficit Adjustment" if the Annual Flexible Surplus/Deficit for the Transfer Period is a negative amount).

7.3.2. At the time of each Annual Surplus Adjustment, the Weighted Average Price will be adjusted on a weighted average basis, applying the following price to each MWh of the volume of the Annual Surplus Adjustment:

7.3.2.1. the applicable Annual Price; less

7.3.2.2. the System Adjustment Value divided by the volume of the Annual Surplus Adjustment.

7.3.3. At the time of each Annual Deficit Adjustment, the Weighted Average Price will be adjusted on a weighted average basis, applying the following prices to each MWh of the volume of the Annual Deficit Adjustment:

7.3.3.1. the applicable Annual Price; plus

7.3.3.2. the System Adjustment Value divided by the volume of the Annual Deficit Adjustment.

8. ANNUAL PRICE

The Annual Price is calculated as the simple average of the on peak and off peak prices, as applicable to each hour over the year, multiplied by either the Deficit Multiplier or the Surplus Multiplier, plus/less the applicable transmission costs and losses.

The Deficit Multiplier and Surplus Multiplier are multipliers included in the Annual Price, mutually agreed to by BC Hydro and Powerex, so that the Annual Price for BC Hydro's annual energy surpluses and deficits reflects the transfer pricing principle.

For further discussion on the Annual Price, refer to section 5.1.4 of the Application.

8.1. Annual Flexible Surplus/Deficit – Deficit

The Annual Price for a Transfer Period when the applicable Annual Flexible Surplus/Deficit is a negative number will be:

8.1.1. the simple average of the On-Peak Prices and Off-Peak Prices, as applicable to each hour, for all hours during the Transfer Period, multiplied by the Deficit Multiplier; plus

8.1.2. the applicable Transmission Costs and Losses.

8.2. Annual Flexible Surplus/Deficit – Surplus

The Annual Price for a Transfer Period when the applicable Annual Flexible Surplus/Deficit is a positive number will be:

8.2.1. the simple average of the On-Peak Prices and Off-Peak Prices, as applicable to each hour, for all hours during the Transfer Period, multiplied by the Surplus Multiplier; less

8.2.2. the applicable Transmission Costs and Losses.

9. ANNUAL FLEXIBLE SURPLUS/DEFICIT

The Annual Flexible Surplus/Deficit is BC Hydro's annual surplus/deficit minus non-flexible imports and exports. Note that in the calculation below, "net scheduled imports" refers to both imports and exports collectively.

9.1. Calculation of Annual Flexible Surplus/Deficit

For each Transfer Period, the Annual Flexible Surplus/Deficit will be determined, for the purposes of this Agreement, as follows:

9.1.1. the total stored energy at B.C. Hydro's large basin reservoirs at the end of the Transfer Period; less

9.1.2. the total stored energy at B.C. Hydro's large basin reservoirs at the beginning of the Transfer Period; less

9.1.3. the net scheduled imports into British Columbia at the British Columbia-United States border during the Transfer Period; plus

9.1.4. the net scheduled third-party imports into British Columbia at the British Columbia-United States border during the Transfer Period, as may be adjusted to appropriately account for net third-party imports occurring within British Columbia; less

9.1.5. the net scheduled imports into British Columbia at the British Columbia-Alberta border during the Transfer Period; plus

9.1.6. the net scheduled third-party imports into British Columbia at the British Columbia-Alberta border during the Transfer Period, as may be adjusted to appropriately account for net third-party imports occurring within British Columbia; less

9.1.7. any electricity purchased in British Columbia by Powerex and sold to B.C. Hydro, including for greater certainty electricity purchased from B.C. Hydro under Sections 5.1 or 5.2 of the Agreement or from independent power producers or other entities; plus

9.1.8. the aggregate amount of Scheduled Non-Flexible Quantities to B.C. Hydro during the Transfer Period; less

9.1.9. the aggregate amount of Scheduled Non-Flexible Quantities to Powerex during the Transfer Period; less

9.1.10. the net amount of electricity scheduled by Powerex to satisfy B.C. Hydro's obligations under Interutility Agreements.

10. SYSTEM ADJUSTMENT VALUE

Powerex's import and export decisions can result in increases or decreases to the operational efficiency of the BC Hydro System. For example, increased energy imports can lead to higher reservoir elevations, increasing the hydraulic head and enabling more electricity to be produced with a given volume of water through the turbines. Conversely, increased energy imports can bring reservoirs closer to their maximum elevations, increasing the risk of spill.

The System Adjustment Value is the net financial value, as determined by BC Hydro, of the impact resulting from Powerex's import and export decisions, on head gains and losses and on spill in the BC Hydro system.

10.1. System Adjustment Value

At the end of each Transfer Period, B.C. Hydro will determine the net financial value (the "**System Adjustment Value**") of:

10.1.1. the impact resulting from Powerex's decisions on the timing and hourly volume of imports and exports on head gains and losses and on spill in the B.C. Hydro System during the Transfer Period; and

10.1.2. the incremental financial impact on B.C. Hydro associated with Powerex's decisions on the timing and hourly volume of imports and exports on the Scheduled Non-Flexible Quantity in each hour during the Transfer Period.

A positive System Adjustment Value will indicate that the impact of Powerex's decisions on the timing and hourly volume of imports and exports on head gains and losses and on spill in the B.C. Hydro System and the incremental financial impact on B.C. Hydro associated with Powerex's decisions on the timing and hourly volume of imports and exports on the Scheduled Non-Flexible Quantities were net positive during the Transfer Period, and a negative System Adjustment Volume will indicate that such impacts were net negative during the Transfer Period.

11. ICE MID-C INDEX PRICE

For purposes of the calculations in this Appendix A, it is assumed that the ICE Mid-C On-Peak Index Price and the ICE Mid-C Off-Peak Index Price are determined in the manner specified in the "ICE Futures U.S. Rulebook Subchapter 18B – Power Futures Contracts" for those indices and published by ICE in the ICE Day Ahead Power Report for transactions reported at the Mid-C hub. In the event that the ICE Mid-C On-Peak Index Price and the ICE Mid-C Off-Peak Index Price referred to in this Appendix A are no longer determined in the manner described in the foregoing publications, then, if the change is material, either party may, by notice to the other party, seek to renegotiate the then current pricing methodology using the process set out in Section 9.4 of the Agreement.

APPENDIX B

CALCULATION OF GAS TRANSFER PRICE

1. INTERPRETATION

1.1. Definitions

For purposes of this Appendix B the following words and terms shall have the following meanings:

1.1.1. "Agreement" means the Transfer Pricing Agreement to which this Appendix B is attached and of which it forms a part.

1.1.2. "Bid Week" means the last 5 trading days of each calendar month, where a trading day is defined as any day that the Intercontinental Exchange (ICE) is trading physical natural gas.

1.1.3. "Daily Index Price" means any one of the following daily index prices applicable to the sale of Gas from Powerex to B.C. Hydro pursuant to this Agreement, as determined by Powerex in accordance with Section 7.5 of the Agreement:

(a) The "NGX SPECTRA - Stn2 DAY AHEAD AVERAGE" index, as published by Canadian Gas Price Reporter Daily, being the weighted average of all daily fixed price trades at Station 2 on the ICE/NGX platform;

(b) The Midpoint of Northwest, Canadian border (Sumas) index price set out in Gas Daily, as published by Platts, a division of The McGraw-Hill Companies Inc., being the weighted average of all daily fixed price trades at Sumas daily, reported by index participants.

(c) The AECO-NIT Daily Spot gas index price set out in the Canadian Gas Price Reporter, as published by Canadian Enerdata Ltd., being

the volume-weighted average of all gas trades that occur on the NGX trading platform for a particular delivery day.

(d) The Midpoint of PG&E-GTNW, Kingsgate index price, set out in Gas Daily as published by Platts, a division of The McGraw-Hill Companies Inc. being the weighted average of all daily fixed trades at Kingsgate daily, reported by index participants.

1.1.4. "Monthly Index Price" means any one of the following monthly index prices applicable to the sale of Gas from Powerex to B.C. Hydro pursuant to this Agreement, as specified by B.C. Hydro or determined by Powerex in accordance with Section 7.3 of the Agreement:

(a) The Station 2 one-month spot gas index price as set out in Canadian Gas Price Reporter, published by Canadian Enerdata Ltd., being the volume-weighted average of all monthly fixed price trades as reported by index participants.

(b) The Northwest Pipeline Corp., Canadian Border Index price as set out in FERC's gas market report monthly prices of spot gas delivered to pipelines at Sumas, as published by Platts, a division of The McGraw-Hill Companies Inc., being the weighted average of all monthly fixed price trades reported at Sumas during the Bid-Week prior to the month of delivery.

(c) The AECO-NIT One-Month spot gas index price set out in the Canadian Gas Price Reporter, as published by Canadian Enerdata Ltd., being a volume-weighted average of all gas trades that occur on the NGX trading platform for a particular prompt delivery month.

1.2. Interpretation

In this Appendix B, references to Sections are references to Sections of this Appendix B unless otherwise specified.

1.3. Conversion

Any references to MMBtu's in any Daily Index Price or Monthly Index Price, shall be converted to GJ on the basis that one MMBtu equals 1.055056 GJ's.

1.4. Index Prices

In the event that a Monthly Index Price or Daily Index Price, or any other published index price on which the Gas Transfer Price may be based ceases to exist, or ceases to be representative of the price for daily or monthly, as the case may be, fixed price Gas trades, at the applicable trading hub, or the manner of determining such index price materially changes, or if either party wish to use another such index price for any reason, then either party may, by notice to the other party, seek to renegotiate the applicability of that Monthly Index Price or Daily Index Price and a suitable replacement therefore, using the process set out in Section 9.4 of the Agreement.

1.5. Gas Transfer Price

The Gas Transfer Prices payable by B.C. Hydro to Powerex are as follows:

1.5.1. the Monthly Index Price as specified by B.C. Hydro or determined by Powerex in accordance with Section 7.3 of the Agreement, for each day in which B.C. Hydro has requested a Specified Contract Quantity for use at a Thermal Generation Plant or for the purpose of serving a Gas Utility Contract, as the case may be; and

1.5.2. the Daily Index Price as specified by B.C. Hydro or determined by Powerex in accordance with Section 7.5 of the Agreement, for each day in which B.C. Hydro has requested an Additional Daily Quantity for use at a Thermal Generation Plant or for the purpose of serving a Gas Utility Contract, as the case may be.

BC Hydro
Power smart

2020 Transfer Pricing Agreement Application

Appendix C

2003 Transfer Pricing Agreement for Electricity and Natural Gas

CONFORMED COPY

THIS IS A CONFORMED COPY OF THE TRANSFER PRICING AGREEMENT SHOWING ALL AMENDMENTS IN EFFECT AS OF MARCH 9, 2015. AMENDMENTS ARE SHOWN AS CHANGES TO THE ORIGINAL AGREEMENT BY BLACKLINING. AMENDMENTS WILL CEASE TO HAVE ANY FURTHER FORCE AND EFFECT AND THE TRANSFER PRICING AGREEMENT WILL CONTINUE UNAMENDED UPON THE EXPIRY OR TERMINATION OF THE CAPACITY AND ENERGY PURCHASE AND SALE AGREEMENT BETWEEN FORTISBC AND POWEREX MADE AS OF THE 17th of FEBRUARY, 2015.

