



September 30, 2019

Sent via email (Commission.Secretary@bcuc.com)

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 (Commission)  
Borex Ocean Falls Limited Partnership (Borex LP)  
Application for Approval of Rates and Terms and Conditions of Service for  
Borex LP's Service to British Columbia Hydro and Power Authority (BC Hydro)  
Commission Orders G-143-19 and G-202-19**

Enclosed for filing with the Commission is Borex LP's Application for Approval of Rates and Terms and Conditions of Service for Borex LP's service to BC Hydro, which covers the period July 1, 2019 to December 31, 2022.

Please contact the undersigned with any questions regarding the Application.

Yours truly,

Borex Ocean Falls Limited Partnership

A handwritten signature in blue ink, appearing to read "Maxime Tremblay".

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**Boralex Ocean Falls Limited Partnership**

**Application to the  
British Columbia Utilities Commission  
for Approval of Rates and  
Terms and Conditions of Service for Service to  
British Columbia Hydro and Power Authority  
July 1, 2019 to December 31, 2022**

**September 30, 2019**

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## 1. OVERVIEW AND APPROVALS SOUGHT

1. Boralex Ocean Falls Limited Partnership (Boralex LP) owns and operates hydroelectric generation, transmission and distribution facilities (the Ocean Falls Facilities) at Ocean Falls on the central coast of British Columbia. The Ocean Falls Facilities are used by Boralex LP to supply clean and highly reliable electricity to British Columbia Hydro and Power Authority (BC Hydro) that is used by BC Hydro to serve customers in the communities of Bella Bella and Shearwater within a BC Hydro non-integrated area referred to as the Bella Bella NIA, or BC Hydro's Rate Zone IB. Boralex LP also supplies electricity directly to its own retail and industrial customers in Ocean Falls.
2. A map showing the location of Ocean Falls and the Ocean Falls Facilities is attached as Appendix A to this Rate Application (Application).
3. In this Application Boralex LP is seeking approval of the British Columbia Utilities Commission (Commission or BCUC), pursuant to Order G-143-19 dated June 27, 2019 and sections 59 to 61 of the Utilities Commission Act (British Columbia) (UCA), of rates and terms and conditions of service for its service to BC Hydro covering the period July 1, 2019 to December 31, 2022.
4. The rates for Boralex LP's retail and industrial customers in Ocean Falls will continue to be determined in accordance with Order G-26-10 dated February 18, 2010, as confirmed by Order G-143-19. Under the terms of Order G-26-10, the rates charged by Boralex LP to its retail customers are the same as the rates charged by BC Hydro to its non-integrated Rate Zone II customers, and the rates charged by Boralex LP to its industrial customers are negotiated rates not to exceed the comparable BC Hydro industrial rates.
5. The rates for BC Hydro set out in this Application have been determined on a utility cost of service basis based on the historical depreciated cost of the Ocean Falls Facilities and Boralex LP's forecast revenue requirement for each of 2019 (six months), 2020, 2021 and 2022, after deducting from the revenue requirement all of Boralex LP's forecast revenue from its retail and industrial customers in Ocean Falls.
6. This is Boralex LP's first rate application for the Ocean Falls Facilities following a period of over 30 years under which the rates for service to BC Hydro were determined through negotiations. Boralex LP believes that the period covered by this first Application is appropriate and reasonable having regard for the desire to limit the frequency and cost of Boralex LP's rate applications to the Commission for its service to BC Hydro, particularly in light of the small size of Boralex LP, but recognizing the inherent greater uncertainty in forecasting Boralex LP's costs and revenues over a longer period of time. Boralex LP's intent would be to file a subsequent rate application in 2022 to establish rates for a period beyond 2022.
7. The rates for BC Hydro set out in this Application are based on a two-tier energy charge (\$/MWh) rate structure consisting of a Tier 1 rate per MWh for the first 11.63 GWh of electricity in any year and a lower Tier 2 rate per MWh for all electricity above 11.63 GWh for that year. 11.63 GWh represents the

average annual amount of electricity delivered by Boralex LP to BC Hydro over the last five years of 13.1 GWh, adjusted downward over the period covered by this Application to account for scheduled plant outages required to undertake penstock rehabilitation work. This two-tier energy charge rate structure does not impose any minimum take or fixed charge payment obligations on BC Hydro and allows BC Hydro to reduce its average cost of energy in years when its load is greater than 11.63 GWh. The two-tier rate structure is also consistent with the rate structure under the 1986 Electricity Purchase Agreement (1986 EPA) between Boralex LP and BC Hydro that expired on June 30, 2019.

8. Boralex LP is seeking Commission approval to establish a deferral account to record any costs incurred by Boralex LP associated with its ongoing relationship building activities with the Heiltsuk Nation in whose traditional territory the Ocean Falls Facilities are located. Any amounts recorded in the deferral account during the period covered by this Application would be disposed of in accordance with a separate future application by Boralex LP to the Commission. Boralex LP is not seeking approval of any other cost or revenue deferral accounts in this Application.
9. The proposed terms and conditions for Boralex LP's service to BC Hydro are set out in Appendix B to this Application. The terms and conditions are based on the terms and conditions set out in the 1986 EPA, and as such essentially continue the terms and conditions on which electricity has been supplied from the Ocean Falls Facilities to BC Hydro for over 30 years.
10. Boralex LP hereby seeks the following Commission approvals pursuant to Order G-143-19 and sections 59 to 61 of the UCA:
  - a) approval, on an interim and final basis, of the following rates for Boralex LP's electric service to BC Hydro for the period July 1, 2019 to December 31, 2022 that have been determined in accordance with this Application:

(\$/MWh)

	2019*	2020	2021	2022
Tier 1 (up to 11.63 GWh/year)	\$289.94	\$295.74	\$301.65	\$307.68
Tier 2 (greater than 11.63 GWh/year)	\$50.00	\$51.00	\$52.02	\$53.06

\*July 1 to December 31 for rate and energy amount.

- b) approval of the terms and conditions of Boralex LP's service to BC Hydro that are set out in Appendix B to this Application; and
- c) approval of the First Nations relationship building deferral account.

11. Details regarding Boralex LP's forecast revenue requirement and the determination of the rates for Boralex LP's service to BC Hydro are set out in Sections 6 to 11 of this Application.
12. Boralex LP submits that the most efficient and cost effective regulatory review process for this Application is a written hearing process.

## **2. BORALEX LP**

13. Boralex LP was formed on May 22, 2008 as a limited partnership under the laws of British Columbia for the sole purpose of acquiring, owning and operating the Ocean Fall Facilities. The general partner of the partnership is Boralex Western Energy Inc., an indirect wholly-owned subsidiary of Boralex Inc., and the sole limited partner of Boralex LP is Boralex Inc.
14. Boralex Inc. is a public company that develops, builds and operates renewable energy power facilities in Canada, France, the United Kingdom and the United States. Boralex Inc.'s operating facilities include wind, hydro, thermal and solar energy facilities with a combined capacity of approximately 2,000 MW. In British Columbia, in addition to the Ocean Falls Facilities, Boralex Inc. owns and operates the Jamie Creek hydroelectric facility north of Pemberton and the Moose Lake wind facility near Tumbler Ridge.

### 3. OCEAN FALLS FACILITIES

15. Ocean Falls is a small remote community located at the head of Cousins Inlet on the central coast of British Columbia, approximately 450 km northwest of Vancouver. There is no road access and the community is only accessible by boat or float plane. Air access can be constrained for extended periods by adverse weather, low cloud or fog, and therefore water access provides the only reliable year-round access. Ocean Falls is noted for its abundance of rain, with an average annual precipitation of 4.4 meters.
16. The nearest community to Ocean Falls is Bella Bella, approximately 40 km to the west on the east coast of Campbell Island. Bella Bella is the home of the Heiltsuk Nation. With a population of approximately 1,400, Bella Bella is the largest community on the central coast. Bella Bella has a regional airport. Any supplies and equipment required for the Ocean Falls Facilities that cannot be flown into Bella Bella and barged to Ocean Falls have to be barged in from where the supplies and equipment can be delivered to tide water, which is typically Vancouver Island or the Lower Mainland.
17. The Ocean Falls community began as a company town for the pulp and paper mill facilities at Ocean Falls that began operations in 1917. The dam and hydroelectric generating facilities that form part of the Ocean Falls Facilities were also constructed at this time to power the mill and community. At its height in the 1950's, Ocean Falls had a population of about 3,500. Today Ocean Falls is home to only approximately 40 full-time residents and a small seasonal population of about 100.
18. In the 1970's the mill owner (then Crown Zellerbach) announced the permanent closure of the mill. The Province of British Columbia stepped in and bought the town and industrial facilities from Crown Zellerbach, including the hydroelectric facilities, and set up a Crown corporation called Ocean Falls Corporation to operate them. Ocean Falls Corporation operated the mill until 1980 when the mill was permanently closed.
19. In 1986, Ocean Falls Corporation auctioned off the mill equipment and requested proposals to purchase and operate the hydroelectric facilities to provide service to the Ocean Falls community. Central Coast Power Corporation (CCPC) submitted a successful proposal and purchased the hydroelectric facilities and equipment. CCPC also built a 45 km distribution voltage (25 kV) transmission line with two submarine sections to connect the hydroelectric facilities to BC Hydro's Bella Bella NIA electrical system at Shearwater on Denny Island. At this time BC Hydro and CCPC entered into the 1986 EPA for the purpose of supplying hydroelectricity from the Ocean Falls Facilities to meet the requirements of BC Hydro's customers in the Bella Bella NIA and allowing BC Hydro to displace diesel generation. Prior to this time, BC Hydro served the Bella Bella NIA entirely with its diesel generation facility at Shearwater that was constructed in 1969.
20. CCPC was a public utility under the UCA. Pursuant to Commission Order No. G-40-86, the Commission exempted CCPC from the UCA with certain exceptions and subject to certain conditions, including conditions related to the

rates for service to CCPC's customers in Ocean Falls. Order No. G-40-86 also exempted CCPC from rate regulation under the UCA in respect of electricity service provided to BC Hydro pursuant to the 1986 EPA.

21. In 2008 Boralex LP sought Commission approval to acquire the Ocean Falls Facilities from CCPC. Following a hearing, the Commission granted Boralex LP approval to acquire the facilities pursuant to Order G-180-08 dated December 5, 2008. Pursuant to Order G-26-10 dated February 18, 2010, the Commission also granted an exemption from the UCA for Boralex LP on similar terms and conditions as the previous exemption for CCPC. In April 2009, Boralex LP completed the acquisition of the Ocean Falls Facilities from CCPC and assumed CCPC's rights and obligations under the 1986 EPA.
22. The 1986 EPA provided that it would expire on December 31, 2016. By Orders E-12-17, E-20-17 and E-18-18, the Commission approved extensions to the expiry date of the 1986 EPA to June 30, 2017, June 30, 2018 and June 30, 2019, respectively.
23. Despite lengthy good faith negotiations, Boralex LP and BC Hydro were unsuccessful in reaching an agreement on terms for a new EPA. Consequently, Boralex LP brings this Application to have the Commission approve the rates and terms and conditions for Boralex LP's service to BC Hydro, as contemplated by Order G-143-19.

#### 4. BORALEX LP CUSTOMER BASE

24. The electricity that Boralex LP supplies to BC Hydro is used by BC Hydro to serve its customers in the Bella Bella NIA. Boralex LP also supplies electricity directly to its own retail and industrial customers in Ocean Falls<sup>1</sup>.

##### 4.1 BC Hydro

25. BC Hydro has approximately 550 customers in the Bella Bella NIA. Boralex LP supplies approximately 97% of the electricity consumed annually by these customers, with the remaining supplied by BC Hydro itself through its back-up diesel generating station at Shearwater.<sup>2</sup> The electricity supplied by Boralex LP to BC Hydro is metered and sold to BC Hydro at Boralex LP's Shearwater substation on Denny Island, adjacent to BC Hydro's diesel generating station.
26. Notwithstanding the age and the isolated and remote location of the Ocean Falls Facilities and the challenging operating environment in this area of the Province, Boralex LP's service to BC Hydro has been extremely reliable over the years. Since acquiring the Ocean Falls Facilities from CCPC in 2009, Boralex LP has made significant investments to maintain the structural and operational integrity of the facilities (most of which are over 100 years old) to ensure to that it is able to provide safe, reliable and secure service to BC Hydro and its other customers in Ocean Falls on a long-term basis.
27. Purchasing clean and reliable electricity from Boralex LP rather than producing its own electricity from diesel generation provides significant benefits to BC Hydro and the local community. It allows BC Hydro to defer, or avoid altogether, major capital upgrades and replacements of its diesel generating facility at Shearwater<sup>3</sup>, it significantly reduces the risks associated with transporting diesel fuel by barge on the west coast to Shearwater, it prevents imposing continuous diesel exhaust emissions and noise impacts on local residents, and it significantly reduces the amount of greenhouse gas and other emissions associated with diesel electric generation.
28. BC Hydro has the ability to supply electricity to Boralex LP from its diesel generating station when the Ocean Falls generating facilities are not operating due to planned or unplanned outages, by back-feeding Boralex LP's 45 km 25 kV transmission line between Ocean Falls and Shearwater. BC Hydro provides this service on an interruptible basis under BC Hydro Tariff Supplement No. 7 approved by the Commission.<sup>4</sup> Boralex LP may request supply from BC Hydro for a specified period not to exceed 30 days. The rate

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<sup>1</sup> Ocean Falls consists of both the original town site and the area known as Martin Valley located approximately 2.5 km to the northwest of the town site.

<sup>2</sup> BC Hydro's Application to the Commission dated August 29, 2017, page 13.

<sup>3</sup> According to BC Hydro, the diesel generating station is not in suitable condition to act as the primary electrical generation station for an extended or long-term basis and substantial upgrades would be required before the station could safely and reliably generate sufficient electricity to serve the Bella Bella NIA (BC Hydro's Application to the Commission dated August 29, 2017, page 16).

<sup>4</sup> A copy of Tariff Supplement No. 7 is attached as Appendix E to BC Hydro's Application to the Commission dated August 29, 2017.

for this service is adjusted July 1 each year<sup>5</sup>. For the period July 1, 2018 to June 30, 2019 the rate was \$473.50 per MWh.

## 4.2 Customers in Ocean Falls

### *Retail Customers*

29. Boralex LP supplies electricity to approximately 100 Ocean Falls retail account holders.
30. The rates charged by Boralex LP to its retail customers are regulated under the terms of Order G-26-10 in that the rates are required to be the same as the rates charged by BC Hydro in Rate Zone II, which apply to BC Hydro customers in most of its non-integrated areas.
31. The rates charged by Boralex LP to its retail customers in Ocean Falls have been determined on this basis since CCPC acquired the Ocean Fall Facilities in 1986.

### *Industrial Customers*

32. Boralex LP has two industrial customers in Ocean Falls, namely, Mowi Canada West (formerly named Marine Harvest Canada) and Ocean Falls Blockchain. Under the terms of Order G-26-10, the rates charged by Boralex LP to its industrial customers are negotiated rates not to exceed the comparable BC Hydro industrial rates.
33. Ocean Falls is an isolated and remote community, and these two customers chose to locate operations in Ocean Falls because they were able to acquire electricity at negotiated rates that made it economically viable for them to be in Ocean Falls. Ocean Falls Blockchain also decided to locate in Ocean Falls because Boralex LP has space available to lease to Ocean Falls Blockchain for its operations.
34. Mowi Canada West operates salmon farms and processing plants on the coast of British Columbia and Vancouver Island. Mowi Canada West is part of Norwegian-based Mowi ASA. Mowi Canada West operates an Atlantic salmon hatchery at Ocean Falls, one of several fish hatcheries operated by Mowi Canada West in British Columbia.
35. Boralex LP supplies electricity to Mowi Canada West under an electricity purchase agreement that was initially entered into in 2002 and renewed several times. The current agreement, which expires in 2022, has an energy

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<sup>5</sup> Pursuant to Tariff Supplement No. 7, the rate is the greater of (i) the unit price paid by BC Hydro to Boralex LP for the most recent purchase of electricity from Boralex LP and (ii) the average unit cost incurred by BC Hydro to generate electricity at all of BC Hydro's diesel generating stations in Rate Zone IB and Rate Zone II, plus a 10 percent profit margin, where the average unit cost is calculated by summing all costs to BC Hydro in Rate Zone IB and Rate Zone II of fuel, oil, operation and maintenance for such diesel generating stations divided by the total kilowatt hours generated by all such diesel generating stations during BC Hydro's immediately prior fiscal year. The rate does not appear to include the capital cost of the diesel generating stations.

charge rate structure with no minimum consumption, fixed charge, take-or-pay or similar obligations on the part of Mowi Canada West.