TRANSFER PRICING AGREEMENT FOR ELECTRICITY AND GAS

This Agreement is dated as of April 1, 2003 and entered into:

BETWEEN:

BRITISH COLUMBIA HYDRO AND POWER AUTHORITY, a corporation continued under the Hydro and Power Authority Act

("B.C. Hydro")

AND:

POWEREX CORP., a company duly incorporated under the laws of the Province of British Columbia

("Powerex")

WHEREAS:

A. B.C. Hydro carries on electrical utility operations in the Province of British Columbia and operates the B.C. Hydro System to ensure sufficient energy and capacity is available to meet B.C. Hydro's domestic load and to minimize the cost of serving domestic load and maximize the value of the capability of the B.C. Hydro System to facilitate electricity trading by Powerex in markets outside of British Columbia;

B. Powerex is engaged in the sale and purchase of electricity and natural gas, principally with customers and suppliers in other Canadian provinces and the United States and purchases transmission and transportation capacity in order to support electricity and gas transactions, respectively;

C. The parties wish to confirm the exclusive relationship between B.C. Hydro and Powerex under which Powerex will purchase from B.C. Hydro electricity that is surplus to B.C. Hydro's requirements for domestic load and to confirm the manner in which the parties will otherwise purchase and sell electricity to each other to maximize the value of the B.C. Hydro System;

D. B.C. Hydro is a significant purchaser of natural gas and wishes to enter into an exclusive relationship with Powerex under which B.C. Hydro will purchase its requirements for natural gas from Powerex and sell to Powerex its surplus natural gas; and

E. Both B.C. Hydro and Powerex wish to set out their respective obligations in connection with the foregoing,

NOW, THEREFORE, in consideration of the premises and of the mutual covenants and agreements contained herein, the parties hereto represent, warrant, covenant, and agree as follows:

1. DEFINITIONS

1.1. Definitions

In this Agreement:

1.1.1. "Additional Daily Quantity" has the meaning set forth in Section 10.3;

1.1.2. "Agreement" means this transfer pricing agreement, together with any Appendices, as amended from time to time;

1.1.3. "B.C. Hydro System" means the reservoirs and all generating resources and related facilities that are controlled by B.C. Hydro, and includes present and future contracted long-term supply from independent power producers or others;

1.1.4. "Burrard Thermal" means the gas-fired generating plant owned by B.C. Hydro and located in Port Moody, British Columbia;

1.1.5. "Domestic Gas Requirements" means the quantity of Gas required by B.C. Hydro for its Thermal Generation Plants to serve Domestic Load and to satisfy its obligations under the Gas Utility Contracts;

1.1.6. "Domestic Load" means:

1.1.6.1. load that B.C. Hydro is obligated to serve under its electricity tariffs by reason of its status as a public utility; and

1.1.6.2. load considered by B.C. Hydro to have equivalent priority of service as load referred to in Section 1.1.6.1 by reason of contract or treaty obligations;

1.1.7. "Electricity Transfer Price" means the applicable price (in US$/MWh) set forth in Appendix A for electricity sold or purchased or deemed to be sold or purchased between B.C. Hydro and Powerex in any hour during the Term of this Agreement, pursuant to any of Sections 5.1, 5.2, 5.3, 6.1 and 6.2;

1.1.8. "FBC Export Capability" means in any hour the amount of FBC Scheduled Capacity (as defined in the FortisBC/Powerex Agreement) (in MW) that FortisBC Inc. makes available to Powerex, to the extent it is scheduled by Powerex to B.C. Hydro;

1.1.9. "FBC Import Capability" means in any hour the estimated amount of electricity (in MWh) that FortisBC Inc. would have been entitled to import into its system to serve its load, after accounting for actual imports and purchases under Rate Schedule 3808;

1.1.10. "FBC Purchase Account" means the account to which electricity recorded as a sale to Powerex that is debited from the Trade Account pursuant to Section 6.4.1 is debited and to which electricity recorded as a sale by Powerex that is credited to the Trade Account pursuant to Section 6.4.2 is credited; for greater certainty, the FBC Purchase Account is a sub-account of the Trade Account and therefore any debit from, or credit to, the FBC Purchase

Account will have a corresponding debit from, or credit to, the Trade Account;

1.1.11. ~~1.1.8.~~ "Force Majeure" means any prevention, delay, stoppage or interruption in the performance of any obligation of a party due to a strike, lockout, labour dispute, act of God, inability to obtain labour or materials, laws, ordinances, rules, regulations or orders of governmental authorities, enemy or hostile action, civil commotion, fire or other casualty, and any condition or cause beyond the reasonable control of the party obligated to perform, but does not include (i) any condition or cause which is the result of the negligence of the claiming party, and which by the exercise of due diligence, the claiming party is unable to avoid, cause to be avoided, or overcome (ii) lack of finances, (iii) any inability of the claiming party to use or resell the electricity or Gas purchased hereunder, or (iv) the loss or failure of the claiming party's supply of electricity or Gas, if the claming party is the seller;

1.1.12. "FortisBC/Powerex Agreement" means the Capacity and Energy Purchase and Sale Agreement made as of the 17th day of February, 2015 between FortisBC Inc. and Powerex providing for the sale by FortisBC Inc. to Powerex of certain Available WAX Capacity (as defined therein), and the sale by Powerex to FortisBC Inc. of energy required by FortisBC Inc. to serve its load, as may be amended from time to time;

1.1.13. ~~1.1.9.~~ "Fort Nelson" means the gas-fired generating plant owned by B.C. Hydro and located in Fort Nelson, British Columbia;

1.1.14. ~~1.1.10.~~ "Gas" means natural gas;

1.1.15. ~~1.1.11.~~ "Gas Delivery Point" means:

1.1.15.1. ~~1.1.11.1.~~ for Gas purchased for use at a Thermal Generation Plant, the recognized custody transfer point between the applicable Thermal Generation Plant and the gas pipeline that serves it; and

1.1.15.2. ~~1.1.11.2.~~ for Gas purchased for the purpose of serving the Gas Utility Contracts, the delivery point(s) specified in the Gas Utility Contracts;

1.1.16. ~~1.1.12.~~ "Gas Losses" means for each day, all lost and unaccounted for Gas and Gas burned to fuel compressors, from the applicable Source Point to the applicable Gas Delivery Point;

1.1.17. ~~1.1.13.~~ "Gas Transfer Price" means the price determined in accordance with Appendix B;

1.1.18. ~~1.1.14.~~ "Gas Utility Contracts" means the agreement dated March 7, 2001 between B.C. Hydro and Centra Gas British Columbia Inc. and the agreement dated as of November 27, 1998 between B.C. Hydro and BC Gas Utility Ltd.;

1.1.19. ~~1.1.15.~~ "ICG" means the gas-fired generating plant located at Elk Falls, British Columbia;

1.1.20. ~~1.1.16.~~ "Imbalance Charges" means any fees, penalties, costs or charges (in cash or in kind) assessed by the applicable transportation provider(s) in respect of the Transportation Capacity, for failure to satisfy the transportation balance and nomination requirements;

1.1.21. ~~1.1.17.~~ "Interutility Agreements" means agreements between B.C. Hydro and third parties related to the coordination of reservoir operations, and agreements between B.C. Hydro and one or more control area operators for the purpose of maintaining transmission and generation system reliability and establishing operating procedures, but excludes agreements whose purpose is the purchase and sale of transmission, capacity or energy for profit;

1.1.22. ~~1.1.18.~~ "Net Delivered Quantity to B.C. Hydro" means for any hour, the amount (in MWh) by which the quantity of electricity referred to in Section 3.1.1 exceeds the quantity of electricity referred to in Section 3.1.2;

1.1.23. ~~1.1.19.~~ "Net Delivered Quantity to Powerex " means for any hour, the amount (in MWh) by which the quantity of electricity referred to in Section 3.1.2 exceeds the quantity of electricity referred to in Section 3.1.1;

1.1.24. ~~1.1.20.~~ "Prime Rate" means the annual rate of interest published by B.C. Hydro's principal banker from time to time as its prime rate;

1.1.25. ~~1.1.21.~~ "RPG" means the gas-fired generating plant owned by B.C. Hydro and located in Prince Rupert, British Columbia;

1.1.26. ~~1.1.22.~~ "Source Point" has the meaning set forth in Section 10.7;

1.1.27. ~~1.1.23.~~ "Specified Contract Quantity" has the meaning set forth in Section 10.2;

1.1.28. ~~1.1.24.~~ "Surplus Hydro Electricity" means hydroelectric energy in excess of Domestic Load requirements, that is generated for the purpose of reducing the probability of spill at system reservoirs;

1.1.29. ~~1.1.25.~~ "Surplus System Capability" means at any time, the measure of the B.C. Hydro System's capability, while all Domestic Load requirements are being satisfied, to decrease generation in order to allow purchases of electricity to satisfy Domestic Load and/or to increase generation to allow additional sales, as determined by B.C. Hydro;

1.1.30. ~~1.1.26.~~ "Thermal Generation Plants" means the gas-fired generation plants owned or under the control of B.C. Hydro including, without limitation, Burrard Thermal, Fort Nelson, ICG and RPG;

1.1.31. ~~1.1.27.~~ "Threshold Purchase Price" means the maximum Electricity Transfer Price at which B.C. Hydro will purchase electricity from Powerex in any period to serve Domestic Load, as established by B.C. Hydro from time to time;

1.1.32. ~~1.1.28.~~ "Threshold Sale Price" means the minimum Electricity Transfer Price at which B.C. Hydro will sell Surplus Hydro Electricity to Powerex, as established by B.C. Hydro from time to time;

1.1.33. ~~1.1.29.~~ "Trade Account" means the account to which electricity sold or deemed to be sold by Powerex to B.C. Hydro pursuant to Section 6.1 and 6.4.1 is credited and to which electricity sold or deemed to be sold by B.C. Hydro to Powerex pursuant to Sections ~~6.2~~6.2, 6.4.2 and ~~6.4~~6.6 is debited;

1.1.34. ~~1.1.30.~~ "Transfer Pricing Principle" means the pricing principles established by Sections 12.1 and 12.2;

1.1.35. ~~1.1.31.~~ "Transmission System" means the bulk transmission system owned by B.C. Hydro;

1.1.36. ~~1.1.32.~~ "Transportation Capacity" has the meaning set forth in Section 10.7;

1.1.37. ~~1.1.33.~~ "Variable Operating Costs" means all incremental costs incurred by B.C. Hydro in respect of increasing or reducing generation at the Thermal Generation Plants at the request of Powerex pursuant to Section 7.1 or 7.2, as determined in good faith from time to time by B.C. Hydro; and

1.1.38. ~~1.1.34.~~ "Variable Transportation Costs" means all incremental transportation costs incurred by B.C. Hydro in respect of the use of the Transportation Capacity by Powerex for the purposes of trade.

1.2. **Other Defined Terms**

Capitalized words or phrases appearing in this Agreement that are defined in the Appendices to this Agreement shall have the meanings ascribed to them in the Appendices.

1.3. **Interpretation**

Unless otherwise specified, all references to Sections and Appendices are to those set forth in this Agreement. Reference to any party includes any permitted successor or assignee. The term "including" followed by descriptive words is used in this Agreement by way of

example only and is not intended to limit the scope of the provision. The headings used in this Agreement are for convenience and reference purposes only.

2. TERM

2.1. Term

The effective date of this Agreement is April 1, 2003, notwithstanding the actual date of execution. This Agreement shall continue in full force and effect until terminated by at least 12 months' written notice provided by one party to the other or otherwise upon mutual agreement of the parties.