36. Ocean Falls Blockchain is a private company that operates a cryptocurrency mining operation in Ocean Falls. Ocean Falls Blockchain operates out of space leased from Boralex LP in Boralex LP's workshop building.
37. Boralex LP supplies electricity to Ocean Falls Blockchain under an electricity purchase agreement entered into in February 2018. The agreement has a five year term starting in July, 2018 when Ocean Falls Blockchain commenced operations, and may be renewed by mutual agreement of the parties for an additional five year period. The agreement has an energy charge rate structure with no minimum consumption, fixed charge, take-or-pay or similar obligations on the part of Ocean Falls Blockchain.

### 4.3 Historic Electricity Sales and Revenue

38. **Table 1** shows Boralex LP's annual electricity sales over the last five years.

**Table 1: Historic Energy Sales (MWh/yr)**

<b>Customer</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>Average</b>
BC Hydro <sup>6</sup>	12,881	12,661	12,919	14,192	12,707	<b>13,072</b>
Ocean Falls Retail and Industrial Customers	3,724	3,493	3,310	3,538	6,774	<b>4,168</b>
<b>Total Sales</b>	<b>16,605</b>	<b>16,154</b>	<b>16,229</b>	<b>17,730</b>	<b>19,481</b>	<b>17,240</b>

39. **Table 2** shows Boralex LP's annual revenue from electricity sales over this same five year period.

**Table 2: Historic Revenue From Energy Sales (\$000's/yr)**

<b>Customer</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>Average</b>
BC Hydro	\$2,536	\$2,558	\$2,614	\$2,789	\$2,625	<b>\$2,624</b>
Ocean Falls Retail and Industrial Customers	\$261	\$255	\$261	\$290	\$434	<b>\$300</b>
<b>Total Revenue</b>	<b>\$2,797</b>	<b>\$2,813</b>	<b>\$2,875</b>	<b>\$3,079</b>	<b>\$3,059</b>	<b>\$2,925</b>

<sup>6</sup> Electricity is metered and sold to BC Hydro at the interconnection point at Shearwater on Denny Island. Accordingly, these amounts do not include line losses on Boralex LP's 45 km 25 kV transmission line from Ocean Falls to Shearwater that are estimated at approximately 3.2 percent.

## **5. OVERVIEW OF THE OCEAN FALLS FACILITIES**

40. The Ocean Falls Facilities draw water from Link Lake above its outflow into Cousins Inlet via intakes appurtenant to a concrete gravity/arch dam. Power is generated utilizing water flows of up to 16.6 cubic meters per second diverted from Link River, authorized under two conditional water licences issued by the Province of British Columbia. Boralex also has access to 260,181,000 cubic meters of annual storage in Link Lake, authorized under two water storage licences issued by the Province of British Columbia. At its full supply level the generating station has a gross head of approximately 48 meters. Although the installed generating capacity is approximately 12.2 MW, the two existing water licenses limit maximum generation to approximately 6 MW of capacity.
41. The watershed area is approximately 466 square km, comprising Link Lake, Link River, Braden River, and their tributary streams, as well as a portion of Martin Lake that drains into Link Lake through a tunnel built in 1930. The watershed receives 4.4 meters of average annual precipitation, which when combined with the storage created by the dam, is capable of continuously supplying approximately 50 cubic meters per second of water for energy generation (of which 16.6 cubic meters per second is currently licensed).

### **5.1 Major Civil Works (Dam, Spillway, Tailrace)**

42. The dam is a concrete gravity/arch dam arched on a 218 meter radius, located approximately 250 meters upstream from the powerhouse. It is located at the southwest corner of Link Lake, immediately upstream of where the Link River discharges into Cousins Inlet.
43. Original development at the dam site started in 1911, with the present dam originally constructed in 1917 to a maximum height of 24.4 meters (and an associated spillway crest elevation of 44.2 meters above sea level ("masl")). In 1922, the dam was raised further to increase the spillway capacity by raising the crest elevation to 48.8 masl. The normal operating level was then raised to 51.5 masl in 1929 by installing tainter gates, but these have since been removed and the normal headpond elevation has returned to 48.8 masl.
44. The tailrace returns the plant water flow to the Link River just upstream of its confluence with Cousins Inlet. Each of the generating unit runners has a separate draft tube and since two of the four turbines are double-runner units, there are six draft tubes in total. All of the draft tubes converge into a common tailrace. A submerged control weir (-0.78 masl) located under the powerhouse ensures sustained submergence of the draft tubes, regardless of tide elevation. The plant water flow is discharged back into the river through a series of arches on the river side of the powerhouse.

### **5.2 Civil Works (Powerhouse, Access Roads)**

45. The concrete powerhouse building has exterior dimensions of 46.0 m x 12.5 m and is approximately 12 meters high, with a bow truss roof. The turbine/generator floor elevation is 4.88 masl, and the bottom elevation of the

mass concrete foundation is -3.35 masl. The control room, protection, controls, and switchgear are located on a mezzanine at elevation 8.52 masl at one end of the powerhouse. The powerhouse is large enough to accommodate the mechanical and electrical equipment within the machine hall while preserving sufficient open floor space for most maintenance activities. The powerhouse features an overhead 20-ton crane able to service the entire building. The powerhouse also includes potable water and sanitary facilities.

46. Access to the right abutment of the dam is by road from Front Street and Falls Avenue. The powerhouse is located approximately 275 meters east of the town center, and access to the powerhouse and penstocks is by a vehicle bridge that was installed by Boralex LP in 2011 across the outflow of the Link River. Access to the left abutment of the dam is by approximately 600 meters of private road above the powerhouse site. Boralex LP is responsible for the costs of maintaining the access roads to the dam abutment, powerhouse, and shop site, as well as the bridge across the Link River.

### **5.3 Inlet Gates**

47. In 1929 thirteen tainter gates were installed (within the 1922 spillway section) and concrete crest walls were added to both sides of the dam, thus increasing the normal operating water level of the headpond to 51.5 masl. The tainter gates were ultimately removed to address flood routing issues, resulting in the normal Link Lake elevation being returned to 48.8 masl. The facility makes use of two sliding penstock gates. These gates are actuated by motor-driven hoists, which are located in a head gate house located on the dam's crest. The intakes make use of upper, middle, and lower trashrack levels to accommodate headpond elevation variations.

### **5.4 Penstocks**

48. Two large riveted 3.66 m diameter penstocks were constructed in the 1920's, one to service the mechanical pulping hydraulic turbines located in the ground wood mill building (Penstock 1) and the other to service the four generating units in the hydroelectric powerhouse (Penstock 2). The manifold for Penstock 2 leading into the powerhouse has four branches, one for each generating unit, and three reducers.
49. The pulp and paper mill ceased operations and was decommissioned in 1980, and Penstock 1 that supplied it was subsequently removed in 1999.
50. In 2007 two 1.2 m diameter spiral wound steel penstocks (Penstocks 1(a) and 1(b)) were partially installed along the alignment of the removed Penstock 1, complete with butterfly inlet valves. These penstocks were tied into the previously decommissioned pulping turbines in the ground wood mill and were installed to lower the headpond water level of the dam to enable upstream and downstream dam concrete restoration and gate house maintenance work to be undertaken. The original plan was to subsequently repurpose Penstocks 1(a) and 1(b) by tying them into the turbines of generating units 1 and 2 in the

powerhouse, to enable eventual replacement of Penstock 2 with a smaller diameter penstock to supply generating units 3 and 4.

51. Based on further engineering assessment work, Boralex LP has determined that it is more cost effective to rehabilitate existing Penstock 2 through a phased multi-year program, rather than repurposing Penstocks 1(a) and 1(b) and tying them into units 1 and 2 and building a new penstock to supply units 3 and 4. Details regarding the rehabilitation project are set out in Section 8.1.1 below.

## **5.5 Turbine-Generators**

52. The generating units within the powerhouse comprise four horizontal-axis Francis turbines directly connected to synchronous generators. Units 1 and 2 are single-runner units with generator nameplate ratings of 2,150 kVA. The current achievable capacities of units 1 and 2 are 1,900 kW (based on present configuration and headpond level). Units 3 and 4 are both double-runner units (i.e., two runners on a single shaft, which allows for a higher turbine design speed to be achieved with a similar water flow) with generator nameplate ratings of 5,250 kVA. The current achievable capacities for units 3 and 4 are 4,200 kW (based on present configuration and headpond level). Thus, the total nameplate capacity of the four generators is 14.8 MVA generated at 2,300 V, with an actual effective capacity of approximately 12.2 MW.
53. The operating practice for the four generating units since the Ocean Falls Facilities were interconnected with the Bella Bella NIA in 1986 has been to alternate operating duty between the units, with typically two of the four units in production at any given time. This operating practice reduces electrical and mechanical loads on the individual machines and balances total service hours between all four units, thereby extending expected machine service lives and increasing the interval between major refurbishment activities such as stator rewinding.
54. This operating practice also significantly enhances system reliability by providing unit redundancy, so that a problem requiring an extended outage to an individual unit can be addressed without causing a correspondingly extended service interruption and avoiding the need for BC Hydro to operate its diesel generating station at Shearwater to serve the Bella Bella NIA and to provide backup service to Boralex LP to serve the Ocean Falls loads.

## **5.6 Controls and Ancillary Systems**

55. The Ocean Falls Facilities utilize modern governor controllers, programmable logic controllers (PLC), and protection relaying. Governor controllers are digital Woodward models. PLC's are by Siemens. A combination of Schweitzer Engineering Laboratories and Beckwith digital relays are used for line and generator protections, with Westinghouse electromechanical relays used for station service.

## **5.7 Substation Equipment**

56. All four generators output at a 2,300 V terminal voltage. Adjacent to the powerhouse is a 2,300 V/25 kV substation that feeds the 2,300 V and 25 kV distribution facilities that serve local loads (Ocean Falls community and Mowi Canada West) as well as Boralex LP's 45 km 25 kV transmission line to the Shearwater interconnection point with BC Hydro's Bella Bella NIA.
57. At Shearwater, transformer T20, rated for a maximum of 4.48 MVA, supplies the 25 kV interconnection with BC Hydro.

## **5.8 Distribution System and Transmission Line**

58. The Ocean Falls Facilities are connected to the BC Hydro Bella Bella NIA at Shearwater via a 45 km 25 kV, 3-phase transmission line. The interconnection comprises both overhead and submarine conductors. The transmission line first runs overhead for 26 km along the north and west shorelines of Cousins Inlet and Fisher Channel until reaching Stokes Island. At Stokes Island, the transmission line makes the first of two submarine cable crossings, a 1.6 km crossing of the southern end of Johnson Channel to Cunningham Island. The line then continues overhead for 5 km on Cunningham Island until it reaches the second submarine cable crossing to Denny Island, a 225 meter crossing of Gunboat Passage. The transmission line then continues the final 13 km overhead along the north side of Denny Island to Shearwater. The overhead segments of the transmission line are constructed with cedar pole structures and strung with three single-bundle 266 MCM ACSR Partridge phase conductors.
59. Each of the submarine crossings was originally constructed using four single-phase 2/0 copper 25 kV submarine cables in order to provide redundancy in the case of the failure of a single cable. The redundancy enabled the transmission line to be quickly returned to operation when one of the submarine cables at the longer crossing failed in 2015. Both submarine crossings were rebuilt by Boralex LP in September 2016 using three new single-phase 2/0 copper 25 kV submarine cables, with the old cables remaining in place as redundant spares.
60. There are no permanent access roads along most of the transmission line right-of-way. Access to the line is either by helicopter or boat (barge or crew boat) at various landing sites, and then by foot.
61. The distribution system in Ocean Falls comprises approximately 9 km of single and three phase wood pole distribution lines. One 2,300 V feeder delivers power to the Ocean Falls central town site and another 2,300 V feeder runs south 400 meter from the substation to serve the Mowi Canada West facilities. The Martin Valley community, approximately 2.5 km from the Ocean Falls town site, is served by the easternmost segment of the 45 km 25 kV transmission line to Shearwater.

## **5.9 General Plant**

62. Given the remote and isolated location of the Ocean Falls Facilities and Boralex LP's commitment to provide secure and reliable electricity supply to the Bella Bella NIA and Ocean Falls community, Boralex LP has developed self-reliance capabilities to enable timely repair and maintenance of the Ocean Falls Facilities. In the absence of these self-reliance capabilities, it would not be possible for Boralex LP to maintain the high level of reliability performance that has historically been achieved in this geographically remote and rugged and climatically challenging location.
63. A combination workshop and storage building is located adjacent to the powerhouse. This building, which was part of the original mill facilities, has been adapted to house spare equipment and materials, a machine shop, a welding shop, a mechanical shop, and accommodations for the plant operators. Also housed in the shop building is other equipment required to maintain and operate the Ocean Falls Facilities, including pickup trucks, boom trucks, heavy equipment, machining, welding and carpentry equipment, and a selection of specialized utility tools and equipment.

## **5.10 Staffing and Corporate Services**

64. Boralex LP employs a full-time staff of five operators who work out of Ocean Falls, and who are principally responsible for day to day operations of the facilities. In addition, Boralex LP employs five part-time workers that provide cleaning, carpentry and other services. Four of the five full-time staff members are over the age of 60 and will retire over the next five years, requiring Boralex LP to recruit and train replacements. The training period will overlap with the final year of the retiring staff member.
65. Staff operating employees rotate in and out of Ocean Falls, and stay in the employee accommodations located in the workshop building when in Ocean Falls. The operating employees generally live in the Lower Mainland or on Vancouver Island.
66. In addition to the facility operators, Boralex LP relies on senior management and site operations oversight services provided by Boralex Inc., as well as technical services from Boralex Inc. in the areas of engineering, purchasing, health and safety, and environmental services. Boralex LP also relies on third party contractors for certain operations and maintenance and capital projects on an as needed basis.
67. A number of corporate services are also provided by Boralex Inc. to Boralex LP, including accounting, finance, tax, legal, communications, public relations, human resources and information technology. Boralex LP forecasts a number of these services to increase in light of the capital expenditure program required to maintain the safety and reliability of the Ocean Falls Facilities and the shift to BCUC regulation of Boralex LP's service to BC Hydro.

## 6. REVENUE REQUIREMENT SUMMARY

68. **Table 3** shows Boralex LP's forecast revenue requirement for 2019 (Q3-Q4) to 2022.