3. ACCOUNTING FOR ELECTRICITY DELIVERED

3.1. Accounting for Electricity Delivered

The parties shall for each hour determine the quantity (in MWh) of:

3.1.1. all electricity actually delivered by Powerex to B.C. Hydro under the terms of this Agreement within the hour, including without limitation, electricity purchased by Powerex from independent power producers in British Columbia and sold to B.C. Hydro, plus electricity recorded as a debit to the Trade Account pursuant to Section 6.4.1, but excluding electricity delivered pursuant to Section 7.1; and

3.1.2. all electricity actually delivered by B.C. Hydro to Powerex under the terms of this Agreement within the hour, plus electricity recorded as a credit to the Trade Account pursuant to Section 6.4.2, but excluding electricity delivered pursuant to Section 7.2.

For greater certainty, electricity purchased by Powerex in the U.S. for and on behalf of B.C. Hydro and delivered to the City of Seattle to fulfil B.C. Hydro's obligations under agreements entered into pursuant to the Skagit River Valley Treaty is not included in the quantity of electricity calculated pursuant to Section 3.1.1.

3.2. **Allocation of Net Delivered Quantity to B.C. Hydro and Net Delivered Quantity to Powerex**

The parties shall for each hour, allocate:

3.2.1. any Net Delivered Quantity to Powerex as a sale under either:

3.2.1.1. Section 5.1 in the case where the Electricity Transfer Price was equal to or greater than the Threshold Sale Price for that hour, subject to any maximum quantity specified by B.C. Hydro pursuant to Section 5.1, or

3.2.1.2. Section 6.2, in all other cases; and

3.2.2. any Net Delivered Quantity to B.C. Hydro as a purchase under either:

3.2.2.1. Section 5.2 in the case where the Electricity Transfer Price was equal to or less than the Threshold Purchase Price for that hour, subject to any maximum quantity specified by B.C. Hydro pursuant to Section 5.2, or

3.2.2.2. Section 6.1, in all other cases.

4. SURPLUS SYSTEM CAPABILITY

4.1. Surplus System Capability

Except as provided by Interutility Agreements, B.C. Hydro shall make the Surplus System Capability exclusively available to Powerex. B.C. Hydro shall purchase electricity from Powerex only to enable it to economically serve Domestic Load and as otherwise contemplated by this Agreement and shall sell all Surplus Hydro Electricity exclusively to Powerex.

5. PURCHASE AND SALE OF ELECTRICITY - DOMESTIC

5.1. Sale and Purchase of Surplus Hydro Electricity

From time to time, when Surplus Hydro Electricity is available, B.C. Hydro may notify Powerex of the Threshold Sale Price and any maximum quantity of Surplus Hydro Electricity available for sale. If B.C. Hydro does not set a Threshold Sale Price at any time, it will be deemed to not have Surplus Hydro Electricity available for sale. If B.C. Hydro sets a Threshold Sale Price but no maximum quantity of Surplus Hydro Electricity available for sale, then all quantities of electricity available for sale to Powerex by B.C. Hydro shall be subject to this Section 5.1 until different instructions are provided by B.C. Hydro to Powerex. Subject to system constraints, B.C. Hydro shall deliver and 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. B.C. Hydro shall sell to Powerex and Powerex shall purchase from B.C. Hydro any Net Delivered Quantity to Powerex allocated as a sale under this Section 5.1 pursuant to Section 3.2.1.

5.2. Purchase and Sale of B.C. Hydro's Requirements

Except as provided by Interutility Agreements, B.C. Hydro shall purchase exclusively from Powerex all electricity required by B.C. Hydro to serve Domestic Load that is not supplied from the B.C. Hydro System. From time to time, B.C. Hydro may notify Powerex of the Threshold Purchase Price and any maximum quantity of electricity B.C. Hydro wishes to purchase. If B.C. Hydro does not set a Threshold Purchase Price at any time, it will be deemed to not require electricity from Powerex for the purpose of serving Domestic Load. If B.C. Hydro sets a Threshold Purchase Price but no maximum quantity, then all quantities of electricity available for sale by Powerex to B.C. Hydro shall be subject to this Section 5.2 until different instructions are provided by B.C. Hydro to Powerex. Subject to system constraints, B.C. Hydro shall receive electricity from Powerex and 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. B.C. Hydro shall purchase from Powerex and Powerex shall sell to B.C. Hydro any Net Delivered Quantity to B.C. Hydro allocated as a purchase under this Section 5.2 pursuant to Section 3.2.2.

5.3. **Purchases in U.S. to Satisfy B.C. Hydro's Skagit Treaty Obligations**

For each MWh that Powerex delivers to the City of Seattle on behalf of B.C. Hydro to fulfil B.C. Hydro's obligations under agreements entered into pursuant to the Skagit River Valley Treaty from purchases by Powerex in the U.S., B.C. Hydro will pay to Powerex an amount equal to the Electricity Transfer Price in accordance with Section 8.1.3.

6. PURCHASE AND SALE OF ELECTRICITY - ELECTRICITY TRADE

6.1. Sale to B.C. Hydro

Subject to Section 6.3, at any time when the Electricity Transfer Price is expected by Powerex to be greater than the Threshold Purchase Price or when B.C. Hydro does not require electricity from Powerex to serve Domestic Load, Powerex may schedule and deliver electricity for sale to B.C. Hydro. B.C. Hydro shall purchase from Powerex and Powerex shall sell to B.C. Hydro any Net Delivered Quantity to B.C. Hydro allocated as a purchase under this Section 6.1 pursuant to Section 3.2.2. Such purchases and sales shall be recorded by the parties in the Trade Account as a credit for Powerex's benefit in terms of both quantity of electricity (in MWh) and monetary value (in accordance with Section 8.2.1 or 8.2.2, as applicable).

6.2. Purchase by Powerex

Subject to Section 6.3, at any time when the Electricity Transfer Price is expected by Powerex to be less than the Threshold Sale Price or when B.C. Hydro does not have Surplus Hydro Electricity for sale, B.C. Hydro shall at Powerex's request schedule and deliver electricity to Powerex. B.C. Hydro shall sell to Powerex and Powerex shall purchase from B.C. Hydro any Net Delivered Quantity to Powerex allocated as a sale under this Section 6.2 pursuant to Section 3.2.1. Such purchases and sales shall be recorded by the parties in the Trade Account as a debit to Powerex in terms of both quantity

of electricity (in MWh) and monetary value (in accordance with Section 8.2.1 or 8.2.2, as applicable).

6.3. **Purchases and Sales Subject to System Capability**

The right of Powerex to sell electricity to B.C. Hydro under Section 6.1 and purchase electricity from B.C. Hydro under Section 6.2 shall be subject to:

6.3.1. Surplus System Capability being available; and

6.3.2. the capability of the Transmission System and B.C. Hydro's rights to use the Transmission System.

6.4. **Trade Account Transactions Using FBC Export Capability and FBC Import Capability**

At the request of Powerex, for any hour:

6.4.1. B.C. Hydro shall record a sale of electricity to Powerex from B.C. Hydro as a debit to the Trade Account, up to the amount of the FBC Export Capability in that hour; and

6.4.2. B.C. Hydro shall record a sale of electricity from Powerex to B.C. Hydro as a credit to the Trade Account, up to the amount of the FBC Import Capability in that hour;

regardless of the Threshold Sale Price, Threshold Purchase Price or the Electricity Transfer Price for that hour. Such sales shall be recorded by the parties (i) in the Trade Account as a debit or credit to Powerex in terms of both quantity of electricity (in MWh) and monetary value (in accordance with Section 8.2.1 or 8.2.2, as applicable), and (ii) in the FBC Purchase Account as a corresponding debit or credit in terms of quantity of electricity (in MWh).

6.5. **FBC Purchase Account Limits**

Powerex shall maintain the FBC Purchase Account to between zero and 30 GW.h (or such other amount as the parties may agree from time to time), and shall reduce the FBC

Purchase Account to zero at end of day on July 31 of each year. Any such reduction will reduce the Trade Account by a corresponding amount.

6.6. ~~6.4.~~ **Sale to B.C. Hydro when Spill Conditions probable**

B.C. Hydro will from time to time provide Powerex with a forecast of the maximum positive balance in the Trade Account (in GW.h) for future months that the B.C. Hydro System can reliably carry. B.C. Hydro may from time to time, revise the forecast as required, provided that such revisions will not reduce the maximum positive balance in the Trade Account by more than 200 GW.h in any period of 30 consecutive days and provided further that B.C. Hydro may not revise its forecast at any time during reservoir spill conditions. If Powerex sells electricity to B.C. Hydro pursuant to Section 6.1 at any time resulting in the positive balance in the Trade Account exceeding the forecast maximum positive balance, then the excess electricity will be recorded in the Trade Account as Excess Electricity for so long as the Trade Account balance exceeds the maximum positive balance. If spill conditions actually occur, B.C. Hydro may by notice to Powerex require Powerex to schedule and receive electricity up to the quantity of Excess Electricity. If B.C. Hydro is unable to deliver the electricity due to (i) system constraints, (ii) Powerex's inability to receive the electricity, or (iii) unavailability of the Transmission System, and B.C. Hydro actually spills water over its dams without generating electricity, B.C. Hydro will be deemed to have sold to Powerex the lesser of (A) the quantity (in MWh) of electricity actually spilled, and (B) the quantity (in MWh) of electricity not delivered, up to the quantity of Excess Electricity recorded in the Trade Account and the Trade Account will be debited in accordance with Section 8.2.1 or 8.2.2, as applicable.

6.7. ~~6.5.~~ **Purchases by B.C. Hydro when Negative Balance in Trade Account**

If and to the extent that there is a negative balance in the Trade Account (in MWh), Powerex shall sell electricity to B.C. Hydro pursuant to Section 6.1 to eliminate or reduce the negative balance as may be required to maintain the B.C. Hydro System within its physical constraints, as determined by B.C. Hydro in its sole discretion.

6.8. ~~6.6.~~ **Alteration of Maintenance Schedules**

B.C. Hydro will use commercially reasonable efforts to schedule the maintenance of the B.C. Hydro System in as an efficient manner as possible to optimize the capability of the B.C. Hydro System to facilitate electricity trading by Powerex in markets outside of British Columbia. Powerex may from time to time request that B.C. Hydro alter the maintenance schedules for any of B.C. Hydro's generators or request alteration of maintenance schedules of the Transmission System for the purpose of accommodating transactions contemplated by Section 6.1 or 6.2. B.C. Hydro may, in its sole discretion, agree to accommodate Powerex's requests. If B.C. Hydro alters maintenance schedules in response to a Powerex request, Powerex shall reimburse B.C. Hydro for incremental costs associated with the alteration of such maintenance schedules.

7. GAS-FIRED GENERATION PLANTS

7.1. Purchase by Powerex from B.C. Hydro's Gas-Fired Generation Plants

At any time when electricity generated by any of the Thermal Generation Plants is not required to serve Domestic Load, B.C. Hydro may at the request of Powerex, but in its sole discretion, operate such Thermal Generation Plants to generate electricity, subject to Powerex supplying, at its own cost, all Gas required to generate the requested electricity and paying to B.C. Hydro the Variable Operating Costs to generate the requested electricity. The quantity of electricity generated at Powerex's request at the applicable Thermal Generation Plant from the Gas supplied by Powerex pursuant to this Section 7.1 shall be calculated based on the heat rate applicable to generating the requested electricity, taking into account any payment or benefit received by B.C. Hydro from the owner or operator of the Thermal Generation Plant as a result of Powerex's use of the Thermal Generation Plant, which quantity of electricity shall be deemed to be purchased by B.C. Hydro from Powerex pursuant to Section 6.1 regardless of the Threshold Purchase Price or the Electricity Transfer Price at the time. Such sales shall be recorded by the parties in the Trade Account as a credit for Powerex's benefit in terms of both quantity of electricity (in MWh) and monetary value (in accordance with Section 8.2.1 or 8.2.2, as applicable).

7.2. **Displacement of Generation at Powerex's Request**

B.C. Hydro may at the request of Powerex, but in its sole discretion, displace generation of electricity at any Thermal Generation Plant, which electricity would otherwise serve Domestic Load, by electricity delivered from the Trade Account and subject to Powerex paying to B.C. Hydro the Variable Operating Costs attributable to such displacement. The parties acknowledge and agree that the quantity of Gas to be delivered by Powerex pursuant to Section 10.1 for the applicable Thermal Generation Plant shall be reduced accordingly during the period of displacement, provided that B.C. Hydro shall nevertheless be required to pay Powerex for the entire quantity of Gas that was to be purchased, absent such displacement. The quantity of electricity delivered from the Trade Account to displace electricity generated at the applicable Thermal Generation Plant shall be deemed to be sold by B.C. Hydro to Powerex pursuant to Section 6.2 regardless of the Threshold Sale Price or the Electricity Transfer Price at the time. Such transactions shall be recorded by the parties in the Trade Account as a debit to Powerex in terms of both quantity of electricity (in MWh) and monetary value (in accordance with Section 8.2.1 or 8.2.2, as applicable).

8. PAYMENTS FOR ELECTRICITY TRANSACTIONS

8.1. **Payments for Electricity Transactions**

The parties acknowledge and agree that:

8.1.1. Powerex shall pay to B.C. Hydro the amount obtained by multiplying each MWh of Surplus Hydro Electricity sold by B.C. Hydro to Powerex under Section 5.1 by the Electricity Transfer Price applicable thereto;

8.1.2. B.C. Hydro shall pay to Powerex the amount obtained by multiplying each MWh of electricity sold by Powerex to B.C. Hydro under Section 5.2 by the Electricity Transfer Price applicable thereto; and

8.1.3. B.C. Hydro shall pay to Powerex the amount obtained by multiplying each MWh of electricity delivered by Powerex to the City of Seattle on behalf of B.C. Hydro to fulfil B.C. Hydro's obligations under agreements entered into

pursuant to the Skagit River Valley Treaty, from purchases by Powerex in the U.S., by the Electricity Transfer Price applicable thereto.

8.2. **Adjustments to the Trade Account Balance**

The parties acknowledge and agree that:

8.2.1. if at the beginning of a calendar month, the opening balance of the Trade Account (in MWh) is zero or a positive amount, then:

8.2.1.1. the monetary value credited to the Trade Account for each MWh of electricity sold or deemed to be sold by Powerex to B.C. Hydro under ~~Section~~Sections 6.1 and 6.4.2 during that calendar month, shall be the amount obtained by multiplying each such MWh of electricity sold or deemed to be sold by the Electricity Transfer Price applicable thereto; and

8.2.1.2. the monetary value debited to the Trade Account for each MWh of electricity sold or deemed to be sold by B.C. Hydro to Powerex under Sections ~~6.2~~6.2, 6.4.1 and ~~6.4~~6.6 during that calendar month, shall be the amount obtained by multiplying each such MWh of electricity sold or deemed to be sold by the following amount (in US$/MWh):

8.2.1.2.1. the sum of the monetary value of (a) the Trade Account at the beginning of the calendar month, and (b) all electricity credited to the Trade Account during that calendar month in accordance with Section 8.2.1.1; divided by

8.2.1.2.2. the sum of the number of MWh (a) in the Trade Account at the beginning of the calendar month, and (b) credited to the Trade Account during that calendar month,

unless and until the balance in the Trade Account during that calendar month becomes negative, in which case, the monetary value debited to the Trade Account for each MWh of electricity thereafter sold or deemed to be sold by B.C. Hydro to Powerex under Sections ~~6.2~~6.2, 6.4.1 and ~~6.4~~6.6 during that calendar month, shall be the amount obtained by multiplying each such MWh of electricity sold or deemed to be sold by the Electricity Transfer Price applicable thereto,

all calculated and determined at the end of each calendar month; and

8.2.2. if at the beginning of a calendar month, the opening balance of the Trade Account (in MWh) is a negative amount, then:

8.2.2.1. the monetary value debited to the Trade Account for each MWh of electricity sold or deemed to be sold by B.C. Hydro to Powerex under Sections ~~6.2~~6.2, 6.4.1 and ~~6.4~~6.6 during that calendar month, shall be the amount obtained by multiplying each such MWh of electricity sold or deemed to be sold by the Electricity Transfer Price applicable thereto; and

8.2.2.2. the monetary value credited to the Trade Account for each MWh of electricity sold or deemed to be sold by Powerex to B.C. Hydro under ~~Section~~Sections 6.1 and 6.4.2 during that calendar month, shall be the amount obtained by multiplying each such MWh of electricity sold or deemed to be sold by the following amount (in US$/MWh):

8.2.2.2.1. the sum of the monetary value of (a) the Trade Account at the beginning of the calendar month, and (b) all electricity debited to the Trade Account during that calendar month in accordance with Section 8.2.2.1; divided by

8.2.2.2.2. the sum of the number of MWh (a) in the Trade Account at the beginning of the calendar month, and (b) debited to the Trade Account during that calendar month,

unless and until the balance in the Trade Account during that calendar month becomes zero or a positive amount, in which case, the monetary value credited to the Trade Account for each MWh of electricity thereafter sold or deemed to be sold by Powerex to B.C. Hydro under ~~Section~~Sections 6.1 and 6.4.2 during that calendar month, shall be the amount obtained by multiplying each such MWh of electricity sold or deemed to be sold by the Electricity Transfer Price applicable thereto,

all calculated and determined at the end of each calendar month.

9. DELIVERY POINT, TRANSMISSION CHARGES, ANCILLARY SERVICES. SCHEDULING

9.1. Delivery Point, Title and Risk

Unless the parties agree otherwise:

9.1.1. subject to Section 9.1.3, electricity sold by B.C. Hydro to Powerex under Sections 5.1 and 6.2 and electricity purchased by B.C. Hydro from Powerex under Sections 5.2 and 6.1 shall be made available, and title and risk of loss shall pass from the seller to the buyer, at either the British Columbia--United States border or the British Columbia--Alberta border, as determined by Powerex;

9.1.2. electricity delivered by Powerex to B.C. Hydro under Section 7.1 shall be made available and title and risk of loss shall pass from Powerex to B.C. Hydro at the point of interconnection between the applicable Thermal Generation Plant and the Transmission System; and

9.1.3. electricity purchased by Powerex from independent power producers in British Columbia and sold to B.C. Hydro under Section 5.2 or 6.1 shall be made available and title and risk of loss shall pass from Powerex to B.C. Hydro at the point of interconnection between the third party and the Transmission System.

9.2. **Transmission Charges and Ancillary Services**

B.C. Hydro shall pay for all transmission charges and shall self-supply all losses and ancillary services charges, on the Transmission System for electricity transactions under this Agreement. Unless otherwise determined by B.C. Hydro, acting reasonably, Powerex will pay to B.C. Hydro an amount equal to the parties' reasonable estimate of:

9.2.1. the point-to-point transmission costs incurred by B.C. Hydro presently under Rate Schedule 3000 and 3001 in respect of transactions under this Agreement other than sales by B.C. Hydro to Powerex of Surplus Hydro Electricity under Section 5.1, excluding

9.2.2. the point-to-point transmission costs incurred by B.C. Hydro in respect of transactions under any Interutility Agreements, to fulfill any of B.C. Hydro's treaty obligations and transactions in respect of the Canadian Entitlement,

in accordance with Section 15. Such amount is the parties' reasonable allocation of the point-to-point transmission costs incurred by B.C. Hydro in respect of Powerex's trading activities other than in respect of the Canadian Entitlement.

9.3. **Scheduling**

All electricity delivered by Powerex to B.C. Hydro or by B.C. Hydro to Powerex under this Agreement shall be delivered in accordance with standard scheduling practices applicable to the Transmission System.

10. **GAS MARKETING**

10.1. **Purchase and Sale of B.C. Hydro's Gas Requirements**

Powerex shall use commercially reasonable efforts to make available to B.C. Hydro, and B.C. Hydro shall purchase exclusively from Powerex B.C. Hydro's Domestic Gas Requirements. B.C. Hydro shall purchase from Powerex and Powerex shall sell to B.C. Hydro all Gas requested by B.C. Hydro under this Agreement from time to time.

10.2. **Notification of Monthly Requirements**

B.C. Hydro will notify Powerex by the 15th day of each month during the Term (or if that day is not a business day, then the next ensuing business day), of its Domestic Gas Requirements (in GJ/day) for each day of the next following month (or months), specifying the quantity of Gas (in GJ/day) required for each Thermal Generation Plant and for the Gas Utility Contracts (in each case, the "Specified Contract Quantity"). B.C. Hydro agrees to purchase the Specified Contract Quantity from Powerex.

10.3. **Notification of Daily Requirements**

B.C. Hydro may notify Powerex at any time during a month, of the Domestic Gas Requirements (in GJ/day) in addition to the Specified Contract Quantity, that it projects will be required during any remaining day in the month specified by B.C. Hydro. B.C. Hydro's notice shall specify the quantity of Gas (in GJ/day) required for each Thermal Generation Plant and for the Gas Utility Contracts (in each case, the "Additional Daily Quantity"). B.C. Hydro agrees to purchase the Additional Daily Quantity from Powerex.

10.4. **Market Indices**

B.C. Hydro may in a notice contemplated by Section 10.2 specify which of the Monthly Index Prices are to be used for the purposes of determining the Gas Transfer Price applicable for such transactions. Such determination shall be for pricing purposes only and shall in no way determine the source from which Powerex is to purchase the Gas to be sold by Powerex to B.C. Hydro hereunder. Powerex shall use commercially reasonable efforts to purchase Gas for delivery to B.C. Hydro under this Agreement at the most favourable

Monthly Index Price (if B.C. Hydro does not specify any such Monthly Index Price) or Daily Index Price, as the case may be, taking into account transportation costs and availability.

10.5. **Payments for Domestic Gas Requirements**

B.C. Hydro shall pay to Powerex the amount obtained by multiplying the applicable Gas Transfer Price by:

10.5.1. the Specified Contract Quantity actually delivered by Powerex to B.C. Hydro each day (in GJ) in accordance with this Agreement plus all Gas Losses applicable to such quantities of Gas actually delivered; and

10.5.2. the Additional Daily Quantity actually delivered by Powerex to B.C. Hydro each day (in GJ) in accordance with this Agreement plus all Gas Losses applicable to such quantities of Gas actually delivered.

All quantities of Gas delivered during any day by Powerex to B.C. Hydro under the terms of this Agreement shall be deemed for the purpose of this Agreement to be delivered firstly on account of the Specified Contract Quantity up to the Specified Contract Quantity, and thereafter on account of the Daily Additional Quantity.

10.6. **Title and Risk**

Possession to, title to and all risk of loss respecting the Gas delivered under this Agreement shall pass from Powerex to B.C. Hydro, at the applicable Gas Delivery Point.