**Table 3: Revenue Requirement 2019 to 2022 (\$000's)**

	2019	2020	2021	2022
<i>Rate Base</i>	\$13,343	\$14,474	\$18,316	\$21,736
<i>Deemed Equity</i>	\$6,672	\$7,237	\$9,158	\$10,868
<i>Deemed Debt</i>	\$6,672	\$7,237	\$9,158	\$10,868

	2019 Q3-Q4	2020	2021	2022
Return on Equity	\$329	\$688	\$812	\$991
Return on Debt	\$181	\$379	\$446	\$545
Depreciation Expense	\$133	\$283	\$330	\$396
Income Taxes	\$0	\$0	\$0	\$0
Property and School Taxes	\$176	\$362	\$373	\$384
Water Rentals	\$33	\$66	\$68	\$69
O&M	\$795	\$2,271	\$2,224	\$2,202
<b>Gross Revenue Requirement</b>	<b>\$1,646</b>	<b>\$4,049</b>	<b>\$4,251</b>	<b>\$4,587</b>

Ocean Falls Retail and Industrial Customer Revenue	\$308	\$580	\$591	\$602
<b>Total</b>	<b>\$308</b>	<b>\$580</b>	<b>\$591</b>	<b>\$602</b>

<b>Net Revenue Requirement</b>	<b>\$1,338</b>	<b>\$3,469</b>	<b>\$3,661</b>	<b>\$3,986</b>
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69. Details regarding the determination of the opening and forecast rate base balances for the Ocean Falls Facilities is set out in Sections 7 and 8 below. Details regarding each component of Boralex LP's forecast revenue requirement is set out in Section 9 below, and details regarding Boralex LP's forecast revenue from its retail and industrial customers in Ocean Falls is set out in Section 10 below.

## 7. INITIAL RATE BASE: 2009 TO 2018

70. The opening rate base for the Ocean Falls Facilities as at January 1, 2019 has been determined by (i) starting with the historical, depreciated cost of the facilities as at December 31, 2008 as accepted by the Commission at the time of the acquisition of the facilities by Boralex LP from CCPC, (ii) adding the cost of capital additions made by Boralex LP from the time of acquisition to December 31, 2018, and (iii) deducting depreciation expense over this period.

### 7.1 Initial Rate Base: December 31, 2008

71. The Commission approved the acquisition of the Ocean Falls Facilities by Boralex LP from CCPC pursuant to BCUC Order and Decision G-180-08 dated December 5, 2008 and granted exemption Order G-26-10 to Boralex LP on the basis that rates would be set based on the historical, depreciated cost of the Ocean Falls Facilities in the event a customer complaint cannot be resolved and the Commission decides to set cost-based rates.
72. In this regard, the Commission approved the acquisition of the facilities by Boralex LP subject to CCPC providing the Commission a detailed listing of the Ocean Falls Facilities with their historical, depreciated value. CCPC filed this information with the Commission on January 10, 2009. By letter dated January 20, 2009, the Commission prepared a tabulation of the assets with a total net book value as at December 31, 2008 of \$7,242,500 based on CCPC's filing of January 10, 2009, and advised that it would accept this valuation subject to confirmation by CCPC that this was the estimated re-valued total net book value of the assets as of December 31, 2008. CCPC confirmed the Commission's tabulation by letter to the Commission dated January 21, 2009.
73. Accordingly, the starting point for the determination of the rate base is the \$7,242,500 historical, depreciated value of the Ocean Falls Facilities as at December 31, 2008 accepted by the Commission.
74. **Table 4** set out the tabulation of this amount by the Commission in its January 20, 2009 letter.

**Table 4: BCUC Accepted Valuation**

<b>Asset Category</b>	<b>Value</b>
Penstocks	\$1,503,000
Powerhouse	\$2,538,700
Ocean Falls Substation	\$332,500
Transmission Line	\$1,433,400
Distribution System	\$200,000
Equipment	\$855,100
Station Service Building and 150 kV Generator Facility	\$135,400
Workshop	\$244,400
<b>Total</b>	<b>\$7,242,500</b>

75. In order to group the assets into common asset pools for depreciation purposes, Boralex LP has renamed, moved or combined some of the assets and associated costs into the categories set out in **Table 5**. The amount shown for each asset category in **Table 5** represents the historical, depreciated amount (i.e., rate base amount) of each asset category as at December 31, 2008. The total historical, depreciated amount of \$7,242,500 accepted by the Commission as at December 31, 2008 remains the same.

**Table 5: Rate Base as at December 31, 2008 – Reorganized by Asset Category**

<b>Asset Category</b>	<b>Asset Category Description</b>	<b>Value</b>	<b>Concordance to BCUC Accepted Valuation Category</b>
1	Major Civil Works (Dam, Spillway, Tailrace)	\$0	n/a
2	Miscellaneous Civil Works (Powerhouse, Workshop, Access Roads)	\$744,400	Workshop plus \$500,000 of Powerhouse costs
3	Inlet Gates	\$0	n/a
4	Penstocks	\$1,503,000	Penstocks
5	Turbine-Generators	\$2,038,700	Powerhouse (All, less \$500,000 of costs included with Category 2)
6	Controls & Ancillary Systems	\$135,400	Station Service Building and 150 kW Generator Facility
7	Substation Equipment	\$332,500	Ocean Falls Substation
8	Overhead Distribution	\$1,343,400	Transmission Line (All, less \$290,000 included with Category 9)
9	Subsea Distribution Cable	\$290,000	\$290,000 of Transmission Line costs
10	General Plant	\$855,100	Equipment
	<b>Total</b>	<b>\$7,242,500</b>	

## **7.2 Capital Additions: 2009 to 2018**

76. Since acquiring the Ocean Falls Facilities from CCPC in 2009, Boralex has invested \$7,625,000 in capital additions to maintain the structural and operational integrity of the facilities and provide safe, reliable and secure service to BC Hydro and its other customers in Ocean Falls. These additions are summarized by year and asset category in **Table 6**, using the same asset categories set out in **Table 5**.

**Table 6: Capital Additions (2009 to 2018) (\$000's)**

<b>Asset Category</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>Total</b>
1	\$795	\$1,350	\$750		\$265	\$73					<b>\$3,233</b>
2			\$1,004	\$73	\$40	\$150			\$7		<b>\$1,274</b>
3						\$110	\$245	\$8	\$288	\$339	<b>\$990</b>
4					\$55				\$33	\$13	<b>\$101</b>
5		\$21						\$99	\$13		<b>\$133</b>
6									\$12		<b>\$12</b>
7				\$14							<b>\$14</b>
8			\$296								<b>\$296</b>
9					\$12	\$20	\$12	\$1,230	\$9		<b>\$1,283</b>
10	\$127			\$131	\$12				\$19		<b>\$289</b>
<b>Total</b>	<b>\$922</b>	<b>\$1,371</b>	<b>\$2,050</b>	<b>\$218</b>	<b>\$384</b>	<b>\$353</b>	<b>\$257</b>	<b>\$1,336</b>	<b>\$381</b>	<b>\$352</b>	<b>\$7,625</b>

77. A summary of the major expenditures from 2009 to 2018 is as follows:

- a) Extensive upstream and downstream dam and spillway re-surfacing and concrete rehabilitation work was carried out from 2009 to 2011 to mitigate concrete erosion and to restore the dam to its original design condition to the extent possible. Upstream dam rehabilitation work required the lake level to be lowered to enable preparation of the eroded dam surface and shotcrete application. The lake level was lowered by installing penstocks 1(a) and 1(b) and connecting them to the turbines in the ground wood building that formed part of the original mill facilities. Downstream spillway resurfacing was carried out using conventional concrete form and pour methods.
- b) The Link River bridge suffered a structural failure and had to be completely replaced in 2011. This bridge provides the only access between the Ocean Falls town site and all facilities south of the river, including the powerhouse, the shop building and the south dam abutment.
- c) An erosion protection wall was added upstream of the powerhouse in 2012 to mitigate substation flooding experienced during high spillway flow conditions.
- d) Additional concrete work was done to rehabilitate eroded concrete on the spillway crest and at the base of the north abutment in 2013 and 2014, respectively.
- e) The original powerhouse overhead crane reached end of life condition and was replaced in 2012/2013.

- f) Inlet gates 1 & 2 reached end of life condition and were replaced between 2014 and 2018.
- g) Turbine rehabilitation work, including runner repairs and replacement of wicket gates was carried out on unit G3 in 2016.
- h) One of the submarine cables on the Johnson Channel crossing failed in 2016, requiring re-termination of the failed phase using the spare cable (the longer Johnson Channel crossing was initially built using 4 single phase cables to mitigate such an event). Three new single-phase cables were installed by Boralex LP at both crossings in 2016. The original cables were left in place at both crossings to serve as emergency spares.
- i) Various vehicle, equipment and tool purchases were undertaken in 2009, 2012, 2013 and 2017.

### 7.3 Depreciation Expense: 2009 to 2018

- 78. Boralex LP has calculated depreciation expense for the Ocean Falls Facilities on a straight-line basis using the depreciation rates set out in **Table 7**, which are based on the estimated depreciation life of each asset category assuming regular maintenance and refurbishment as required.

**Table 7: Depreciation Life and Rate by Asset Category**

Asset Category	Asset Category Description	Depreciation Life	Depreciation Rate
1	Major Civil Works (Dam, Spillway, Tailrace)	100 Years	1%
2	Miscellaneous Civil Works (Powerhouse, Workshop, Access Roads)	75 Years	1.33%
3	Inlet Gates	75 Years	1.33%
4	Penstocks	75 Years	1.33%
5	Turbine-Generators	75 Years	1.33%
6	Controls & Ancillary Systems	25 Years	4%
7	Substation Equipment	45 Years	2.22%
8	Overhead Distribution	45 Years	2.22%
9	Subsea Distribution Cable	30 Years	3.33%
10	General Plant	30 Years	3.33%

79. The resulting depreciation expense for each of the asset categories by year from 2009 to 2018 is set out in **Table 8**.

**Table 8: Depreciation Expense (2009 to 2018) (\$000's)**

Asset Category	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Total
1	\$4	\$15	\$25	\$29	\$30	\$32	\$32	\$32	\$32	\$32	\$264
2	\$10	\$10	\$17	\$24	\$25	\$26	\$27	\$27	\$27	\$27	\$218
3	-	-	-	-	-	\$1	\$3	\$5	\$7	\$11	\$26
4	\$20	\$20	\$20	\$20	\$20	\$21	\$21	\$21	\$21	\$21	\$205
5	\$27	\$27	\$27	\$27	\$27	\$27	\$27	\$28	\$29	\$29	\$278
6	\$5	\$5	\$5	\$5	\$5	\$5	\$5	\$5	\$6	\$6	\$55
7	\$7	\$7	\$7	\$8	\$8	\$8	\$8	\$8	\$8	\$8	\$76
8	\$30	\$30	\$33	\$36	\$36	\$36	\$36	\$36	\$36	\$36	\$348
9	\$10	\$10	\$10	\$10	\$10	\$10	\$11	\$32	\$52	\$52	\$206
10	\$31	\$33	\$33	\$35	\$37	\$38	\$38	\$38	\$38	\$38	\$357
Total	\$144	\$157	\$178	\$194	\$199	\$204	\$208	\$232	\$256	\$261	\$2,033

**7.4 Rate Base: December 31, 2018**

80. Taking the initial rate base as at December 31, 2008 (**Table 5**), adding the capital additions from 2009 to 2018 (**Table 6**), and subtracting depreciation expense from 2009 to 2018 (**Table 8**), the resulting rate base as at December 31, 2018 is \$12,834,000 as shown in **Table 9**. Accordingly, this is the starting rate base for the Ocean Falls Facilities as at January 1, 2019.

**Table 9: Rate Base by Asset Category (\$000's)**

Asset Category		Value (2009)	CAPEX (2009-2018)	Depreciation (2009-2018)	Rate Base (End of 2018)
1	Major Civil Works (Dam, Spillway, Tailrace)		3,233	-\$264	\$2,969
2	Miscellaneous Civil Works (Powerhouse, Access Roads)	\$744	\$1,274	-\$218	\$1,800
3	Inlet Gates	-	\$990	-\$26	\$984
4	Penstocks	\$1,503	\$101	-\$205	\$1,399
5	Turbine-Generators	\$2,039	\$133	-\$278	\$1,894
6	Controls & Ancillary Systems	\$135	\$12	-\$55	\$92
7	Substation Equipment	\$333	\$14	-\$76	\$271
8	Overhead Distribution	\$1,343	\$296	-\$348	\$1,292
9	Subsea Distribution Cable	\$290	\$1,283	-\$206	\$1,367
10	General Plant	\$855	\$289	-\$357	\$787
	<b>Total</b>	\$7,243	\$7,625	-\$2,033	\$12,834

81. **Table 11** summarizes the rate base additions and depreciation expense over the period 2009 to 2018.

**Table 10: Rate Base Additions and Depreciation Expense 2009 to 2018 (\$000's)**

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Initial Rate Base	\$7,243	\$8,020	\$9,234	\$11,107	\$11,130	\$11,315	\$11,464	\$11,512	\$12,617	\$12,742
Capital Additions	\$922	\$1,371	\$2,050	\$218	\$384	\$353	\$257	\$1,336	\$381	\$352
Total	\$8,164	\$9,391	\$11,284	\$11,325	\$11,514	\$11,668	\$11,721	\$12,848	\$12,998	\$13,095
Depreciation	-\$144	-\$157	-\$178	-\$194	-\$199	-\$204	-\$208	-\$232	-\$256	-\$261
Ending Rate Base	\$8,020	\$9,234	\$11,107	\$11,130	\$11,315	\$11,464	\$11,512	\$12,617	\$12,742	\$12,834

## 8. FORECAST RATE BASE ADDITIONS: 2019 TO 2022

### 8.1 Forecast Capital Additions

82. Although the Ocean Falls facilities are generally in good operating condition, the plant is over 100 years old and, unsurprisingly, some components require replacement or rehabilitation. A number of capital projects are planned for 2019 to 2022 to address asset conditions or obsolescence and to satisfy BC Hydro's interconnection standards. **Table 11** summarizes the projects comprising the 2019 to 2022 forecast capital expenditures.

**Table 11: Forecast Capital Additions (2019 to 2022) (\$000's)**

Project #	Project	2019	2020	2021	2022	Total
1	Penstock Rehabilitation	\$225	\$787	\$2,929	\$2,166	<b>\$6,107</b>
2	Turbine Rehabilitation	\$75	\$261	\$268	\$244	<b>\$847</b>
3	Powerhouse Electrical	-	\$67	\$362	\$371	<b>\$800</b>
4	Ocean Falls Switchyard	-	\$53	-	\$215	<b>\$268</b>
5	Shearwater Substation	-	\$104	\$288	\$262	<b>\$654</b>
6	Interconnection Line	-	\$15	\$200	\$205	<b>\$420</b>
7	General Plant	\$75	\$125	\$125	\$354	<b>\$680</b>
	<b>Total</b>	<b>\$375</b>	<b>\$1,414</b>	<b>\$4,171</b>	<b>\$3,816</b>	<b>\$9,776</b>

83. The forecast capital costs do not include, and Boralex LP is not proposing to include, any allowance for funds used during construction (AFUDC) or capitalized overhead costs. Details regarding the capital projects listed in **Table 11** are set out in sections 8.1.1 to 8.1.7.

#### 8.1.1 Project 1: Penstock Rehabilitation

84. Penstock 2 is a 3.66 m diameter riveted steel penstock that conveys water from the Ocean Falls dam intake to the hydro turbines in the powerhouse. Penstock 2 was initially installed in 1917 and has incurred rivet deterioration, localized corrosion pitting and metal stress over its +100-year service life.
85. Boralex had originally intended to repurpose Penstocks 1(a) and 1(b) (that were installed to lower the level of Link Lake in order to undertake dam rehabilitation work from 2009 to 2011) by tying them into the turbines of generating units G1 and G2 in the powerhouse and installing a new smaller diameter penstock to replace Penstock 2 to supply to the two dual runner units G3 and G4 in the powerhouse.
86. A recently completed engineering assessment has determined that Penstock 2 can be rehabilitated at a lower cost than would be involved in implementing a complete penstock replacement.
87. The project scope involves conducting spot repairs and adding steel reinforcement to address localized areas of corrosion and metal fatigue,

removal of internal and external corrosion debris, removal of soil presently contacting the underside of the penstock underside, rehabilitation of failed rivets, and installation of an inner lining and application of an outer coating. The project will also require the gate closing mechanism and controls to be upgraded to enable rapid closure if a penstock breach is detected.