10.7. **Gas Transportation and Storage**

B.C. Hydro shall be responsible for obtaining all third-party Gas transportation and storage capacity required to deliver B.C. Hydro's Domestic Gas Requirements from the point of purchase of the Gas by Powerex from third parties (the "Source Point") to the applicable Gas Delivery Point (such transportation and storage capacity referred to herein as the "Transportation Capacity"). All costs and expenses of transporting and delivering the Gas to the Source Point shall be borne by Powerex and all costs and expenses of transporting

the Gas beyond the Source Point shall be borne by B.C. Hydro, including without limitation, all reservation, demand and other charges. Powerex will assist B.C. Hydro, as and when requested by B.C. Hydro and at B.C. Hydro's cost and expense, to obtain the Transportation Capacity. B.C. Hydro hereby grants to Powerex the exclusive right and authority to use any of the Transportation Capacity and B.C. Hydro shall take all necessary steps to enable Powerex to fully use and nominate such Transportation Capacity for Powerex's own account, when not required to deliver B.C. Hydro's Domestic Gas Requirements. Powerex shall pay to B.C. Hydro the Variable Transportation Costs, if applicable, for such use by Powerex of the Transportation Capacity. Powerex shall be responsible for arranging all third-party Gas transportation required to sell Gas that is surplus to B.C. Hydro's Domestic Gas Requirements.

10.8. **B.C. Hydro's Failure to Receive Gas**

If B.C. Hydro fails to receive all or part of the Specified Contract Quantity or Additional Daily Quantity, unless excused by Powerex's failure to perform, then:

10.8.1. B.C. Hydro will pay to Powerex an amount for each GJ of such Gas not received by B.C. Hydro, equal to the positive difference, if any, obtained by subtracting the Sales Price from the applicable Gas Transfer Price; or

10.8.2. Powerex will pay to B.C. Hydro an amount for each GJ of such Gas not received by B.C. Hydro, equal to the positive difference, if any, obtained by subtracting the applicable Gas Transfer Price from the Sales Price,

where "Sales Price" for the purpose of this Section 10.8, means the Daily Index Price contemplated by Section 1.1.3(b) of Appendix B (or otherwise as specified in any amendment thereto).

10.9. **Gas Imbalance Inventory**

B.C. Hydro acknowledges and agrees that all Gas imbalance inventories in the Transportation Capacity recorded with the applicable transportation providers, shall belong to Powerex, to use as it may determine in its sole discretion. If and to the extent that any Thermal Generation Plant consumes in any day, more Gas than has been requested by

B.C. Hydro, and such excess quantity of Gas is delivered to the Gas Delivery Point from the Gas imbalance inventories of Powerex on an unscheduled basis, B.C. Hydro shall pay to Powerex the Daily Index Price (which Daily Index shall be determined by Powerex in its sole discretion) for such excess quantity of Gas. Otherwise, Gas scheduled and delivered by Powerex to B.C. Hydro from the Gas Imbalance Inventories shall be priced in accordance with Section 10.4.

10.10. **Imbalance Charges**

The parties shall use commercially reasonable efforts to avoid imposition of any Imbalance Charges. If Imbalance Charges are incurred as a result of B.C. Hydro's actions or inactions (which shall include, but shall not be limited to, B.C. Hydro's failure to accept quantities of Gas equal to the quantities requested by B.C. Hydro), then B.C. Hydro shall pay such Imbalance Charges, or reimburse Powerex for such Imbalance Charges paid by Powerex to the applicable transportation provider. If the Imbalance Charges were incurred as a result of Powerex's actions or inactions (which shall include, but shall not be limited to, Powerex's failure to deliver quantities of Gas equal to the quantities requested by B.C. Hydro), then Powerex shall pay for such Imbalance Charges or reimburse B.C. Hydro for such Imbalance Charges paid by B.C. Hydro to the applicable transportation provider.

10.11. **Taxes**

B.C. Hydro shall pay or reimburse Powerex for all sales, motor fuel, transfer and other taxes incurred by Powerex in connection with the purchase of Gas by Powerex from third parties for sale to B.C. Hydro under the terms of this Agreement or otherwise applicable to the purchase of Gas by B.C. Hydro from Powerex under the terms of this Agreement.

11. **FORWARD PURCHASES AND SALES FOR B.C. HYDRO**

11.1. **Forward Purchases and Sales for B.C. Hydro**

B.C. Hydro and Powerex may from time to time enter into forward fixed-price, fixed-volume contracts for the purpose of managing market risk associated with purchases of electricity or Gas to meet Domestic Load, or sales of Surplus Hydro Electricity. Such forward contracts will be executed at agreed-upon prices based on prevailing market

conditions and will be financially-settled against an agreed-upon market index. B.C. Hydro and Powerex may agree to wholly or partially close any resulting forward position by entering into an offsetting forward contract at an agreed-upon fixed price based on then prevailing market conditions.

12. TRANSFER PRICING PRINCIPLES

12.1. Electricity Transfer Pricing Principle

The parties acknowledge and agree that all electricity sold and purchased or deemed to be sold and purchased between B.C. Hydro and Powerex pursuant to Sections 5 and 6 of this Agreement are deemed for transfer pricing purposes to occur at the British Columbia-United States border. B.C. Hydro and Powerex declare 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 during heavy load hours in a day or light load hours in a day, whichever is applicable, at which parties acting on an arms-length basis would be willing to transact.

12.2. Gas Transfer Pricing Principle

The parties acknowledge and agree that all Gas sold to B.C. Hydro by Powerex pursuant to Section 10 of this Agreement is deemed for transfer pricing purposes to occur at the Source Point corresponding to the applicable index price specified by B.C. Hydro or determined by Powerex in accordance with Section 10.4. B.C. Hydro and Powerex declare that the Gas Transfer Price is intended to be established as a sale price that reflects the fair market value of Gas delivered at such applicable Source Point on a monthly or daily basis, as applicable, at which parties acting on an arms-length basis would be willing to transact.

12.3. Electricity Transfer Price and Gas Transfer Price

The parties agree that the initial pricing methodology for determining the Electricity Transfer Price is as set forth in Appendix A and the Gas Transfer Price is as set forth in Appendix B.

12.4. **Pricing Methodology**

B.C. Hydro and Powerex acknowledge that from time to time during the term of this Agreement different methods for determining the Electricity Transfer Price or Gas Transfer Price, as the case may be, may be appropriate to meet the applicable Transfer Pricing Principle. No earlier than April 1, 2004 or 12 months since the pricing methodology was last established, if a party believes that the then current pricing methodology for determining the Electricity Transfer Price or the Gas Transfer Price, as the case may be, (including any values established under it) would produce a price that does not meet the Transfer Pricing Principle during the next 12 months, the party may, by notice to the other party, seek to renegotiate the then current pricing methodology. The parties shall negotiate in good faith to establish, within 90 days of such notice, a new pricing methodology for determining the Electricity Transfer Price or the Gas Transfer Price, as the case may be, to replace the then current methodology. If the parties are unable to negotiate a new pricing methodology for determining the Electricity Transfer Price or the Gas Transfer Price, as the case may be, within such time, either party may submit the matter to dispute resolution pursuant to Section 19. Upon agreement or determination of the new pricing methodology by dispute resolution, the new pricing methodology shall become effective at the beginning of the month immediately following the 90th day after the initial notice and the parties shall adjust amounts paid from that date. In no event shall the parties adjust the amounts paid or payable for any period prior to the effective date of the new pricing methodology.

13. **INFORMATION AND FORECASTS**

13.1. **Information and Forecasts**

The parties shall provide information to each other on system and market conditions, including, without limitation, the forecasts (and revisions thereof) to be provided by B.C. Hydro to Powerex pursuant to Sections ~~6.4~~6.6 and 13.2; provided, however that the foregoing and any information sharing with respect to the transmission capabilities of the B.C. Hydro System shall be done only within the information sharing limits set forth in the Standards of Conduct for Grid Operations and InterUtility Affairs or successor policies of

B.C. Hydro published from time to time by B.C. Hydro and the information sharing limits imposed by pertinent Canadian and United States regulatory authorities.

13.2. **Gas Information and Forecasts**

B.C. Hydro shall provide to Powerex, in accordance with North American industry standards, ongoing forecasts regarding B.C. Hydro's surplus Gas position, demand for Gas and the status of physical storage and delivery for B.C. Hydro's Gas, and shall coordinate and cooperate with Powerex regarding the same; provided, however that the foregoing shall be done only within the information sharing limits imposed by pertinent Canadian and United States regulatory authorities.

14. CONFIDENTIAL INFORMATION

14.1. Powerex Information Is Confidential

B.C. Hydro acknowledges that Powerex operates in a highly competitive market and that disclosure of information relating to Powerex, its business and operations could be reasonably expected to significantly harm the competitive position of Powerex or interfere with the negotiating position of Powerex with trading counterparties. Accordingly, information provided by Powerex at the request of B.C. Hydro, including information in connection with B.C. Hydro's audit from time to time, is proprietary and is provided only on condition that it shall be kept confidential by B.C. Hydro and not disclosed to any third party.

14.2. B.C. Hydro Information Is Confidential

Powerex acknowledges that disclosure of information relating to B.C. Hydro, its business and operations could be reasonably expected to significantly harm the competitive position of B.C. Hydro. Accordingly, information provided by B.C. Hydro at the request of Powerex is proprietary and is provided only on condition that it shall be kept confidential by Powerex and not disclosed to any third party.

15. **BILLING; PAYMENTS.**

15.1. **Powerex to Provide Statement for Electricity and Gas Transactions**

Powerex shall send to B.C. Hydro for each calendar month statements setting forth:

15.1.1. the total electricity that was delivered during that month, and

15.1.2. the total Gas that was delivered during that month,

in each case with sufficient detail to enable the parties to determine the amount received and the payments due in connection therewith. Statements shall be sent within 10 days of the end of the month.

15.2. **B.C. Hydro to Provide Statement**

B.C. Hydro shall send to Powerex for each calendar month statements setting forth the amount owing by Powerex to B.C. Hydro or by B.C. Hydro to Powerex pursuant to Sections ~~6.6,~~6.8, 7.1 (Variable Operating Costs), 7.2 (Variable Operating Costs), 9.2 and 10.7 (Variable Transportation Costs) for that month, with sufficient detail to enable the parties to determine the payment due in connection therewith. Statements shall be sent within 10 days of the end of the month.

15.3. **Netting and Payment**

The amounts that each party owes to the other for electricity and Gas under this Agreement for each month shall be aggregated and the party, if any, owing the greater aggregate amount shall pay to the other party the difference between the amounts owed. Unless otherwise agreed between the parties, payments shall be due on or before the 25th day of the month, or if such day is not a business day, the immediately following business day, and shall be made by wire transfer or other agreed manner. Unless otherwise agreed between the parties, overdue payments shall accrue interest from, and including, the due date to, but excluding, the date of payment at the Prime Rate plus 2%. US dollars shall be converted to Canadian dollars using the Bank of Montreal, Toronto, monthly average noon-rate of the month during which the payment obligations were incurred.

15.4. **Dispute of Invoices**

Each party shall have the right to dispute any amount which is set out in any statement or invoice in accordance with the procedure set out in Section 19. All statement and invoice amounts shall be paid pending resolution of any dispute.

16. **REPRESENTATIVES OF THE PARTIES**

16.1. **Designated Representatives**

B.C. Hydro and Powerex may from time to time designate representatives for the purpose of giving or confirming any approval required pursuant to this Agreement. As of the date hereof, the representative of B.C. Hydro shall be its President or delegate, and the representative of Powerex shall be its President or delegate.