88. The project will be staged over several years to minimize the required shutdown window in any individual year, thereby reducing the period that BC Hydro’s Shearwater diesel plant must be run to supply the Bella Bella NIA and Ocean Falls loads, and consequently minimizing diesel fuel costs. Work requiring plant shutdowns will be conducted during a six week window in the spring each year (mid-April to the end of May) to align with the lightest seasonal loads in the Bella Bella NIA and Ocean Falls.<sup>7</sup> Project activities will also extend into 2023 and 2024 to pace the project work and minimize the annual shutdown period.
89. **Table 12** shows the forecast capital expenditures for Project 1 from 2019 to 2022.

**Table 12: Project 1 – Penstock Rehabilitation**

Cost Item (\$,000)	2019 Q3-Q4	2020	2021	2022	Total
Penstock 2 Rehabilitation	\$225	\$787	\$2,929	\$2,166	\$6,107
<b>Total</b>	<b>\$225</b>	<b>\$787</b>	<b>\$2,929</b>	<b>\$2,166</b>	<b>\$6,107</b>

### 8.1.2 Project 2: Turbine Rehabilitation

90. The Francis turbines associated with the four generating units (G1 to G4) are all original equipment originally manufactured between 1916 and 1923. The wicket gates, runners, HPUs and bearing oil systems of all four units were overhauled in previous years. Recent inspections have identified that all four units exhibit water leaks associated with shaft erosion at the turbine water bearings, shaft surface cracks, thrust and guide bearing oil leaks, and deterioration of thrust and guide bearings and bearing pedestals.
91. Project 2 scope involves dismantling the G2, G3 and G4 turbines, removing the shafts, non-destructive testing to locate shaft surface cracks, shaft rehabilitation (repairing cracks, machine and add shaft sleeves at the water bearing locations), replace water bearings, and rehabilitate or replace babbitt bearings, bearing pedestals and bearing housings. One turbine will be rehabilitated in each of 2020 (G3), 2021 (G4) and 2022 (G2). Work on G1 will

<sup>7</sup> Boralex LP will require back-up power from BC Hydro under Tariff Supplement No. 7 to serve the Ocean Falls community during the six week shutdown window. If BC Hydro is unable to supply this back-up power for the full six week period (Tariff Supplement No. 7 currently provides that Boralex LP may request supply from BC Hydro for a specified period not to exceed 30 days), then Boralex LP will need to cover the short-fall period with its own back-up diesel generation likely at a higher cost than acquiring the power from BC Hydro. Boralex LP has assumed that it will be able to make arrangements to acquire power from BC Hydro over the entire shut-down period.

be undertaken in 2023. Additional work on G4 is also required in 2019 (Q3-Q4) due to bearing issues discovered during investigative work.

92. **Table 13** shows the forecast capital expenditures for Project 2 from 2019 to 2022.

**Table 13: Project 2 – Turbine Rehabilitation**

Cost Item (\$,000)	2019 Q3-Q4	2020	2021	2022	Total
Turbine Rehabilitation	\$75	\$261	\$268	\$244	\$847
<b>Total</b>	<b>\$75</b>	<b>\$261</b>	<b>\$268</b>	<b>\$244</b>	<b>\$847</b>

### 8.1.3 Project 3: Powerhouse Electrical System Upgrades

93. Asset condition assessment has identified a number of powerhouse electrical components and systems that must be replaced or upgraded, including the generator unit breakers (1945 vintage, 74 years old), analog excitation controllers, breaker controls and battery system monitoring.
94. Project electrical scope includes acquiring and installing new unit breakers, replacing the existing analog excitation controllers with digital units, adding communication to the new Shearwater RTU through the existing satellite link, adding redundant unit breaker Synch-Check relays, and adding DC battery voltage and battery charger AC supply alarm monitoring.
95. Project 3 forecast expenditures for 2019 to 2022 are broken out by cost component in **Table 14**.

**Table 14: Project 3 – Powerhouse Electrical System Upgrades**

Cost Item (\$,000)	2019 Q3-Q4	2020	2021	2022	Total
PLC, Controls, & Protection	-	\$54	-	-	\$54
Powerhouse Station Service Batteries	-	\$3	-	-	\$3
Powerhouse Breakers	-	\$11	\$362	\$371	\$743
<b>Total</b>	<b>\$0</b>	<b>\$67</b>	<b>\$362</b>	<b>\$371</b>	<b>\$800</b>

### 8.1.4 Project 4: Ocean Falls Switchyard Rehabilitation

96. The Ocean Falls switchyard is located immediately adjacent to the powerhouse, and feeds both the 2300 V Ocean Falls town site system and the 25 kV transmission line that serves BC Hydro's Bella Bella NIA (as well as the local Martin Valley loads). An asset condition assessment has identified Ocean Falls switchyard equipment and components that require replacement

or refurbishment to address condition or obsolescence issues and to meet BC Hydro’s interconnection facility requirements.

97. The switchyard insulating gravel has excessive organic content and must be replaced to protect workers from exposure to excessive ground potential rise (GPR) voltages, the switchyard fence requires replacement of corroded components, and the ground grid must be extended 1 m beyond the fence to mitigate staff GPR/touch exposure. This work will be carried out in 2020.
98. Oil circuit breaker 25CB51 (38 kV, 1200 A, 22 kA) has unacceptably slow clearing times, utilize obsolete oil-based technology and is at the end of service life, having been in service for 45 years (1974 vintage).
99. 25CB51 is a non-redundant element in the supply path between the Ocean Falls plant and the Bella Bella NIA delivery point at Shearwater. Continuing to operate this equipment beyond end of service life would expose the Bella Bella NIA and Ocean Falls loads to potential extended outages and/or dependence upon extended backup power supply from the Shearwater diesel plant and consequently significant incremental diesel fuel consumption.
100. A new 25 kV SF<sub>6</sub> breaker will be installed in 2022 to replace existing 25CB51.
101. Other required Ocean Falls switchyard equipment replacements are being deferred beyond 2022 to help pace capital work. This equipment includes step up transformers T10 and T11, the station service transformer, and of several other switchgear and protection components, all of which are approaching end of life condition.
102. **Table 15** shows the forecast capital expenditures for Project 4 from 2019 to 2022.

**Table 15: Project 4 – Ocean Falls Switchyard Rehabilitation**

Cost Item (\$,000)	2019 Q3-Q4	2020	2021	2022	Total
Oceans Falls GS Substation Rehabilitation	-	\$53	-	\$215	\$268
Total	\$0	\$53	\$0	\$215	\$268

### 8.1.5 Project 5: Shearwater Substation Rehabilitation

103. The Shearwater Substation constitutes the point of interconnection between the Ocean Falls system and BC Hydro’s Bella Bella NIA. A number of Shearwater Substation components require replacement or refurbishment to address condition or obsolescence issues and to meet BC Hydro’s interconnection facility requirements. This project is structured as an integrated comprehensive rehabilitation of the Shearwater Substation to address the identified issues.
104. Step-down transformer T20 is 55 years old (1964 vintage) and is at end of expected service life, as is the Shearwater voltage regulator. The transformer and regulator were acquired in used condition from BC Hydro when the

Shearwater Substation was initially built in 1985. A new on-line tap changer (OLTC) transformer will be acquired and installed to replace existing T20 and to simultaneously enable retirement of the existing end of life regulator, which will have the added benefit of de-cluttering the station yard.

105. Oil filled circuit breaker 12CB20 is over 50 years old, is at the end of expected service life, and represents obsolete technology with unacceptably slow clearing times. A new SF6 breaker will be acquired and installed to replace obsolete oil-filled 25CB51 (which presents an unnecessary environmental hazard when compared with new breaker technology).
106. Several new systems will be added at the Shearwater Substation to meet BC Hydro's prevailing interconnection requirements, including a Power Parameters Information System (PPIS), a Remote Terminal Unit (RTU) and a real-time communications link to enable integration of Shearwater telemetry into BC Hydro's Fraser Valley Operations centre (BCH-FVO) by providing real-time Ocean Falls generator status and Shearwater point of interconnection (POI) PPIS data.
107. A number of other obsolete and/or end of service life Shearwater Substation components will be upgraded, including the existing revenue metering instrument transformers (which contain polychlorinated biphenyl (PCB) contaminated oil), the Protection & Control (P&C) cabinet and equipment, the communications AC Inverter, and the wet Lead-Acid batteries. AC Supply and DC battery voltage monitoring will be added to the battery charger system.
108. The Shearwater Substation assets represent a critical link in the non-redundant radial path connecting the Ocean Falls plant to BC Hydro's Bella Bella NIA. Continuing to operate this end of life and/or obsolete equipment would expose the Bella Bella NIA to an increasing probability of extended outages and/or extended dependence upon supply from BC Hydro's Shearwater diesel plant in the event of equipment failure.
109. Project 5 forecast expenditures for 2019 to 2022 are broken out by cost item in **Table 16**.

**Table 16: Project 5 – Shearwater Substation Rehabilitation**

<b>Cost Item (\$,000)</b>	<b>2019 Q3-Q4</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>Total</b>
Shearwater Controls, Comms, and Protection	-	\$38	\$25	\$19	\$82
Shearwater Metering Instrument Transformer Replacement	-	\$67	-	-	\$67
Shearwater Substation - Step Down Transformer T20 (25 kV to 12.5 kV)	-	-	-	\$242	\$242
Shearwater Substation - Circuit Breaker 12CB20	-	-	\$264	-	\$264
<b>Total</b>	<b>\$0</b>	<b>\$104</b>	<b>\$288</b>	<b>\$262</b>	<b>\$654</b>

### 8.1.6 Project 6: Interconnection Line Capital Maintenance

- 110. The Ocean Falls to Shearwater 45 km 25 kV transmission line is situated in rugged terrain and a challenging climatic zone that accelerates deterioration of structures and other line components. Assets are wet almost continuously throughout the year and often exposed to fog and sea spray, which promotes wood rot, metal corrosion and equipment contamination. The line traverses challenging terrain and most of the line length is not accessible to vehicles such as 4x4s or bucket trucks. Inspection, repair and maintenance activities often involve accessing the line structures via a combination of boat, helicopter and on foot. Repairs can require workers to climb poles located in steep and rocky terrain, often with exposure to sheer oceanside cliffs and typically in inclement weather conditions.
- 111. Failures of structures or other line components can cause extended line outages due to the access challenges, so it is essential that the line facilities are maintained in excellent operating condition to maintain service reliability. Annual inspections identify any structures and other line components that require repair or replacement.
- 112. This project involves repairing or replacing deteriorated structures and line components based on assessed asset condition requirements.
- 113. The project also involves rebuilding the helicopter landing platforms (one platform per year) that are installed at key access points on sections of the line that are not accessible by vehicle.
- 114. This project will extend beyond 2022, and the pace of line refurbishment expenditures is expected to increase in future years as more of the structures and line components reach end of service life condition.
- 115. Project 6 forecast expenditures for 2019 to 2022 are shown in **Table 17**.

**Table 17: Project 6 – Interconnection Line Rehabilitation**

Cost Item (\$,000)	2019 Q3-Q4	2020	2021	2022	Total
25 kV distribution Line 25F51 & Poles	-	-	\$184	\$188	\$372
Helipads	-	\$15	\$16	\$16	\$47
Total	<b>\$0</b>	<b>\$15</b>	<b>\$200</b>	<b>\$205</b>	<b>\$420</b>

### 8.1.7 Project 7: General Plant Replacements, Additions and Facility Rehabilitation

- 116. Project 7 involves replacement or refurbishment of general plant assets that are deteriorated or at end of expected service life. The general plant category comprises assets that do not directly generate, transmit or distribute power, but are needed to enable Boralex LP staff to provide reliable and efficient utility service, including assets such as boats, vehicles, heavy equipment and other non-electrical-system facilities and equipment.

117. Ocean Falls general plant assets that have reached or will reach end of expected service life and that will be replaced during the forecast period include mobile radio and satellite phone equipment, the crew boat, two 4x4 pickup trucks and the Cat 235 log loader wood debris cleanup unit. In addition to these end-of-life like-for-like asset replacements, a teleboom is required for ongoing facility maintenance and to enable efficient execution of planned capital projects, including the penstock rehabilitation. The crew boat, 4x4 trucks, log loader and teleboom will be acquired under capital lease-to-buy arrangements.
118. In addition to the equipment acquisitions, this project involves two General Plant rehabilitation activities.
119. The operator living quarters located inside the shop building will be modernized and upgraded to provide acceptable-quality living quarters for the plant operators. Initial demolition activities identified the presence of asbestos, requiring asbestos abatement work methods to be applied during project execution. Failure to provide operators with reasonable modern living conditions would increase the difficulty of recruiting and retaining qualified workers for this remote and isolated site.
120. The Link Lake boat dock requires rehabilitation. In addition, the stairways at the dam and powerhouse require rehabilitation to be kept serviceable and safe for worker use.
121. None of the above-identified general plant equipment replacements, acquisitions or refurbishments are optional given the remote and water-bound Ocean Falls plant site, and the ongoing obligation to manage wood debris found on the Link Lake reservoir.
122. Project 7 forecast expenditures for 2019 to 2022 are shown in **Table 18**.

**Table 18: Project 7 – General Plant Expenditures**

Cost Item (\$,000)	2019 Q3-Q4	2020	2021	2022	Total
Dock and Stairway Rehabilitation	-	-	-	\$38	\$38
Mobile Radio and Satellite Phone Equipment	-	\$4	-	-	\$4
General Plant (Vehicles, machinery, and equipment)	-	\$122	\$125	\$317	\$563
Staff Living Quarters Upgrades	\$75	-	-	-	\$75
<b>Total</b>	<b>\$75</b>	<b>\$125</b>	<b>\$125</b>	<b>\$354</b>	<b>\$680</b>

## 8.2 Depreciation

123. Depreciation expense over the 2019 to 2022 period is calculated using the depreciation life assumptions and depreciation rates for each asset category as set out in **Table 7**.
124. Depreciation calculations have been simplified by assuming a mid-year in-service date regardless of when the new additions go into service during the

year, and by pooling all undepreciated capital of a given asset category with all new capital additions of a given asset category to calculate single annual depreciation expense (as opposed to tracking the depreciation of each capital addition separately).

125. The resulting depreciation for each of the asset categories by year is summarized in **Table 19**.

**Table 19: Depreciation Expense (2019-to 2022) (\$000's)**

<b>Asset Category</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>Total</b>
1	\$32	\$32	\$32	\$33	\$130
2	\$27	\$27	\$27	\$27	\$108
3	\$13	\$13	\$13	\$13	\$53
4	\$23	\$30	\$54	\$88	\$195
5	\$29	\$32	\$35	\$39	\$135
6	\$6	\$9	\$13	\$14	\$42
7	\$8	\$8	\$16	\$32	\$64
8	\$36	\$36	\$38	\$43	\$154
9	\$52	\$52	\$52	\$52	\$210
10	\$39	\$43	\$48	\$55	\$185
<b>Total</b>	<b>\$267</b>	<b>\$283</b>	<b>\$330</b>	<b>\$396</b>	<b>\$1,276</b>

### **8.3 Working Capital Requirements**

126. A \$400,000 working capital allowance has been included to cover approximately three months' worth of operating, maintenance and administration ("O&M") expenses, and to address timing issues in payment and receipt of invoices. The working capital amount takes into account the much greater demands on Boralex LP liquidity and cash over the forecast period as a result of the capital program, and that the forecast capital costs do not include any amount for AFUDC.

#### 8.4 Forecast Rate Base: 2019 to 2022

127. **Table 20** shows the resulting forecast rate base for the Ocean Falls Facilities for 2019 to 2022.

**Table 20: Forecast 2019 to 2022 Rate Base (\$000's)**

	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>
Starting Rate Base	\$12,834	\$12,943	\$14,074	\$17,916
Add: Capital Additions	\$376	\$1,414	\$4,171	\$3,816
Subtract: Depreciation	-\$267	-\$283	-\$330	-\$396
Ending Rate Base	\$12,943	\$14,074	\$17,916	\$21,336
Add: Working Capital	\$400	\$400	\$400	\$400
<b>Total Rate Base</b>	<b>\$13,343</b>	<b>\$14,474</b>	<b>\$18,316</b>	<b>\$21,736</b>

## 9. REVENUE REQUIREMENT COMPONENTS

### 9.1 Capital Structure and Rate of Return on Common Equity

128. Boralex LP has based its proposed capital structure and allowed rate of return on common equity (ROE) by reference to the benchmark utility used by the Commission to establish the capital structure and ROE for other utilities regulated by the Commission.
129. In its Stage 1 Generic Cost of Capital Decision dated May 10, 2013, the Commission found that FortisBC Energy Inc. (“FEI”) was the appropriate benchmark utility. In its subsequent Decision and Order G-129-16 dated August 10, 2016 regarding FEI, the Commission set FEI’s common equity ratio at 38.5% and its ROE at 8.75%, and confirmed that the common equity component and ROE approved for FEI in that Decision would continue to serve as the benchmark for other utilities in British Columbia.
130. The Commission has developed a risk matrix to evaluate the overall risk of Thermal Energy Services (TES) utilities compared to the benchmark utility. A copy of the risk matrix is attached as Appendix E to the Commission’s Stage 1 GCOC Decision. In its Stage 1 Decision, the Commission recommended that small TES utilities use this risk matrix in the Commission’s Stage 2 Generic Cost of Capital proceeding as an aid in justifying a risk premium and capital structure in comparison with the benchmark utility. The Commission also held that small utilities, other than TES utilities, can modify the matrix to facilitate a similar comparison of their own risks to those of FEI.<sup>8</sup>
131. **Table 21** is a modified version of the Commission’s risk matrix, which compares the risks faced by Boralex LP with those of FEI. Boralex LP’s risk for each item is assessed as either “Higher”, “Similar” or “Lower” than FEI’s risk for the same item.

**Table 21: Risk Matrix Applied to Boralex LP**

Risk Factor		FEI Natural Gas Class of Service	Boralex LP Commentary	Risk Comparison
1	Technology risk with chosen technology	Natural gas: proven technology	Hydroelectricity is a proven technology with a long useful life assuming regular maintenance and periodic refurbishment/upgrades of facilities are undertaken.	Similar

<sup>8</sup> Stage 1 Generic Cost of Capital Decision dated May 10, 2013, page 101.

Risk Factor		FEI Natural Gas Class of Service	Boralex LP Commentary	Risk Comparison
2	System performance risk with chosen technology	Natural gas: proven technology	FEI distributes natural gas, largely in developed urban areas. Boralex LP both generates and distributes electricity in an isolated and remote location and is dependent on a single non-redundant 45 km transmission line over extremely difficult and hard to access terrain to deliver electricity to its primary load (i.e., the Bella Bella NIA).	Higher
3	Fuel Risk cost and availability	Natural gas: Low – medium	Boralex LP's water licenses entitles it to less water than is naturally available (even in extreme low water years)	Lower
4	Customer Base (e.g.: diversity, certainty, growing, declining)	Established and diverse customer base but very slow growth	Boralex LP's customer base has very low diversity, slow growth and an uncertain industrial load. Approximately 85% of Boralex LP's revenue comes from the Bella Bella NIA with the balance from a small number of retail customers and two industrial customers in Ocean Falls. Boralex LP faces slow growth in the Bella Bella NIA, no certainty of maintaining customer load in Ocean Falls, particularly with regard to its two industrial customers, and very little opportunity to diversify its customer base.	Higher

Risk Factor		FEI Natural Gas Class of Service	Boralex LP Commentary	Risk Comparison
5	Default risk of customer	Minimal	Although the risk of default by BC Hydro is low, approximately 15% of Boralex LP's forecast gross revenue comes from retail and industrial customers in Ocean Falls, all of which revenue has been credited to the forecast cost of service used to establish the BC Hydro rates. As shown in Table 3, the loss of industrial customer revenue would have a significant adverse impact on Boralex LP's return on equity. By sharp contrast, FEI has a very large and diverse customer base and no equivalent proportion of at risk customers.	Higher
6	Load Forecast Uncertainty	Minimal in the short term, as mature utility with deferral account; somewhat higher in the long term	Boralex LP is taking all load forecast risk under the energy charge rate structure, with no deferral account. Load forecast uncertainty is high because of the small size of Boralex LP's customer base and adverse impact that any loss of industrial load in Ocean Falls would have on Boralex LP. FEI has no equivalent load forecast uncertainty risk.	Higher
7	Utility size	Large and mature utility	Boralex LP is an extremely small utility relative to FEI.	Higher
8	Future construction cost risk	Depends on nature of individual project	The remote and extremely harsh environment in which Boralex LP operates is significantly more challenging than that of FEI. The Ocean Falls Facilities are located in an isolated and remote location, where water access is the only reliable year-round access, which imposes higher costs and risks in forecasting, planning and executing capital projects. Boralex LP has no capital-related deferral accounts.	Higher

Risk Factor		FEI Natural Gas Class of Service	Boralex LP Commentary	Risk Comparison
9	Operating cost risk	Minimal as revenue requirement application to cover costs	Boralex LP has generation assets while FEI has none. Boralex LP is highly dependent on a single non-redundant 45 km transmission line to deliver electricity to its primary load (i.e., the Bella Bella NIA). In contrast, FEI has no similar single asset dependency. Moreover, the remote and extremely harsh environment in which Boralex LP operates is significantly more challenging than that of FEI. The Ocean Falls Facilities are located in an isolated and remote location with inherently higher operating and maintenance risks and costs. It is also difficult to recruit and retain capable operators for this remote location. Boralex LP has no O&M-related deferral accounts.	Higher
10	Public Acceptance and Aboriginal Rights Risk	Medium as natural gas is an established and widely used technology but public perceives it as less than clean	General public acceptance of the presence of the Ocean Falls Facilities in the region. However, regional Aboriginal rights issues remain.	Similar
11	Fixed/Variable rate design	15% fixed / 85% variable	The 100% energy charge (i.e., variable) rate structure imposes all of the load forecast risk on Boralex LP, with no load-related deferral account. Moreover, under the two-tier rate structure, if BC Hydro's load in any year is less than 11.63 GWh, Boralex LP loses significantly more revenue than it gains if the load is greater than 11.63 GWh.	Higher

Risk Factor		FEI Natural Gas Class of Service	Boralex LP Commentary	Risk Comparison
12	Competitive challengers	Competitive with electricity and competition from alternative energy providers	Ocean Falls is at risk of load erosion should self-supply or energy efficiency improvements such as rooftop solar or zero emission/passive housing standards be implemented. Small reductions in load can have a material impact on Boralex LP's revenue.	Higher
13	Provincial climate change and energy policies	Encourage reduction of fossil fuels usages to reduce GHG emissions and lower energy use	The Ocean Falls Facilities are fully compatible with provincial climate change and energy policies.	Lower
14	Regulatory uncertainty	Low to medium: uncertainty exists for service offerings within the natural gas class of service	An adverse regulatory decision could have a disproportionate impact upon the ability of Boralex LP to achieve its allowed ROE, relative to the impact upon FEI for a similar adverse decision. Regulatory uncertainty is exacerbated by the fact that this is Boralex LP's first rate application and by the small size, location, configuration and unique history of the Ocean Falls Facilities.	Higher
15	Business development risk	Minimal	Boralex LP's business development risks are significantly higher because of the remote and isolated location of Ocean Falls. There is no local economy to provide a basis or foundation to attract and support new customer load.	Higher

132. Having regard for its significantly higher risks compared to the benchmark utility, Boralex LP believes the appropriate common equity ratio and risk premium for the Ocean Falls Facilities is as set out in **Table 22**.

**Table 22: Equity Ratio and Return on Equity**

<b>Equity Ratio</b>	50%
<b>Benchmark Utility ROE</b>	8.75%
<b>Boralex LP Risk Premium</b>	125 basis points
<b>Resulting Boralex LP ROE</b>	10.0%

**9.2 Debt Interest Rate**

133. Boralex LP currently has long term third party debt that was issued following its acquisition of the Ocean Falls Facilities. The loan was made by a single lender in 2011. The loan is secured by the Ocean Falls Facilities, bears interest at a fixed rate of 6.55% per annum with monthly payments of principal and interest, and matures in April 2024. Arrangements were also entered into at the time of the loan to provide that certain of Boralex LP's operating costs were covered by Boralex Inc. in the first instance and only repayable by Boralex LP to Boralex Inc. after payment of principal and interest payments on the loan. The effect of this arrangement was to make repayment of these operating costs by Boralex LP to Boralex Inc. subordinate to principal and interest payments on the loan, providing additional security to the lender.
134. While the 6.55% interest rate on Boralex LP's current debt is a relevant benchmark as it represents Boralex LP's actual cost of debt that will not mature until April, 2024, Boralex believes the cost rate on the debt component of its capital structure should be a deemed rate that is reflective of the rate of interest that would be available to Boralex LP if it were to issue long term debt on a stand-alone basis in today's market.
135. In this regard, Boralex LP's current lender, which is intimately familiar with the Ocean Falls Facilities, has advised that assuming the level and stability of Boralex LP's cash flows remain substantially the same as they are now following approval by the Commission of the rates for Boralex LP's service to BC Hydro, if it were to finance the debt component of Boralex LP's rate base in today's market on a stand-alone basis, the interest rate on the debt with a 30 year term would be approximately 5.3%. This reflects a Government of Canada Bond yield on an equivalent term of 1.80% plus a spread of 350 basis points.
136. Boralex LP's lender has also advised that, as Government of Canada bond yields are currently at historic lows, there is a greater likelihood of these yields being higher rather than lower than they are today over the period covered by this Application. Consequently, if Boralex LP were to raise additional third party long term debt over the period covered by this Application to finance the increase in Boralex LP's rate base over this period, then the required interest rate on that additional debt is likely to be higher, and not lower, than 5.3%.
137. In addition, Boralex LP's lender has advised that there is additional upward pressure on lending rates to the hydroelectric industry due to new Life

Insurance Capital Adequacy Test (LICAT) guidelines issued by the Office of the Superintendent of Financial Institutions. Life insurance companies are a traditional long term lender to the hydroelectric industry and as a result of the new LICAT guideline they are required to maintain higher capital reserves when lending to projects like the Ocean Falls Facilities, leading to an increase in their interest rates.

138. Based on the forgoing, Boralex LP believes that an appropriate deemed interest rate on the debt component of its capital structure is 5.5%.

### 9.3 Depreciation Expense

139. Depreciation expense over the 2019 to 2022 period is calculated using the rates set out in Section 7.3. The resulting annual depreciation expense is summarized in **Table 23** (matching the total annual depreciation shown in **Table 19**).

**Table 23: Depreciation Expense (2019 to 2022) (\$000's)**

2019	2020	2021	2022	Total
\$267	\$283	\$330	\$396	\$1,276

### 9.4 Income Taxes

140. Boralex has adopted the “flow-through” methodology for calculating income tax expense. Sufficient Capital Cost Allowance (CCA) is available to reduce utility income taxes payable over the 2019 to 2022 period to zero.

### 9.5 Property and School Taxes and Provincial Water Rentals

141. Historical and forecast property and school taxes and provincial water rentals are presented in **Table 24** and **Table 25**.

**Table 24: Historical Property Taxes and Water Rentals (\$000's)**

	2016	2017	2018
Property and School Taxes & Provincial Water Rentals <sup>9</sup>	\$380	\$388	\$149

<sup>9</sup> Historical property and school taxes and water rentals are combined into one line item because historically these were not tracked separately.

**Table 25: Forecast Property Taxes and Water Rentals (\$000's)**

	2019 (Q3-Q4)	2020	2021	2022
Property and School Taxes	\$176	\$362	\$373	\$384
Water Rentals	\$33	\$66	\$68	\$69

142. Boralex LP's property and school taxes increased significantly starting in 2016. The property and school taxes for 2018 were \$337,000 and water rentals were \$64,000, for a total of \$401,000. Boralex LP successfully appealed the 2016, 2017 and 2018 property tax assessments, resulting in a credit in 2018 of \$252,000 (the 2018 amount shown in Table 24 reflects this credit).
143. Forecast costs are based on the 2019 property tax assessment. Continued property tax increases at a rate higher than regular inflation are anticipated going forward and therefore the costs are escalated at 3.0% per year. Provincial water rental costs have been estimated at \$65,000 in 2019 and escalated at 2.0% per year to account for general inflation.

## 9.6 Operating & Maintenance Expenses

144. **Table 25** summarizes the historical O&M expenses for the Ocean Falls Facilities, while **Table 27** summarizes the forecast O&M expenses from 2019 to 2022.

**Table 26: Historic O&M Expenses (\$000's)**

O&M Line Item	2016	2017	2018
Employee Costs			
<i>Salaries and Benefits</i>	\$467	\$453	\$471
<i>Expenses</i>	\$98	\$122	\$157
<i>Recruitment</i>	-	-	-
<i>Training</i>	\$5	\$4	\$2
Corporate Services	\$129	\$97	\$110
Maintenance and Repairs			
<i>Control Systems</i>	\$238	\$216	\$230
<i>Machinery</i>	\$22	\$37	\$39
<i>Turbines-Generators</i>	\$14	\$12	\$13
<i>Heavy Machinery &amp; Mobile Equipment</i>	\$53	\$46	\$38

O&M Line Item	2016	2017	2018
<i>Dam, Buildings and Land</i>	\$65	\$68	\$45
<i>Oil, Fuel and BC Hydro Power</i>	\$20	\$19	\$17
Health, Safety and Environment	\$13	\$23	\$13
Insurance	\$104	\$104	\$94
Permits and Land Rights	\$6	\$8	\$4
Third Party Services	\$28	\$26	\$43
Regulatory Costs	\$47	\$134	\$66
Total O&M Expenses	\$1,310	\$1,371	\$1,343

**Table 27: Forecast O&M Expenses (\$000's)**

O&M Line Item	2019 (Q3-Q4)	2020	2021	2022
Employee Costs				
<i>Salaries and Benefits</i>	\$243	\$838	\$769	\$781
<i>Expenses</i>	\$95	\$224	\$225	\$164
<i>Recruitment</i>	\$7	\$13	-	-
<i>Training</i>	\$8	\$38	\$46	\$46
Corporate Services				
<i>Corporate Services</i>	\$61	\$263	\$271	\$279
<i>Engineering and Environment</i>	\$25	\$59	\$61	\$63
<i>Operations Senior Management</i>	\$9	\$18	\$19	\$19
<i>Operations Site Management</i>	\$48	\$182	\$188	\$193
Maintenance and Repairs				
<i>Control Systems</i>	\$102	\$138	\$140	\$143
<i>Machinery</i>	\$20	\$35	\$35	\$36
<i>Turbines-Generators</i>	\$13	\$50	\$51	\$52
<i>Heavy Machinery &amp; Mobile Equipment</i>	\$11	\$28	\$28	\$29
<i>Dam, Buildings and Land</i>	\$23	\$73	\$74	\$76
<i>Oil, Fuel and BC Hydro Power</i>	\$21	\$75	\$77	\$78
Health, Safety and Environment	\$4	\$23	\$23	\$23
Insurance	\$52	\$105	\$107	\$109
Permits and Land Rights	\$3	\$6	\$6	\$6
Third Party Services	\$7	\$15	\$15	\$15

O&M Line Item	2019 (Q3-Q4)	2020	2021	2022
Regulatory Costs	\$43	\$87	\$88	\$88
Total O&M Expenses	\$795	\$2,271	\$2,224	\$2,202

145. As shown in **Table 26** and **Table 27**, a number of Operating and Maintenance cost items are forecast to increase as compared to historical costs. The following are the main reasons for the forecast increase in costs:

- a) Employees Salaries and Benefits: Due to the impending retirement of three operators, Boralex LP needs to recruit and hire new replacement operators well ahead of the planned retirement dates (resulting in overlapping tenures) to ensure ongoing safe and reliable operation of the Ocean Falls Facilities. In addition, while the retiring employees do not have pension entitlements, each of the retiring employees is entitled to a one-time retiring allowance, the total of which exceeds \$200,000.
- b) Employee Expenses: Employee expenses are forecast to increase due to the increase in operators (overlapping tenures).
- c) Employee Training: The new operators mentioned in a) above will require training, which increases the cost of this item in the forecast period.
- d) Corporate Services: A number of corporate services required by Boralex LP are provided by Boralex Inc. However, in the past most of the cost of these services was not charged to Boralex LP. The main reason for this was to adhere to the terms of Boralex LP's credit agreement, which limited the amount of costs that could be absorbed by Boralex LP, recognizing that Boralex LP's revenue from sales to BC Hydro was determined based on a negotiated price for electricity under the 1986 EPA, and not on a cost of service basis. Moreover, Boralex Inc. owns 100% of Boralex LP so on a consolidated basis charging the expenses to Boralex LP, when Boralex LP could not recover these costs under the 1986 EPA, would have had no net financial impact to Boralex Inc.