17. **FORCE MAJEURE**

17.1. **Suspension for Force Majeure**

If either party is or was wholly or partly unable because of a Force Majeure, to perform an obligation arising from this Agreement and claims that a Force Majeure is occurring or has occurred and reasonably establishes that fact, then the performance of the obligation shall be deemed to be suspended provided always that:

17.1.1. the suspension shall be of no greater scope and no longer duration than the Force Majeure,

17.1.2. the non-performing party shall make its best efforts to counter the Force Majeure or to otherwise remedy its inability to perform the obligation,

17.1.3. a performance required at a time other than when the Force Majeure is occurring shall not be excused by the Force Majeure,

17.1.4. an obligation to pay any fees when due shall not be excused by the Force Majeure; however, to the extent that there are any savings to either party as a

result of the Force Majeure, that party shall pass on any savings to the other party so as to reduce its obligation accordingly.

18. INDEMNITY AND CONSEQUENTIAL DAMAGES

18.1. Indemnity

Each party shall indemnify the other party and its employees, agents and subcontractors from and against any and all claims, demands, losses, costs, damages, actions, suits or other proceedings made, sustained, brought or prosecuted which such other party may incur, suffer or be put to arising out of, or in any way based upon, any act or omission of such other party performing its obligations under this Agreement unless such act or omission constitutes gross negligence or wilful misconduct on the part of such other party.

18.2. Consequential Damages

In no event shall either party be liable to the other or to any third party for incidental, indirect, special or consequential damages, howsoever caused and on any theory of liability, arising out of or related to the performance of this Agreement.

19. DISPUTE RESOLUTION

19.1. Disputes Defined

For purposes of this Section 19, "Dispute" means any dispute that arises under or in connection with this Agreement and includes any failure to agree upon the Electricity Transfer Price, the Gas Transfer Price or the amounts contemplated by Section 9.2, from time to time or any of the factors that go into determining such prices.

19.2. Senior Executives

The parties shall use reasonable efforts to settle all Disputes. In the event any such Dispute is not settled within 30 days after the date such Dispute arises, each party shall within 10 days refer the matter in dispute to its Chief Executive Officer (the "Senior Executives). The Senior Executives shall meet within 21 days to attempt to negotiate a resolution of the

Dispute. Settlement offers shall not be admissible in any subsequent dispute resolution process.

19.3. **Arbitration**

If the parties have not succeeded in negotiating a resolution of the Dispute within 30 days after the first meeting of the Senior Executives or if the Senior Executives do not meet within 10 days, the parties shall be deemed to be at an impasse and either party may commence arbitration procedures in accordance with this Section. Unless the parties otherwise agree, any arbitration commenced in accordance with this Section 19 shall be determined by a single arbitrator and shall proceed in accordance with the Domestic Commercial Arbitration Rules of Procedure of the British Columbia International Commercial Arbitration Centre, as they may be in force at the time of the arbitration.

19.4. **Sole Means of Resolving Dispute**

The parties declare that arbitration pursuant to this Section 19 shall be the exclusive means of resolving any Dispute and the determination of the arbitrator shall be final and binding. The parties expressly declare that the arbitrator shall have the express authority to determine the Electricity Transfer Price, the Gas Transfer Price or the amounts contemplated by Section 9.2, from time to time in the event of a Dispute.

20. **NOTICES**

20.1. **Notices**

Any notice or other communication provided for herein or given hereunder to a party shall be in writing and shall be delivered by facsimile transmission, or in person to the individual listed below:

20.1.1. to Powerex:

Powerex Corp.
Suite 1400, Park Place
666 Burrard Street
Vancouver, British Columbia
V6C 2X8

Attention: President

20.1.2. to B.C. Hydro:

British Columbia Hydro and Power Authority
333 Dunsmuir Street
Vancouver, British Columbia
V6B 5R3

Attention: President

or such other address with respect to a party as such party shall notify the other in writing as above provided. Notices by facsimile transmission shall be deemed given upon verification of successful transmission and notice in person shall be deemed given upon actual delivery.

21. MISCELLANEOUS

21.1. Waiver by Agreement

This Agreement and any provision hereof may only be amended, waived, discharged, or terminated by an instrument in writing signed by the party against whom enforcement of the amendment, waiver, discharge, or termination is sought.

21.2. Non-Waiver

No waiver or successive waivers by a party of any provision of this Agreement shall operate as a discharge of such covenant, agreement, or condition or render the same invalid or impair the right of one party to enforce the same in the event of any subsequent breach or breaches by the other.

21.3. Amendments

If at any time during this Agreement the parties consider it necessary or expedient to make an amendment, supplement, waiver, or other modification to this Agreement they may do so only by means of a written agreement between them.

21.4. **Severability**

If any term, covenant, or condition of this Agreement or application thereof to any person or circumstances shall to any extent be invalid, illegal, or unenforceable in any respect, the remainder of this Agreement or application of such term, covenant, or condition to such person or circumstance other than those as to which it is held invalid, illegal or unenforceable shall not be affected thereby, and each term, covenant, or condition of this Agreement and this Agreement shall be valid and legal and shall be enforced to the fullest extent permitted by law.

21.5. **Complete Agreement**

This Agreement represents the entire agreement of the parties with respect to the subject matter hereof.

21.6. **Other Agreements**

If there is any conflict between the provisions of this Agreement and any other agreement entered into prior to this Agreement, then the provisions of this Agreement shall control.

21.7. **Governing Laws**

This Agreement and the rights and obligations of the parties hereto shall be governed by and be construed in accordance with the laws of the Province of British Columbia.

21.8. **Headings**

The headings in this Agreement have been inserted for reference only and do not define, limit, alter, or enlarge the meaning of any provision of this Agreement.

21.9. **Assignment**

This Agreement may not be assigned, in whole or in part, by Powerex without the prior written consent of B.C. Hydro.

21.10. **Successors And Assigns**

This Agreement is binding upon and shall inure to the benefit of the parties hereto and their respective successors and assigns.

21.11. **Counterparts**

This Agreement may be executed in two or more counterparts, each of which shall be deemed an original but all of which shall constitute but one instrument.

21.12. **Third Party Beneficiaries**

Except as provided expressly by this Agreement, nothing in this Agreement nor its performance shall be relied upon by third parties or create any rights or obligations to third parties.

21.13. **Non Restriction**

Nothing in this Agreement is intended to limit Powerex from conducting transactions outside of this Agreement.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of the day and year first above written.

BRITISH COLUMBIA HYDRO AND POWER AUTHORITY

By:_____

POWEREX CORP.

By: _____

APPENDIX A

CALCULATION OF ELECTRICITY TRANSFER PRICE

1. INTERPRETATION

1.1. Definitions

For purposes of this Appendix A the following words and terms shall have the following meanings:

1.1.1. "Agreement" means the transfer pricing agreement to which this Appendix A is attached and of which it forms a part.

1.1.2. "BPA" means Bonneville Power Administration.

1.1.3. "DJMC" means the relevant index published by DowJones for transactions reported at Mid-Columbia.

1.1.4. "Losses" means the BPA average system-wide loss factor (as a percentage) charged under BPA's tariff multiplied by the On-Peak Price or the Off-Peak Price, as the case may be, for the applicable hour, plus any other charges for ancillary services.

1.1.5. "NERC" means the North American Electric Reliability Council or any successor organization

1.1.6. "Off-Peak Hours" means the hours ending 1 through 6 and the hours ending 23 and 24, Monday through Saturday, and hours ending 1 through 24 on Sunday and NERC holidays.

1.1.7. "Off-Peak Price" means, for an Off-Peak Hour:

1.1.7.1. for days other than Sundays and NERC holidays, the DJMC Firm Off-Peak Index price (in US$/MWh) for that hour; or

1.1.7.2. for Sundays and NERC holidays, the DJMC Sunday 24-hour Firm Index price (in US$/MWh) for that hour.

1.1.8. "On-Peak Hours" means the hours ending 7 through 22, Monday through Saturday, excluding NERC holidays.

1.1.9. "On-Peak Price" means, for an On-Peak Hour, the DJMC Firm On-Peak Index price (in US$/MWh) for that hour.

1.1.10. "Transmission Costs" means the rate under the prevailing BPA tariff for hourly non-firm transmission.

1.2. **Interpretation**

In this Appendix A, references to Sections are references to Sections of this Appendix unless otherwise specified.

1.3. **DowJones Telerate Index Price**

For purposes of the calculations in this Appendix A, it is assumed that the Mid-Columbia DowJones telerate index price is determined in the manner specified in the DowJones "Wholesale Electricity Price Indexes - Mid-Columbia (Mid-C definition - A/O 6/1/98, revised 12/31/98 and the Electricity Price Indexes calculations revised 12/31/98). In the event that the index prices referred to in this Appendix A are no longer determined in the manner described in the foregoing publications, then, if the change is material, either party may, by notice to the other party, seek to renegotiate the then current pricing methodology, failing which the matter shall be resolved by dispute resolution in accordance with Section 19 of the Agreement.

2. **ELECTRICITY TRANSFER PRICE**

2.1. **Sales by B.C. Hydro to Powerex**

The Electricity Transfer Price payable by Powerex to B.C. Hydro for electricity sold or deemed to be sold to Powerex under Section 5.1 and 6.2 of the Agreement shall be:

2.1.1. for each On-Peak Hour, the price in (US$/MWh) obtained by subtracting from the On-Peak Price for that hour, the Transmission Costs and Losses applicable to the electricity delivered in that hour; and

2.1.2. for each Off-Peak Hour, the price (in US$/MWh) obtained by subtracting from the Off-Peak Price for that hour, the Transmission Costs and Losses applicable to the electricity delivered in that hour.

2.2. **Purchases by B.C. Hydro from Powerex**

The Electricity Transfer Price payable by B.C. Hydro to Powerex for electricity sold or deemed to be sold to B.C. Hydro under Sections 5.2 and 6.1 of the Agreement shall be:

2.2.1. for each On-Peak Hour, the sum (in US$/MWh) of the On-Peak Price for that hour plus the Transmission Costs and Losses applicable to the electricity delivered in that hour; and

2.2.2. for each Off-Peak Hour, the sum (in US$/MWh) of the Off-Peak Price for that hour plus the Transmission Costs and Losses applicable to the electricity delivered in that hour.

2.3. **US Purchases to Meet B.C. Hydro Obligations**

If and to the extent that Powerex purchases electricity in the U.S. for delivery to fulfil B.C. Hydro's obligations under agreements entered into pursuant to the Skagit River Valley Treaty, the Electricity Transfer Price payable by B.C. Hydro to Powerex for such electricity shall be:

2.3.1. for each On-Peak Hour, the sum (in US$/MWh) of the On-Peak Price for that hour, plus Losses applicable to the electricity delivered in that hour; and

2.3.2. for each Off-Peak Hour, the sum (in US$/MWh) of the Off-Peak Price for that hour, plus Losses applicable to the electricity delivered in that hour.

APPENDIX B

CALCULATION OF GAS TRANSFER PRICE

1. **INTERPRETATION**

1.1. **Definitions**

For purposes of this Appendix B the following words and terms shall have the following meanings:

1.1.1. "Agreement" means the Transfer Pricing Agreement to which this Appendix B is attached and of which it forms a part.

1.1.2. "Bid-Week" means the last 5 business days of each calendar month.

1.1.3. "Daily Index Price" means any one of the following daily index prices applicable to the sale of Gas from Powerex to B.C. Hydro pursuant to this Agreement, as determined by Powerex in accordance with Section 10.4 of the Agreement:

(a) The Midpoint of Westcoast, Station 2 index price set out in Gas Daily, as published by Platts, a division of The McGraw-Hill Companies Inc., being the weighted average of all daily fixed price trades at Station 2 daily, reported by index participants.

(b) The Midpoint of Northwest, Canadian border (Sumas) index price set out in Gas Daily, as published by Platts, a division of The McGraw-Hill Companies Inc., being the weighted average of all daily fixed price trades at Sumas daily, reported by index participants.

(c) The AECO-NIT Daily Spot gas index price set out in the Canadian Gas Price Reporter, as published by Canadian Enerdata Ltd., being the volume-weighted average of all gas trades that occur on the

NGX trading platform for a particular delivery day.

(d) The Midpoint of PG&E-GTNW, Kingsgate index price, set out in Gas Daily as published by Platts, a division of The McGraw-Hill Companies Inc. being the weighted average of all daily fixed trades at Kingsgate daily, reported by index participants.

1.1.4. "Monthly Index Price" means any one of the following monthly index prices applicable to the sale of Gas from Powerex to B.C. Hydro pursuant to this Agreement, as specified by B.C. Hydro or determined by Powerex in accordance with Section 10.4 of the Agreement:

(a) The Station 2 one-month spot gas index price as set out in Canadian Gas Price Reporter, published by Canadian Enerdata Ltd., being the volume-weighted average of all monthly fixed price trades as reported by index participants.

(b) The Northwest Pipeline Corp., Canadian Border Index price as set out in inside FERC's gas market report monthly prices of spot gas delivered to pipelines at Sumas, as published by Platts, a division of the McGraw-Hill Companies Inc., being the weighted average of all monthly fixed price trades reported at Sumas during the Bid-Week prior to the month of delivery.

(c) The AECO-NIT One-Month spot gas index price set out in the Canadian Gas Price Reporter, as published by Canadian Enerdata Ltd., being a volume-weighted average of all gas trades that occur on the NGX trading platform for a particular prompt delivery month.

1.1.5.

1.2. **Interpretation**

In this Appendix B, references to Sections are references to Sections of this Appendix unless otherwise specified.

1.3. **Conversion**

Any references to mmBtu's in any Daily Index Price or Monthly Index Price, shall be converted to GJ on the basis that one mmBtu equals 1.055056 GJ's.

1.4. **Index Prices**

In the event that a Monthly Index Price or Daily Index Price, or any other published index price on which the Gas Transfer Price may be based ceases to exist, or ceases to be representative of the price for daily or monthly, as the case may be, fixed price Gas trades, at the applicable trading hub, or the manner of determining such index price materially changes, then either party may, by notice to the other party, seek to renegotiate the applicability of that Monthly Index Price or Daily Index Price and a suitable replacement therefore. Failing which the matter shall be resolved by dispute resolution in accordance with Section 19 of the Agreement.

1.5. **Gas Transfer Price**

The Gas Transfer Prices payable by B.C. Hydro to Powerex are as follows:

1.5.1. the Monthly Index Price as specified by B.C. Hydro or determined by Powerex in accordance with Section 10.4, for each day in which B.C. Hydro has requested a Specified Contract Quantity for use at a Thermal Generation Plant or for the purpose of serving a Gas Utility Contract, as the case may be; and

1.5.2. the Daily Index Price as specified by B.C. Hydro or determined by Powerex in accordance with Section 10.4, for each day in which B.C. Hydro has requested an Additional Daily Quantity for use at a Thermal Generation Plant or for the purpose of serving a Gas Utility Contract, as the case may be.

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Appendix D

Draft Order

bcuc
British Columbia
Utilities Commission

Suite 410, 900 Howe Street
Vancouver, BC Canada V6Z 2N3
P: 604.660.4700
TF: 1.800.663.1385
F: 604.660.1102

ORDER NUMBER
G-xx-xx

IN THE MATTER OF
the *Utilities Commission Act*, RSBC 1996, Chapter 473

and

British Columbia Hydro and Power Authority (BC Hydro)
2020 Transfer Pricing Agreement Application

BEFORE:
Commissioner
Commissioner
Commissioner

on Date

ORDER

WHEREAS:

A. On May 29, 2020, the British Columbia Hydro and Power Authority (BC Hydro) filed with the Commission, pursuant to section 71(1) of the *Utilities Commission Act*, a transfer pricing agreement between it and Powerex Corp. (Powerex) effective April 1, 2020 (2020 TPA);

B. The 2020 TPA is a new transfer pricing arrangement between BC Hydro and Powerex that replaces the 2003 Transfer Pricing Agreement for Electricity and Natural Gas;

C. In its May 29, 2020 application regarding the 2020 TPA (Application), BC Hydro sought an order accepting the 2020 TPA for filing;

D. [DESCRIPTION OF PROCESS]

E. The Commission has reviewed the Application

.../2

NOW THEREFORE the Commission orders as follows:

1. The 2020 TPA is accepted for filing.

DATED at the City of Vancouver, in the Province of British Columbia, this (XX) day of (Month Year).

BY ORDER

(X. X. last name)
Commissioner

Attachment Options

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Appendix E

Considerations under Section 71 (2.21) of the *Utilities Commission Act*

Section 71(2.21) of the *Utilities Commission Act* (**UCA**) sets out the factors the BCUC must consider when assessing whether an Energy Supply Contract filed by BC Hydro is in the public interest.

Interests of BC Hydro Ratepayers

The first enumerated factor is whether the Energy Supply Contract is in "the interests of persons in British Columbia who receive or may receive service from the authority" (i.e., is the Energy Supply Contract in the interest of BC Hydro's customers). BC Hydro submits that the 2020 TPA is in the interests of BC Hydro's customers for the reasons set out in the Application.

2013 IRP

The BCUC must also consider BC Hydro's 2013 Integrated Resource Plan (**2013 IRP**).[1] The over-arching purpose of the 2020 TPA is to enable BC Hydro to cost-effectively meet its Domestic Requirements in its operating time horizon. The 2013 IRP is a long-term planning document that, among other things, assumes average inflows and no reliance on imports to serve Domestic Requirements, regardless of BC Hydro's needs in its operating time horizon. Therefore, in BC Hydro's submission, the 2013 IRP is not relevant to the BCUC's assessment of the 2020 TPA. For further discussion, refer to section 2.4 of the Application.

Section 19 of the *Clean Energy Act*

The BCUC must also consider the extent to which the 2020 TPA is consistent with the requirements of section 19 of the *Clean Energy Act.* That provision imposes obligations on BC Hydro with regard to prescribed targets in relation to clean or

[1] Section 15 of the *Energy Statutes Amendment Act, 2019* amended section 71(2.21)(b). In consequence the BCUC is obliged to consider the most recent of i) a BCUC-approved BC Hydro Integrated Resource Plan or ii) the 2013 IRP. No BC Hydro Integrated Resource Plan has been approved by the BCUC, and so the 2013 IRP remains the resource plan the BCUC is obliged to consider. The 2013 IRP is available at https://www.bchydro.com/toolbar/about/planning-for-our-future/irp/current-plan/document-centre/reports/november-2013-irp.html.

renewable resources, and prescribed guidelines in planning for the construction of generation facilities or the purchase of energy. As there are neither prescribed targets nor prescribed guidelines, this factor in not applicable.

Price, Quantity and Availability

The BCUC must also consider the price, quantity and availability of the energy to be supplied under the 2020 TPA, as well as alternatives to the energy that is being acquired under the Energy Supply Contract. The 2020 TPA is an enabling agreement used by BC Hydro to cost-effectively meet its load obligations in its operating time horizon within the same operational management framework it employs to make all dispatch and other system operation decisions. As discussed further in section 2.3 of the Application, a transfer pricing agreement between BC Hydro and Powerex is required.

British Columbia's Energy Objectives

Finally, the BCUC must also consider "British Columbia's energy objectives" as defined in section 2 of the *Clean Energy Act*. BC Hydro provides its submissions in regard to those objectives in the context of the Application in the table below. Note that where the 2020 TPA either advances an objective, or is neutral with regard to an objective, BC Hydro refers to the objective as being "aligned" with the 2020 TPA.

CEA Section/Objective	Explanation
2(a) – Self Sufficiency	Self-sufficiency is a criteria BC Hydro uses in its long-term planning efforts and is not relevant to supply issues in its operating time horizon. Accordingly, the 2020 TPA neither advances nor conflicts with this objective, and is therefore in alignment with it.
2(b) – Conservation and demand side management	The 2020 TPA allows for the management of short-term operational needs and opportunities that need to be managed regardless of conservation efforts. Moreover, the 2020 TPA does not impact the ability of BC Hydro to achieve the objective of reducing its expected increase in demand for electricity by the year 2020 by at least 66 per cent. Accordingly, the 2020 TPA neither advances nor conflicts with this objective, and is therefore in alignment with it.
2(c) – BC generation to be at least 93 per cent clean and renewable	The 2020 TPA relates to the import and export of wholesale electricity (not to generation within BC) in BC Hydro's operating time horizon. Accordingly, the 2020 TPA neither advances nor conflicts with this objective, and is therefore in alignment with it.
2(d) – Use of innovative technologies to support conservation and use of clean and renewable resources	The 2020 TPA allows for the management of short-term operational needs and opportunities, while the use of innovative technologies or clean/renewable resources are longer-term planning issues. Accordingly, the 2020 TPA neither advances nor conflicts with this objective, and therefore is in alignment with it.
2(e) – Ensure the heritage assets accrue to the benefit of ratepayers	The 2020 TPA allows for the management of short-term operational needs and opportunities which are incremental to the supply capacity of the heritage assets and which in any event do not impact the value of the heritage assets to ratepayers or the allocation of that value to ratepayers. Accordingly, the 2020 TPA neither advances nor conflicts with this objective, and therefore is in alignment with it.
2(f) – Ensure BC Hydro's rates remain competitive	The 2020 TPA is a cost-effective means by which BC Hydro plans to manage short-term operational needs and opportunities, Accordingly, it advances this energy objective and is in alignment with it.
2(g), (h) & (i) – Reduction of greenhouse gas emissions	The 2020 TPA allows for the management of short-term operational needs and opportunities and has no bearing on the carbon footprint of generation resources in BC, fuel-switching by domestic load, or community-level energy use. Accordingly, the 2020 TPA neither advances nor conflicts with these objectives and therefore is in alignment with them.
2(j) – Reduce waste by encouraging use of waste heat, biogas and biomass	The 2020 TPA allows for the management of short-term operational needs and opportunities and has no bearing on initiatives to encourage use of waste heat, biogas or biomass. Accordingly, the 2020 TPA neither advances nor conflicts with this objective and therefore is in alignment with it.