The forecast amount of the cost of these services has now been included in the forecast period, as they constitute the cost of services that are required by Boralex LP to carry on its utility business and operations at Ocean Falls. The corporate services provided by Boralex Inc. include accounting, finance, tax, legal, communications, public relations, human resources and information technology. With the shift to cost of service regulation, the costs also include the cost of providing utility regulatory support, including tracking and reporting of information, allocation of the cost of corporate services, preparation of reports required by the Commission and liaising with Commission staff.

- e) Engineering and Environment: Due to the significant capital program that needs to be implemented, the cost of engineering services provided by Boralex Inc. are forecast to exceed historical costs.
- f) Operations Site Management: Due to the significant capital program that needs to be implemented, the forecast costs of onsite management provided by Boralex Inc. include the cost of an additional supervisor.
- g) Regulatory Costs: Regulatory costs include third party consulting and legal costs associated with this Application. These costs, estimated at \$300,000, are being amortized evenly over the forecast period.

## **9.7 Decommissioning Costs**

- 146. The decommissioning of the Ocean Falls Facilities is not expected until many years into the future. However, the future cost to decommission the facilities once they are no longer used to provide service represents a real cost of providing service that needs to be recovered in Boralex LP's customer rates. The most significant future decommissioning cost is the expected cost associated with decommissioning the dam.
- 147. While Boralex LP is not proposing to start collecting decommissioning costs in its rates in this Application, it is Boralex LP's intention to develop an estimate of the future decommissioning costs for the Ocean Falls Facilities and a funding mechanism for approval by the Commission in its next rate application.

## 10. BC HYDRO LOAD FORECAST AND NON-BC HYDRO REVENUE FORECAST

### 10.1 BC Hydro Load Forecast

151. **Table 28** shows Boralex LP's forecast deliveries of electricity to BC Hydro at the Shearwater interconnection point for the years 2019 (Q3 and Q4) to 2022.

**Table 28: BC Hydro Electricity Delivery Forecast (MWh)**

	2019 (Q3-Q4)	2020	2021	2022
BC Hydro	6,202	11,630	11,816	12,005

152. The forecast deliveries to BC Hydro have been determined as follows:
- 2019 (Q3-Q4): The average of 2014 to 2018 BC Hydro energy sales (13,072 MWh) is used, less actual BC Hydro energy sales in 2019 (Q1-Q2).
  - 2020: The 2014 to 2018 average of 13,072 MWh (see **Table 1**) is rounded to 13,100 MWh. This amount is then reduced to account for the six week plant outage from mid-April to the end of May to accommodate the penstock rehabilitation work. The reduced amount is based on an average of energy sales to BC Hydro's from mid-April to the end of May over the 2014 to 2018 period. The resulting 2020 forecast is 11,630 MWh.
  - 2021 to 2022: The forecast 2020 deliveries of 11,630 MWh are increased by 1.6% per year.

The 1.6% escalator is based on Boralex LP's understanding of what BC Hydro believes is a reasonable growth rate for the load in the Bella Bella NIA. Boralex LP has not undertaken an independent load forecast for the Bella Bella NIA.

### 10.2 Non-BC Hydro Revenue Forecast

153. **Table 29** shows Boralex LP's forecast revenues from its retail and industrial customers in Ocean Falls for the years 2019 (Q3 and Q4) to 2022. As this forecast revenue has been credited to Boralex LP's gross revenue requirement, Boralex LP is assuming the risk that this forecast revenue will materialize over the forecast period covered by this Application.

**Table 29: Non-BC Hydro Forecast Revenue (\$000)**

	2019 (Q3-Q4)	2020	2021	2022
Retail and Industrial Customers in Ocean Falls	\$308	\$580	\$591	\$602

154. The forecast revenue from retail customers is based on historical loads and an assumed 2% annual increase in BC Hydro's Zone II rates (i.e., the rates charged by Boralex LP to its retail customers).
155. The forecast revenue from Boralex LP's two industrial customers is based on a forecast of the load from these two customers and the rates negotiated with each customer that are applicable over the forecast period.
156. Mowi Canada West has historically had a stable load and Boralex LP has assumed that there will be no material change in this load over the forecast period.
157. Ocean Falls Blockchain only commenced operations in July 2018. The facility has operated at a high load factor since it commenced operations and Boralex LP has assumed that this will continue to be the case over the forecast period. Boralex LP has had discussions with Ocean Falls Blockchain regarding a possible expansion of Ocean Falls Blockchain's cryptocurrency facility and an increase in electrical load, but there are no definitive agreements between the parties in this regard.
158. Boralex LP understands that the ongoing viability of the facility depends on cryptocurrency prices in the international market. Nevertheless, and notwithstanding that Ocean Falls Blockchain has no minimum consumption, fixed charge, take-or-pay or similar obligations to Boralex LP, in calculating its net revenue requirement Boralex LP has assumed that Ocean Falls Blockchain will continue to purchase electricity from Boralex LP at current levels over the forecast period (adjusted for the six week shutdown in each of 2020, 2021 and 2022 to accommodate the penstock rehabilitation work).
159. The forecast revenue shown in **Table 29** also includes the forecast lease payments from Ocean Falls Blockchain to Boralex LP for its leased space in Boralex LP's workshop building.

## 11. RATE STRUCTURE

156. Boralex LP is seeking Commission approval of a two-tier energy charge rate structure for its service to BC Hydro, consisting of a Tier 1 rate per GWh for the first 11.63 GWh of electricity in any year and a lower Tier 2 rate for all electricity above 11.63 GWh for that year.
157. Boralex LP believes that BC Hydro is supportive of the proposed rate structure. The rate structure does not impose any minimum take or fixed charge obligations on BC Hydro and is consistent with the rate structure under the 1986 EPA between the parties that expired June 30, 2019. The rate structure allows BC Hydro to reduce its average cost of energy in years when its purchases from Boralex LP exceed 11.63 GWh. This would, for example, enable BC Hydro to implement a program to incentivize conversion of oil-fired or propane-fired space heaters to air electric heat pumps in the Bella Bella NIA at a lower incremental cost of energy. The lower incremental energy cost may also facilitate economic development initiatives in the Bella Bella NIA by minimizing both the energy cost and environmental impacts associated with providing electricity for such developments.

### Tier 2 Rate

158. The starting point under the proposed rate structure is to fix the Tier 2 rate and then deduct the forecast Tier 2 revenue (i.e., the forecast load greater than 11.63 GWh multiplied by the Tier 2 rate) from Boralex LP's net revenue requirement (i.e., the revenue requirement after deducting the forecast revenue from Boralex LP's retail and industrial customers from the gross revenue requirement) to determine the amount of revenue that needs to be recovered from the Tier 1 rate.
159. While the Tier 2 rate can be set higher or lower, Boralex LP is proposing a Tier 2 rate of \$50 MWh starting in 2019, and escalating at 2% per year. Boralex LP believes that BC Hydro is supportive of fixing the Tier 2 rate at this level. This level is also consistent with Boralex LP's general understanding of price of electricity necessary to attract new industrial loads and thereby facilitate economic development initiatives in the area.

### Tier 1 Rate

160. The Tier 1 rate is calculated to provide the balance of the net revenue requirement after deduction of the Tier 2 revenue,
161. Tier 2 revenue each year is forecast based on the Tier 2 rate and forecast Tier 2 energy sales (i.e. the Tier 2 rate is applied to all sales above 11.63 GWh). Note that for 2019 (Q3 and Q4) and 2020 energy sales forecasts do not exceed 11.63 GWh, and as such there are no Tier 2 revenue in either year.
162. The Tier 1 rate has been structured to avoid large step changes from one year to the next - that is, the rate has been "levelized" or smoothed. An escalation rate of 2% per year is chosen for the levelized Tier 1 rate.

163. Without levelization, the Tier 1 rate would fluctuate from year to year as a function of the Tier 1 revenue requirement. These “unlevelized” Tier 1 rates would be calculated by simply dividing the revenue requirement by the annual forecast Tier 1 energy sales (which will be 11.63 GWh).
164. The levelized Tier 1 rate is calculated to generate the same net present value (“NPV”) of Tier 1 revenue over the forecast period (Q3 2019 through 2022) as would be the case if unlevelized Tier 1 rates were used. The steps of this calculation are as follows:
1. The Tier 1 revenue requirement for each year is calculated.
  2. The NPV of the Tier 1 revenue requirement across all forecast period years is calculated.
  3. The Tier 1 rate is set such that (i) the NPV of the levelized Tier 1 revenue is equal to the NPV of unlevelized Tier 1 revenue, and (ii) the Tier 1 rate escalates at 2% per year.

BC Hydro Rates

165. Table 30 shows the resulting applied-for rates for Boralex LP’s service to BC Hydro for the period July 1, 2019 to December 31, 2022.

**Table 30: BC Hydro Rates**

(\$/MWh)

	2019*	2020	2021	2022
Tier 1 (up to 11.63 GWh/year)	\$289.94	\$295.74	\$301.65	\$307.68
Tier 2 (greater than 11.63 GWh/year)	\$50.00	\$51.00	\$52.02	\$53.06

\*July 1 to December 31 for rate and energy amount.

## 12. FIRST NATIONS DEFERRAL ACCOUNT

166. The Ocean Falls Facilities are located on the traditional territory of the Heiltsuk Nation and most of the end-users of the electricity generated by the Ocean Falls Facilities are members of the Heiltsuk Nation.
167. Since acquiring the Ocean Falls Facilities in 2009, Boralex has fostered a strong working relationship with the Heiltsuk Nation and both parties wish to maintain and build on this relationship based on mutual communication, goodwill, trust and respect. In this regard, Boralex LP and the Heiltsuk Nation, as represented by the Heiltsuk Economic Development Corporation, are negotiating a confidential Memorandum of Understanding (MOU) to guide the relationship between the parties as it pertains to the operation of the Ocean Falls Facilities within the traditional territory of the Heiltsuk Nation.
168. The MOU under discussion between the parties contemplates that Boralex LP and the Heiltsuk Nation may agree to engage in specific activities that may further the parties' interests. These activities may include, for example, employment and training opportunities, contracting and other business opportunities for Heiltsuk members at or in connection with the Ocean Falls Facilities. The draft MOU also contemplates the negotiation of a benefits agreement between the parties regarding the operation of the Ocean Falls Facilities.
169. The implementation of the MOU may result in Boralex LP incurring certain additional costs regarding the Ocean Falls Facilities that are not reflected in this Application. However, the nature, extent and timing of any such costs cannot be determined at this time. Accordingly, Boralex LP is seeking Commission approval to establish a First Nations deferral account to record any additional cost incurred by Boralex LP arising out of its relationship building activities with the Heiltsuk Nation. Any amounts recorded in the deferral account during the period covered by this Application would only be disposed of in accordance with a separate future application by Boralex LP to the Commission.
170. Boralex LP is not seeking approval of any other cost or revenue deferral accounts in this Application.

### **13. TERMS AND CONDITIONS OF SERVICE**

171. Attached as Appendix B to this Application are the proposed terms and conditions for Boralex LP's service to BC Hydro. The terms and conditions are substantially the same as the terms and conditions of service approved by the Commission on an interim basis effective July 1, 2019 pursuant to Order G-143-19. A blacklined version of the proposed final terms and conditions of service, with explanatory notes, showing the changes to the interim terms and conditions of service is also included in Appendix B.
172. The proposed terms and conditions of service, like the interim terms and conditions of service, are based on the terms and conditions of service set out in the 1986 EPA and therefore essentially continue the terms and conditions on which electricity has been supplied from the Ocean Falls Facilities to BC Hydro for over 30 years. There are no proposed changes to the basis on which Boralex LP will be providing service to BC Hydro over the period covered by this Application and no proposed changes to the energy charge rate structure for Boralex LP's service to BC Hydro. Accordingly, Boralex LP does not believe that any substantive changes are required to the terms and conditions of service that were agreed to under the 1986 EPA.



## **Appendix B**

### **TERMS AND CONDITIONS OF SERVICE**

# **BORALEX OCEAN FALLS LIMITED PARTNERSHIP**

## **BC Hydro Electric Tariff**

Effective July 1, 2019

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ACCEPTED: \_\_\_\_\_

ORDER NO.: \_\_\_\_\_

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COMMISSION SECRETARY

Boralex Ocean Falls Limited Partnership ("Boralex LP") will supply electricity to British Columbia Hydro and Power Authority ("BC Hydro") in accordance with this tariff filed with and approved by the British Columbia Utilities Commission. BC Hydro, by accepting electricity from Boralex LP at the point of delivery, agrees to abide by the terms and conditions set forth in this tariff.

### **DEFINITIONS**

1. In this tariff,
  - (a) "electricity" means electric power and also means and includes electric energy;
  - (b) "point of delivery" means the point where Boralex LP's transmission connection meets BC Hydro's substation in Shearwater;
  - (c) "transmission connection" means all facilities required to supply electricity from Boralex LP's Ocean Falls generating station to the point of delivery including any right-of-way, lines or equipment; and
  - (d) "Bella Bella distribution load" means all electricity supplied to BC Hydro's customers presently or in the future in the general geographic area referred to as Shearwater and/or Bella Bella.

### **AGREEMENT TO SUPPLY AND PAY FOR**

2. Boralex LP will supply electricity to BC Hydro at the point of delivery and BC Hydro will pay Boralex LP for such electricity supplied to it by Boralex LP upon the terms and conditions set forth in this tariff.

### **ELECTRICITY SUPPLIED AND TAKEN**

3. The electricity supplied hereunder shall be alternating current, three-phase, having a normal frequency of 60 cycles per second. Variations from the said frequency shall not normally exceed plus or minus 1.5% of such frequency and will be adjusted to provide a zero time error every 24 hours. The voltage of the electricity supplied and metered hereunder shall be regulated

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to normally maintain voltage between the limits of 12,000 V ± 2.5%. Variations from the normal voltage and frequency shall not exceed these limits except with respect to both frequency and voltage at times of sudden load changes or in cases of emergency or accident.