CEA Section/Objective	Explanation
2(k) – Encourage economic development	The 2020 TPA allows for the management of short-term operational needs and opportunities and has no bearing on economic development in BC. Accordingly, the 2020 TPA neither advances nor conflicts with this objective and therefore is in alignment with it.
2(l) – Foster development of first nation and rural communities	The 2020 TPA allows for the management of short-term operational needs and opportunities and has no bearing on development of First Nation and rural communities. Accordingly, the 2020 TPA neither advances nor conflicts with this objective and therefore is in alignment with it.
2(m) – Maximize value of BC's assets	The 2020 TPA allows for the management of short-term operational needs and opportunities. BC Hydro uses all available capability in its system for the benefit of ratepayers and may periodically request incremental short-term supply from Powerex. Accordingly, the 2020 TPA advances this objective and therefore is in alignment with it.
2(n) – Be a net exporter of electricity	BC Hydro has a forecast planning surplus that will not be affected by any imports or exports under the 2020 TPA. The 2020 TPA relates to the import and export of wholesale electricity in BC Hydro's operating time horizon only and does not impact BC Hydro's load resource balance from a planning perspective. Accordingly, the 2020 TPA neither advances nor conflicts with this objective and therefore is in alignment with it.
2(o) – No use of nuclear	The 2020 TPA relates to the import and export of wholesale electricity and not to the use of nuclear power in the Province. Accordingly, the 2020 TPA neither advances nor conflicts with this objective and therefore is in alignment with it.

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2020 Transfer Pricing Agreement Application

Appendix F

Presentation of Financial Information

In Appendix A of BC Hydro's Revenue Requirement Applications, all transactions between BC Hydro and Powerex under the 2020 TPA will be shown on Schedule 4.0 and will be included as components of cost of energy. In this respect, there is no difference from transactions under the 2003 TPA.

As shown in Attachment 1 to this appendix, the 2020 TPA results in a change to how transactions between BC Hydro and Powerex are classified and presented.

2003 TPA

Under the 2003 TPA, electricity and gas purchased from or sold to Powerex resulted in associated amounts, which were classified in the following categories:

- **Surplus Sales** – often referred to as domestic sales, represented sales of electricity by BC Hydro to Powerex, when BC Hydro had generation in excess of its domestic load requirements. This did not include sales included in Net Purchases (Sales) from Powerex.
- **Market Electricity Purchases** – often referred to as domestic purchases, represented market purchases of electricity from Powerex by BC Hydro to meet domestic load requirements. This did not include purchases included in Net Purchases (Sales) from Powerex.
- **Net Purchases (Sales) from Powerex** – often referred to as trade purchases (sales), represented Powerex purchases/sales from/to BC Hydro for the purpose of trade related activities, provided that the BC Hydro system had the ability to accommodate those transactions. These were presented on a net basis. These were not purchases (sales) for domestic purposes.
- **Natural Gas for Thermal Generation** – this category referred to thermal generation for Prince Rupert and Fort Nelson and the associated costs,

including natural gas, gas transportation, taxes (carbon, motor fuel) and chemical costs.

- **IPPs and Long-Term Commitments** - included in this category were the costs associated with thermal generation for Island Generation.
- **Commodity Risk** – this referred to changes in gains/losses on intercompany transactions between BC Hydro and Powerex relating to the Trade Account.
- **Notional Water Rental** – this referred to water rentals associated with trade activity.

Under the classification above, Surplus Sales and Market Electricity Purchases were previously characterized as domestic energy. Net Purchases (Sales) from Powerex were previously characterized as trade energy.

2020 TPA

Under the 2020 TPA, import and export transactions between BC Hydro and Powerex are no longer be allocated between trade and domestic purposes, and all electricity and gas purchased from or sold to Powerex is classified in the following categories:

- **System Exports** – represents sales of electricity (flexible exports and non-flexible exports) to Powerex by BC Hydro.
- **System Imports** – represents purchases of electricity and thermal generation (flexible imports and non-flexible imports) from Powerex by BC Hydro**.**
- **Natural Gas for Thermal Generation** – this category refers to thermal generation (non-flexible imports) for Prince Rupert and Fort Nelson and the associated costs, including natural gas, gas transportation, taxes (carbon, motor fuel) and chemical costs.

- **IPPs and Long-Term Commitments** – included in this category are the costs associated with thermal generation (non-flexible imports) for Island Generation.
- **Commodity Risk** – refers to changes in gains/losses on intercompany transactions between BC Hydro and Powerex relating to the Transfer Volume Account and the annual surplus volume for the upcoming fiscal year.
- **Annual Payment for Wear and Tear** – the annual payment for wear and tear associated with Powerex import and export decisions is accounted for as part of the Total Gross Cost of Energy on Schedule 4.0 (included in Line 45 total), as shown in Attachment 1 to this appendix.

Note that under the classification of System Exports and System Imports, purchases and sales of electricity between BC Hydro and Powerex will not be presented as a net amount (outside of the net amount within each hour).

Additionally, as import and export transactions between BC Hydro and Powerex are no longer allocated between trade and domestic purposes, there will be no allocation of notional water rentals under the 2020 TPA. This has no impact to ratepayers as the transactions relating to the notional water rentals are eliminated on consolidation, and with zero net impact on the combined Heritage Deferral Account and Non-Heritage Deferral Account as the transactions are mirrored within each account.

Variance Deferrals for Fiscal 2021

Under the 2020 TPA, variances between plan and actual System Exports and System Imports will be deferred to the Non-Heritage Deferral Account. For Fiscal 2022 and future years, all variances will be based on the difference between actual amounts and approved plan amounts as filed in future revenue requirement applications.

However, RRA Plan amounts for Fiscal 2021 included in the Fiscal 2020 to Fiscal 2021 Revenue Requirements Application were prepared under the 2003 TPA. As a result, for Fiscal 2021, the first fiscal year transacted under the 2020 TPA, the RRA Plan amounts for System Exports and System Imports are zero. This means that the entire difference between zero and the Fiscal 2021 actual amounts for System Exports and System Imports will be deferred to the Non-Heritage Deferral Account. Similarly, for Fiscal 2021, as BC Hydro is no longer transacting under the 2003 TPA, the actual Surplus Sales and Market Electricity Purchases amounts will be zero and the entire difference between the RRA Plan amounts of Surplus Sales and Market Electricity Purchases and zero in Fiscal 2021 will be deferred to the Heritage Deferral Account. In combination with deferring variances between plan and actual Trade Income to the Trade Income Deferral Account, this approach ensures that ratepayers receive the benefit of all transactions related to System Imports and System Exports, including those maximizing the value of the Residual System Capability, as was the case under the 2003 TPA.

Deferral of variances to the Heritage Deferral Account, Non-Heritage Deferral Account, and Trade Income Deferral account will occur under the 2020 TPA under existing orders, which accept that deferral of these non-controllable variances is appropriate, so that ratepayers pay for, and receive, only the actual amounts, of the associated costs and revenues. The names used to describe and classify the transactions have been revised to reflect the 2020 TPA; however, the nature of the transactions has not changed.

Appendix A Presentation

Attachment 1 to this appendix is an excel file that shows the difference in presentation of financial information in BC Hydro's Appendix A (financial schedules for Revenue Requirements Applications) under both the 2003 TPA and the 2020 TPA, using Fiscal 2021 forecast amounts for comparative purposes. For

greater clarity, BC Hydro is not proposing to revise or restate Fiscal 2021 RRA Plan amounts in Appendix A, as Fiscal 2021 amounts were not forecast under the 2020 TPA. The purpose of the attached excel file is to demonstrate the categories in which amounts will be classified under the 2020 TPA, with no impact to the total revenue requirements filed in the Fiscal 2020 to Fiscal 2021 Revenue Requirements Application.

The changes to presentation will be on a prospective basis for Fiscal 2021 (actual amounts) and future years (plan and actual amounts), and therefore there will be no restatement of prior year amounts.

The changes to Schedule 4.0 are as follows:

- Amounts related to Surplus Sales (Lines 9, 23, 39 and 65) and Market Electricity Purchases (Lines 8, 22, 38 and 64) will be classified as System Exports (Lines 11, 25, 41, and 79) and System Imports (Lines 10, 24, 40 and 78).
- Net Purchases (Sales) from Powerex (Lines 12, 42 and 77) will no longer be used and will be reallocated to the respective System Exports and System Imports lines.

There will no longer be an allocation of notional water rentals, which results in an equal and offsetting change to Notional Water Rentals in Lines 68 and 81.

As a result of the changes above, there is an equal and offsetting change to the total amounts in Items Subject to HDA (Line 72) and Items Subject to NHDA (Line 88).

These changes are shown in the table below.

Sch 4.0

	Schedule Reference	F2021 Exh. B-11-2	F2021 2020 TPA Presentation	F2021 Difference
GWh				
Market Energy				
Market Electricity Purchases	4.0 L8	1,326.3	0.0	(1,326.2)
Surplus Sales	4.0 L9	(2,065.2)	0.0	2,065.2
System Imports	4.0 L10	0.0	3,916.0	3,916.0
System Exports	4.0 L11	0.0	(4,934.2)	(4,934.2)
Net Purchases (Sales) from Powerex	4.0 L12	(279.2)	0.0	279.2
Subtotal		(1,018.2)	(1,018.2)	(0.0)
Unit Costs ($/MWh)				
System Imports	4.0 L24	0.0	39.3	39.3
System Exports	4.0 L25	0.0	40.8	40.8
$ million				
Market Energy				
Market Electricity Purchases	4.0 L38	43.7	0.0	(43.7)
Surplus Sales	4.0 L39	(97.0)	0.0	97.0
System Imports	4.0 L40	0.0	153.9	153.9
System Exports	4.0 L41	0.0	(201.2)	(201.2)
Net Purchases (Sales) from Powerex	4.0 L42	6.1	0.0	(6.1)
Subtotal		(47.3)	(47.3)	0.0
Total Current COE by Function				
Generation	4.0 L58	59.8	113.1	53.4
Customer Care	4.0 L60	1,553.1	1,499.7	(53.4)
Items Subject to HDA				
Market Electricity Purchases	4.0 L64	43.7	0.0	(43.7)
Surplus Sales	4.0 L65	(97.0)	0.0	97.0
Notional Water Rentals	4.0 L68	(1.8)	0.0	1.8
Total	4.0 L72	294.6	349.8	55.2
Items Subject to NHDA				
Net Purchases (Sales) from Powerex	4.0 L77	6.1	0.0	(6.1)
System Imports	4.0 L78	0.0	153.9	153.9
System Exports	4.0 L79	0.0	(201.2)	(201.2)
Notional Water Rentals	4.0 L81	1.8	0.0	(1.8)
Total	4.0 L88	1,451.4	1,396.2	(55.2)

As a result of the changes to Schedule 4.0, there are impacts which flow through to four other schedules in Appendix A, as shown in the tables below.

Sch 2.1

$ million	Schedule Reference	F2021 Exh. B-11-2	F2021 2020 TPA Presentation	F2021 Difference
Summary of Items Subject to Deferral				
Heritage Payment Obligation	2.1 L26	294.6	349.8	55.2
Cost of Non-Heritage Energy	2.1 L27	1,451.4	1,396.2	(55.2)

Sch 3.0

$ million	Schedule Reference	F2021 Exh. B-11-2	F2021 2020 TPA Presentation	F2021 Difference
Allocation of Current Costs				
Generation	3.0 L18	1,503.2	1,556.5	53.4
Customer Care	3.0 L21	1,761.0	1,707.6	(53.4)

Sch 3.2

$ million	Schedule Reference	F2021 Exh. B-11-2	F2021 2020 TPA Presentation	F2021 Difference
Cost of Energy	3.2 L1	59.8	113.1	53.4

Sch 3.3

$ million	Schedule Reference	F2021 Exh. B-11-2	F2021 2020 TPA Presentation	F2021 Difference
Cost of Energy	3.3 L1	1,553.1	1,499.7	(53.4)

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REFER TO LIVE SPREADSHEET MODEL

Provided in electronic format only

(Accessible by opening the Attachments Tab in Adobe)