**RATES, TERMS AND CONDITIONS**

4. BC Hydro shall take and pay for electricity supplied hereunder in accordance with the rate, terms and conditions which are set out as follows:

(a) BC Hydro will at all times use the power supplied by Boralex LP to supply the Bella Bella distribution load when that power is available in the quality stated in Section 3 except the intent of the parties is to perform those minimum operational checks which are required to ensure the reliability of the standby units at the BC Hydro Shearwater Diesel Plant. To accomplish this, BC Hydro will endeavour to operate the units at the Shearwater plant on line no more frequently than 1 hour per unit every bi-weekly period; and

(b) the cost of electricity to BC Hydro under this tariff shall be at the rates set out in the table below:

	(\$ per MWh)			
	2019*	2020	2021	2022
Tier 1 (up to 11.63 GWh/year):	\$289.94	\$295.74	\$301.65	\$307.68
Tier 2 (greater than 11.63 GWh/year)	\$50.00	\$51.00	\$52.02	\$53.06

\* For the period of July 1, 2019 to December 31, 2019 for rate and energy amount.

**BILLING AND PAYMENT OF ACCOUNTS**

5. Boralex LP will for each month render its accounts to BC Hydro for electricity supplied under this tariff. Upon receipt thereof BC Hydro shall pay such accounts to Boralex LP in lawful money of Canada. Any account remaining unpaid 21 days from the date of receipt thereof by BC Hydro shall be in arrears and Boralex LP will, in addition to all other remedies charge interest on the monies owed in an amount of 21% per annum or part thereof until the said account is paid.

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**METERING**

- 6. (a) The point of metering the electricity supplied under this tariff shall be at a safe and suitable location in Boralex LP's substation as near as practical to the point of delivery;
- (b) Measurement, directly or indirectly, of kilowatt-hours or other factors or quantities shall be determined at the voltage at the point of delivery by Boralex LP by means of suitable metering equipment provided, installed and maintained by Boralex LP;
- (c) The *Electricity and Gas Inspection Act* of Canada and the regulations made thereunder shall govern the metering used under this tariff;
- (d) Boralex LP may test, calibrate, remove or change its metering equipment at any reasonable time and shall, whenever practical, advise BC Hydro in advance of its intention to do so. BC Hydro may have a representative present at any test or calibration;
- (e) Should Boralex LP's metering equipment fail to register correctly or for any reason meter readings be unobtainable, the amount of electricity supplied will be estimated by Boralex LP from the best information available based on BC Hydro's operations during the month in question and such estimate, except in the case of manifest error shall for billing purposes have the same force and effect as a true meter reading; and
- (f) Boralex LP will advise BC Hydro by letter before the beginning of each year of the time and dates which Boralex LP will read its meter. BC Hydro may have a representative present at any reading of the meter.

**BORALEX LP'S EQUIPMENT**

- 7. Boralex LP will supply electricity to the point of delivery through suitable plant and equipment in accordance with good electric utility standards.

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COMMISSION SECRETARY

**INTERRUPTING CAPACITY AND RELAY SETTINGS**

- 8. (a) BC Hydro shall at all times be responsible for maintaining, testing and setting all protective devices for BC Hydro's electrical system;
- (b) Boralex LP shall provide to BC Hydro connections to Boralex LP's potential transformers, current transformers and neutral current transformers to enable BC Hydro to provide protection to its electrical plant and equipment at a level used by BC Hydro in its present operation;
- (c) Boralex LP further agrees to provide information on Boralex LP's generation and electrical plant to enable BC Hydro to apply appropriate settings to its protective relays;
- (d) Boralex LP agrees to provide a reclosure or circuit breaker having an interrupting capacity not less than the fault duty imposed on it by BC Hydro's system; and
- (e) Boralex LP further agrees to provide remote closing and tripping facilities to this circuit breaker or reclosure to BC Hydro.

**OPERATIONAL MATTERS**

9. After inception of delivery of energy by Boralex LP to BC Hydro, each party shall be responsible for operating and maintaining their respective equipment except that BC Hydro employees shall be allowed to operate Boralex LP's intertie reclosure or circuit breaker to separate or energize the BC Hydro distribution system as operational conditions dictate.

**LAND LEASE**

10. BC Hydro agrees to continue to lease to Boralex LP for the nominal sum of ONE (\$1.00) DOLLAR lands owned by BC Hydro for the purpose of owning, operating and maintaining a substation and transmission line to the point of delivery. Such lease shall continue to be granted over any property needed therefor, and shall be of adequate size and shall be located in such area as is mutually agreed. The said lease shall continue to be granted for so long as Boralex LP supplies electricity to BC Hydro. Boralex LP shall bear the cost of any property taxes assessed with respect to the property leased to Boralex LP.

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**REMOVAL OF EQUIPMENT**

11. Upon termination of this tariff, each party may remove at its own discretion and shall remove within 90 days of receipt of a written request by the other party all its plant and equipment from the other's lands and premises and for such purposes each party may at all reasonable times enter upon the lands and premises of the other party.

**DAMAGE TO PROPERTY OR APPARATUS**

12. Boralex LP and BC Hydro are each responsible for plant or equipment installed on its land or premises by the other in accordance with this tariff but shall not be liable for damage thereto from a cause beyond its control.

**EQUIPMENT FAILURE**

13. Boralex LP will maintain its equipment in accordance with good utility standards. If equipment fails Boralex LP will proceed expeditiously to repair or replace that piece of equipment.

**DISCONTINUANCE OF SUPPLY**

14. (a) Boralex LP may without notice discontinue or curtail the supply to BC Hydro of electricity under this tariff for the purpose of safeguarding life or property. Boralex LP shall whenever practical give to BC Hydro reasonable notice of such discontinuation;
- (b) Boralex LP shall have the right to discontinue the supply of electricity for the purpose of performing maintenance, making repairs, renewals or replacements to the plant or equipment of Boralex LP and such discontinuation shall be arranged whenever possible to occur at a time least objectionable to BC Hydro and shall be of the shortest practical duration. Boralex LP shall, where practical, give BC Hydro reasonable notice of such discontinuation. Such notice shall not be subject to Clause 19 and may be given to BC Hydro in any way which in the circumstances is practical; and
- (c) Boralex LP shall not be liable for any loss, injury or damage caused by or arising out of the discontinuance by it of the supply of electricity to BC Hydro for any of the

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COMMISSION SECRETARY

purposes aforesaid in this Clause 14 or for the failure to give any notice in accordance with this Clause.

**INTERFERENCE**

15. BC Hydro will operate the Bella Bella distribution system and accept new loads in the same manner as BC Hydro would if it operated the system using the BC Hydro diesel plant.

**POWER FACTOR**

16. (a) BC Hydro shall maintain the average power factor at the point of delivery at not less than 85% lagging or 95% leading; and
- (b) BC Hydro shall without undue delay adjust its system or its manner of operating the said system so as to achieve the power factor required under this tariff and if Boralex LP deems that there is undue delay in achieving the said power factor it may so notify BC Hydro and thereupon without restricting any other rights of Boralex LP under this tariff will charge a penalty of 10% of each monthly bill in which the power factor falls below that limit imposed.

**INTERRUPTIONS AND DEFECTS IN SERVICE**

17. Boralex LP will endeavour to provide a regular and uninterrupted supply of electricity but does not guarantee a constant supply of electricity or the maintenance of unvaried frequency or voltage and will not be responsible or liable for any loss, injury, damage or expense caused by or resulting from any interruption, termination, failure or defect in the provision of electricity, whether caused by the negligence of Boralex LP, or its representatives or agents or otherwise, except to the extent that the loss, injury, damage or expense results directly from the wilful misconduct of Boralex LP or its representatives or agents, provided, however, that neither Boralex LP, nor any of its representatives or agents is responsible for any loss of profit, loss of revenue or other economic loss, even if the loss arises directly from the wilful misconduct of Boralex LP or its representatives or agents.

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**RIGHTS AND REMEDIES**

18. No failure by Boralex LP or BC Hydro at any time or from time to time to enforce or require a strict observance and performance of any of the terms or conditions of this tariff shall constitute a waiver of such terms and conditions or affect or impair such terms or conditions or the right of Boralex LP or BC Hydro at any time to enforce such terms or conditions or to avail itself of any remedy it may have for any breach or breaches thereof. The exercise by BC Hydro or Boralex LP of any remedy provided in this tariff shall not prevent or stop BC Hydro or Boralex LP respectively from pursuing any other remedy it may have and all the respective rights and remedies of BC Hydro and Boralex LP may be exercised and continued concurrently or separately.

**NOTICE**

19. Any notice required to be given to Boralex LP under this tariff shall be written and shall be well and sufficiently given if sent by electronic transmission, mailed by registered mail, or hand delivered to an officer of Boralex LP addressed as follows:

Boralex Ocean Falls Limited Partnership  
Boralex Legal Department  
Att: Pascale Hurtubise, Chief Legal Officer

900, Bld. Maisonneuve Ouest, 24<sup>e</sup> étage  
Montréal (Québec) H3A 0A8

Email: pascal.hurtubise@boralex.com

and any notice required to be given to BC Hydro shall be written and shall be well and sufficiently given if mailed by registered mail as follows:

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

and any notice will be deemed to have been received: (a) if sent by electronic transmission, on the business day following the date of transmission, (b) if delivered by hand, on the date of delivery, and (c) if sent by registered mail, on the third business day following the date of mailing.

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**ASSIGNMENT**

20. Neither this tariff nor any rights hereunder shall be assigned by BC Hydro without the consent in writing of Boralex LP nor by Boralex LP without the consent in writing of BC Hydro.

21. Wherever the singular is used in this tariff the same shall be deemed to include the plural.

**MARGINAL REFERENCES**

22. The headings and marginal references in this tariff are inserted for convenience of reference only and not as an aid to construction.

23. In this tariff any reference to revenue, rate, minimum guarantee or payment for electricity shall be considered as exclusive of sales tax. Boralex LP shall bear the cost for all taxes associated with the generating and/or delivery of power to BC Hydro. BC Hydro shall bear the costs of any taxes associated with the purchase of power by BC Hydro.

**SUCCESSORS AND ASSIGNS**

24. This tariff shall enure to the benefit of and be binding upon the parties hereto and their respective successors and assigns.

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ACCEPTED: \_\_\_\_\_

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COMMISSION SECRETARY

# BORALEX OCEAN FALLS LIMITED PARTNERSHIP

## BC Hydro ~~Interim~~ Electric Tariff

Effective July 1, 2019

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ACCEPTED: \_\_\_\_\_

ORDER NO.: G-143-19 \_\_\_\_\_

\_\_\_\_\_  
COMMISSION SECRETARY

Borex LP will supply electricity to British Columbia Hydro and Power Authority ("BC Hydro") in accordance with this ~~interim~~ tariff filed with and approved by the British Columbia Utilities Commission. BC Hydro, by accepting electricity from Borex LP at the point of delivery, agrees to abide by the terms and conditions set forth in this tariff.

## **DEFINITIONS**

1. In this tariff,
  - (a) "electricity" means electric power and also means and includes electric energy;
  - (b) "point of delivery" means the point where Borex LP's transmission connection meets BC Hydro's substation in ~~Bella Bella;~~~~(c) "kilowatt consumption" or "kW consumption" means the amount of electrical energy measured in kilowatt-hours and determined by a Borex LP meter or meters to pass from Borex LP's electrical system to BC Hydro's electrical system;~~ Shearwater; [NTD 1: The substation is located at Shearwater; NTD 2: "kilowatt consumption" and "kW consumption" are deleted as these terms are not used.]
  - ~~(c)~~ (d) "transmission connection" means all facilities required to supply electricity from Borex LP's Ocean Falls generating station to the point of delivery including any right-of-way, lines or equipment; and
  - ~~(d)~~ (e) "Bella Bella distribution load" means all electricity supplied to BC Hydro's customers presently or in the future in the general geographic area referred to as Shearwater and/or Bella Bella.

## **AGREEMENT TO SUPPLY AND PAY FOR**

2. Borex LP will supply electricity to BC Hydro at the point of delivery and BC Hydro will pay Borex LP for such electricity supplied to it by Borex LP upon the terms and conditions set forth in this tariff.

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**ELECTRICITY SUPPLIED AND TAKEN**

3. The electricity supplied hereunder shall be alternating current, three-phase, having a normal frequency of 60 cycles per second. Variations from the said frequency shall not normally exceed plus or minus 1.5% of such frequency and will be adjusted to provide a zero time error every 24 hours. The voltage of the electricity supplied and metered hereunder shall be regulated to normally maintain voltage between the limits of 12,000 V  $\pm$  2.5%. Variations from the normal voltage and frequency shall not exceed these limits except with respect to both frequency and voltage at times of sudden load changes or in cases of emergency or accident.

**RATES, TERMS AND CONDITIONS**

4. BC Hydro shall take and pay for electricity supplied hereunder in accordance with the rate, terms and conditions which are set out as follows:

(a) BC Hydro will at all times use the power supplied by Boralex LP to supply the Bella Bella distribution load when that power is available in the quality stated in Section 3 except:~~(i)~~ — the intent of the parties is to perform those minimum operational checks which are required to ensure the reliability of the standby units at the BC Hydro Shearwater Diesel Plant. To accomplish this, BC Hydro will endeavour to operate the units at the Shearwater plant on line no more frequently than 1 hour per unit every bi-weekly period ~~;~~ and

~~(ii) — if the growth of the Bella Bella distribution load exceeds 7% per year projected from the 31 March 1986 annual load, BC Hydro may purchase or supply from other sources the incremental load over the 7% normal growth.~~ [NTD: Given Boralex LP's ongoing investment in the Ocean Falls Facilities, Boralex LP believes that it is reasonable that BC Hydro not supply or purchase from other sources except for the Shearwater Diesel Plant as provided in (a)]

(b) the cost of electricity to BC Hydro under this tariff shall be ~~the rates established pursuant to section 3 of the Ocean Falls EPA Third Extension Agreement made as of July 1, 2018 between Boralex LP and BC Hydro accepted for filing by the British Columbia Utilities Commission under section 71 of the Utilities~~

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COMMISSION SECRETARY

~~Commission Act (British Columbia) pursuant to Order E-18-18 dated June 18, 2018, at the rates set out in the table below:~~

	(\$ per MWh)			
	<u>2019*</u>	<u>2020</u>	<u>2021</u>	<u>2022</u>
<u>Tier 1 (up to 11.63 GWh/year):</u>	<u>\$289.94</u>	<u>\$295.74</u>	<u>\$301.65</u>	<u>\$307.68</u>
<u>Tier 2 (greater than 11.63 GWh/year)</u>	<u>\$50.00</u>	<u>\$51.00</u>	<u>\$52.02</u>	<u>\$53.06</u>

\* For the period of July 1, 2019 to December 31, 2019 for rate and energy amount.

### **BILLING AND PAYMENT OF ACCOUNTS**

5. Boralex LP will for each month render its accounts to BC Hydro for electricity supplied under this tariff. Upon receipt thereof BC Hydro shall pay such accounts to Boralex LP in lawful money of Canada. Any account remaining unpaid 21 days from the date of receipt thereof by BC Hydro shall be in arrears and Boralex LP will, in addition to all other remedies charge interest on the monies owed in an amount of ~~1.75~~2.1% per ~~month~~annum or part thereof until the said account is paid.

### **METERING**

6. (a) The point of metering the electricity supplied under this tariff shall be at a safe and suitable location in Boralex LP's substation as near as practical to the point of delivery;
- (b) Measurement, directly or indirectly, of kilowatt-hours or other factors or quantities shall be determined at the voltage at the point of delivery by Boralex LP by means of suitable metering equipment provided, installed and maintained by Boralex LP;
- (c) The *Electricity and Gas Inspection Act* of Canada and the regulations made thereunder shall govern the metering used under this tariff;
- (d) Boralex LP may test, calibrate, remove or change its metering equipment at any reasonable time and shall, whenever practical, advise BC Hydro in advance of its intention to do so. BC Hydro may have a representative present at any test or calibration;

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COMMISSION SECRETARY

- (e) Should Boralex LP's metering equipment fail to register correctly or for any reason meter readings be unobtainable, the amount of electricity supplied will be estimated by Boralex LP from the best information available based on BC Hydro's operations during the month in question and such estimate, except in the case of manifest error shall for billing purposes have the same force and effect as a true meter reading; and
- (f) Boralex LP will advise BC Hydro by letter before the beginning of each year of the time and dates which Boralex LP will read its meter. BC Hydro may have a representative present at any reading of the meter.

**BORALEX LP'S EQUIPMENT**

7. Boralex LP will supply electricity to the point of delivery through suitable plant and equipment in accordance with good electric utility standards.

**INTERRUPTING CAPACITY AND RELAY SETTINGS**

- 8. (a) BC Hydro shall at all times be responsible for maintaining, testing and setting all protective devices for BC Hydro's electrical system;
- (b) Boralex LP shall provide to BC Hydro connections to Boralex LP's potential transformers, current transformers and neutral current transformers to enable BC Hydro to provide protection to its electrical plant and equipment at a level used by BC Hydro in its present operation;
- (c) Boralex LP further agrees to provide information on Boralex LP's generation and electrical plant to enable BC Hydro to apply appropriate settings to its protective relays;
- (d) Boralex LP agrees to provide a reclosure or circuit breaker having an interrupting capacity not less than the fault duty imposed on it by BC Hydro's system; and
- (e) Boralex LP further agrees to provide remote closing and tripping facilities to this circuit breaker or reclosure to BC Hydro.

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**OPERATIONAL COSTSMATTERS**

9. After inception of delivery of energy by Boralex LP to BC Hydro, each party shall be responsible for operating and maintaining their respective equipment except ~~as outlined in (a) below:(a)~~ that BC Hydro employees shall be allowed to operate Boralex LP's intertie reclosure or circuit breaker to separate or energize the BC Hydro distribution system as operational conditions dictate.

**LAND LEASE**

10. BC Hydro agrees to ~~negotiate a~~ continue to lease to Boralex LP for the nominal sum of ONE (\$1.00) DOLLAR lands owned by BC Hydro for the purpose of ~~constructing~~ owning, operating and maintaining a substation and transmission line to the point of delivery. Such lease shall continue to be granted over any property needed therefor, and shall be of adequate size and shall be located in such area as is mutually agreed. The said lease shall continue to be granted for so long as Boralex LP supplies electricity to BC Hydro. Boralex LP shall bear the cost of any property taxes assessed with respect to the property leased to Boralex LP.

**REMOVAL OF EQUIPMENT**

11. Upon termination of this tariff, each party may remove at its own discretion and shall remove within 90 days of receipt of a written request by the other party all its plant and equipment from the other's lands and premises and for such purposes each party may at all reasonable times enter upon the lands and premises of the other party.

**DAMAGE TO PROPERTY OR APPARATUS**

12. Boralex LP and BC Hydro are each responsible for plant or equipment installed on its land or premises by the other in accordance with this tariff but shall not be liable for damage thereto from a cause beyond its control.

**EQUIPMENT FAILURE**

13. Boralex LP will maintain its equipment in accordance with good utility standards. If equipment fails Boralex LP will proceed expeditiously to repair or replace that piece of equipment.

ACCEPTED: \_\_\_\_\_

ORDER NO.: G-143-19 \_\_\_\_\_

\_\_\_\_\_  
COMMISSION SECRETARY

**DISCONTINUANCE OF SUPPLY**

14. (a) Boralex LP may without notice discontinue or curtail the supply to BC Hydro of electricity under this tariff for the purpose of safeguarding life or property. Boralex LP shall whenever practical give to BC Hydro reasonable notice of such discontinuation;
- (b) Boralex LP shall have the right to discontinue the supply of electricity for the purpose of performing maintenance, making repairs, renewals or replacements to the plant or equipment of Boralex LP and such discontinuation shall be arranged whenever possible to occur at a time least objectionable to BC Hydro and shall be of the shortest practical duration. Boralex LP shall, where practical, give BC Hydro reasonable notice of such discontinuation. Such notice shall not be subject to Clause 19 and may be given to BC Hydro in any way which in the circumstances is practical; and
- (c) Boralex LP shall not be liable for any loss, injury or damage caused by or arising out of the discontinuance by it of the supply of electricity to BC Hydro for any of the purposes aforesaid in this Clause 14 or for the failure to give any notice in accordance with this Clause.

**INTERFERENCE**

15. BC Hydro will operate the Bella Bella distribution system and accept new loads in the same manner as BC Hydro would if it operated the system using the BC Hydro diesel plant.

**POWER FACTOR**

16. (a) BC Hydro shall maintain the average power factor at the point of delivery at not less than 85% lagging or 95% leading; and
- (b) BC Hydro shall without undue delay adjust its system or its manner of operating the said system so as to achieve the power factor required under this tariff and if Boralex LP deems that there is undue delay in achieving the said power factor it may so notify BC Hydro and thereupon without restricting any other rights of

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ACCEPTED: \_\_\_\_\_

ORDER NO.: G-143-19

\_\_\_\_\_  
COMMISSION SECRETARY

Boralex LP under this tariff will charge a penalty of 10% of each monthly bill in which the power factor falls below that limit imposed.

**LIABILITY**

**INTERRUPTIONS AND DEFECTS IN SERVICE**

17. Boralex LP will endeavour to provide a regular and uninterrupted supply of electricity but ~~shall not be~~does not guarantee a constant supply of electricity or the maintenance of unvaried frequency or voltage and will not be responsible or liable for any loss, injury, damage or expense caused by or resulting from any interruption, termination, failure or defect in the ~~supply of electricity which Boralex LP can demonstrate was a result of force majeure as defined herein.~~provision of electricity, whether caused by the negligence of Boralex LP, or its representatives or agents or otherwise, except to the extent that the loss, injury, damage or expense results directly from the wilful misconduct of Boralex LP or its representatives or agents, provided, however, that neither Boralex LP, nor any of its representatives or agents is responsible for any loss of profit, loss of revenue or other economic loss, even if the loss arises directly from the wilful misconduct of Boralex LP or its representatives or agents. [NTD: This provision mirrors the liability provision found in Section 9.5 of BC Hydro's Electric Tariff.]

~~"Force majeure" is defined as: fire, explosion, flood, tempest, or act of God, sabotage or acts of the Queen's enemies of such nature as to force Boralex LP to terminate, suspend or curtail the supply of electricity to BC Hydro.~~

~~Without limiting any other rights or remedies BC Hydro may have, in the event that an interruption, termination, failure or defect in the supply of electricity cannot be demonstrated by Boralex LP to be a result of force majeure then Boralex LP shall bear the differential costs as defined herein reasonably incurred by BC Hydro to supplement and/or substitute for the loss in supply of electricity by Boralex LP.~~

~~The differential costs are defined as those additional costs attributable to operating and manning the BC Hydro Shearwater Diesel Plant during times of power interruptions which would be over and above the costs of operating the BC Hydro Shearwater Diesel Plant in standby mode.~~

ACCEPTED: \_\_\_\_\_

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\_\_\_\_\_  
COMMISSION SECRETARY

## **RIGHTS AND REMEDIES**

18. No failure by Boralex LP or BC Hydro at any time or from time to time to enforce or require a strict observance and performance of any of the terms or conditions of this tariff shall constitute a waiver of such terms and conditions or affect or impair such terms or conditions or the right of Boralex LP or BC Hydro at any time to enforce such terms or conditions or to avail itself of any remedy it may have for any breach or breaches thereof. The exercise by BC Hydro or Boralex LP of any remedy provided in this tariff shall not prevent or stop BC Hydro or Boralex LP respectively from pursuing any other remedy it may have and all the respective rights and remedies of BC Hydro and Boralex LP may be exercised and continued concurrently or separately.

## **NOTICE**

19. Any notice required to be given to Boralex LP under this tariff shall be written and shall be well and sufficiently given if sent by electronic transmission, mailed by registered mail, or hand delivered to an officer of Boralex LP addressed as follows:

Boralex Ocean Falls Limited Partnership  
~~36, rue Lajeunesse~~  
~~Kingsey Falls, QC J0A 1B0~~ Boralex Legal Department  
Att: Pascale Hurtubise, Chief Legal Officer

900, Bld. Maisonneuve Ouest, 24<sup>e</sup> étage  
Montréal (Québec) H3A 0A8

Email: pascal.hurtubise@boralex.com

and any notice required to be given to BC Hydro shall be written and shall be well and sufficiently given if mailed by registered mail as follows:

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

and any notice ~~shall~~will be deemed to have been ~~given when delivered or, if mailed~~received: (a) if sent by electronic transmission, on the business day following the date of transmission, (b) if delivered by hand, on the date of delivery, and (c) if sent by registered mail, on the third business day following the date of mailing.

ACCEPTED: \_\_\_\_\_

ORDER NO.: G-143-19 \_\_\_\_\_

\_\_\_\_\_  
COMMISSION SECRETARY

**ASSIGNMENT**

20. Neither this tariff nor any rights hereunder shall be assigned by BC Hydro without the consent in writing of Boralex LP nor by Boralex LP without the consent in writing of BC Hydro.

21. Wherever the singular is used in this tariff the same shall be deemed to include the plural.

**MARGINAL REFERENCES**

22. The headings and marginal references in this tariff are inserted for convenience of reference only and not as an aid to construction.

23. In this tariff any reference to revenue, rate, minimum guarantee or payment for electricity shall be considered as exclusive of sales tax. Boralex LP shall bear the cost for all taxes associated with the generating and/or delivery of power to BC Hydro. BC Hydro shall bear the costs of any taxes associated with the purchase of power by BC Hydro.

**SUCCESSORS AND ASSIGNS**

24. This tariff shall enure to the benefit of and be binding upon the parties hereto and their respective successors and assigns.

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ACCEPTED: \_\_\_\_\_

ORDER NO.: G-143-19

\_\_\_\_\_  
COMMISSION SECRETARY

**Appendix C**

**2018 AUDITED FINANCIAL STATEMENTS**

# **Boralex Ocean Falls Limited Partnership**

## Financial Statements

As at December 31, 2018

(Expressed in thousands of Canadian dollars)



## *Independent auditor's report*

### **To the Partners of Borex Ocean Falls Limited Partnership**

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#### *Our opinion*

In our opinion, the accompanying financial statements present fairly, in all material respects, the financial position of Borex Ocean Falls Limited Partnership (the Partnership) as at December 31, 2018, and its financial performance and its cash flows for the year then ended in accordance with International Financial Reporting Standards as issued by the International Accounting Standards Board (IFRS).

#### **What we have audited**

The Partnership's financial statements comprise:

- the statement of financial position as at December 31, 2018;
- the statement of earnings and comprehensive income for the year then ended;
- the statement of changes in partners' equity for the year then ended;
- the statement of cash flows for the year then ended; and
- the notes to financial statements, which include a summary of significant accounting policies.

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#### *Basis for opinion*

We conducted our audit in accordance with Canadian generally accepted auditing standards. Our responsibilities under those standards are further described in the *Auditor's responsibilities for the audit of the financial statements* section of our report.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

#### **Independence**

We are independent of the Partnership in accordance with the ethical requirements that are relevant to our audit of the financial statements in Canada. We have fulfilled our other ethical responsibilities in accordance with these requirements.

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*PricewaterhouseCoopers LLP/s.r.l./s.e.n.c.r.l.*  
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T: +1 514 205 5000, F: +1 514 876 1502



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*Responsibilities of management and those charged with governance for the financial statements*

Management is responsible for the preparation and fair presentation of the financial statements in accordance with IFRS, and for such internal control as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, management is responsible for assessing the Partnership's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the Partnership or to cease operations, or has no realistic alternative but to do so.

Those charged with governance are responsible for overseeing the Partnership's financial reporting process.

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*Auditor's responsibilities for the audit of the financial statements*

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Canadian generally accepted auditing standards will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

As part of an audit in accordance with Canadian generally accepted auditing standards, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Partnership's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.



- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Partnership's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Partnership to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

*PricewaterhouseCoopers LLP<sup>1</sup>*

Montréal, Quebec  
April 15, 2019

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<sup>1</sup> CPA auditor, CA, public accountancy permit No. A126402

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# Statements of financial position

(in thousands of Canadian dollars)	Note	As at December 31, <b>2018</b>	As at December 31, <b>2017</b>
<b>ASSETS</b>			
Cash		873	458
Trade and other receivables	5	366	259
Other current assets		20	21
<b>CURRENT ASSETS</b>		<b>1,259</b>	<b>738</b>
Property, plant and equipment	6	17,477	17,799
Energy sales contract	7	669	640
Water rights	7	1,638	1,798
Reserve funds		339	306
<b>NON-CURRENT ASSETS</b>		<b>20,123</b>	<b>20,543</b>
<b>TOTAL ASSETS</b>		<b>21,382</b>	<b>21,281</b>
<b>LIABILITIES</b>			
Trade and other payables	8	1,689	799
Current portion of debt	9	923	865
<b>CURRENT LIABILITIES</b>		<b>2,612</b>	<b>1,664</b>
Advance from Boralex Inc.		548	548
Non-current debt	9	4,727	5,625
<b>NON-CURRENT LIABILITIES</b>		<b>5,275</b>	<b>6,173</b>
<b>TOTAL LIABILITIES</b>		<b>7,887</b>	<b>7,837</b>
<b>PARTNERS' EQUITY</b>			
Partners' equity		13,495	13,444
<b>TOTAL PARTNERS' EQUITY</b>		<b>13,495</b>	<b>13,444</b>
<b>TOTAL LIABILITIES AND PARTNERS' EQUITY</b>		<b>21,382</b>	<b>21,281</b>

The accompanying notes are an integral part of these financial statements.

The financial statements were authorized for issue by the Management Committee on April 3, 2019 and were signed on its behalf.

\_\_\_\_\_  
Director of Boralex Western Energy Inc., the General Partner

# Statements of earnings and comprehensive income

(in thousands of Canadian dollars)	Note	2018	2017
<b>REVENUES</b>			
Revenues from energy sales		3,059	3,079
		3,059	3,079
<b>COSTS AND OTHER EXPENSES</b>			
Operating	11	1,344	1,577
Administrative	11	103	164
Development		8	6
Amortization		1,147	778
		2,602	2,525
<b>OPERATING INCOME</b>			
		457	554
Financing costs	12	406	495
<b>NET EARNINGS AND COMPREHENSIVE INCOME</b>			
		51	59

# Statements of changes in partners' equity

2018

(in thousands of Canadian dollars)	Partners' capital (note 10)	Deficit	Total partners' equity
<b>BALANCE AS AT JANUARY 1, 2018</b>	14,540	(1,096)	13,444
Net earnings and comprehensive income		51	51
<b>BALANCE AS AT DECEMBER 31, 2018</b>	14,540	(1,045)	13,495

2017

(in thousands of Canadian dollars)	Partners' capital (note 10)	Deficit	Total partners' equity
<b>BALANCE AS AT JANUARY 1, 2017</b>	14,540	(1,155)	13,385
Net earnings and comprehensive income	—	59	59
<b>BALANCE AS AT DECEMBER 31, 2017</b>	14,540	(1,096)	13,444

The accompanying notes are an integral part of these financial statements.

# Statements of cash flows

(In thousands of Canadian dollars)	Note	2018	2017
Net earnings		51	59
Financing costs	12	406	495
Interest paid		(385)	(471)
Non-cash items in earnings:			
Amortization		1,147	778
Change in non-cash items related to operating activities	13	790	389
<b>NET CASH FLOWS RELATED TO OPERATING ACTIVITIES</b>		<b>2,009</b>	<b>1,250</b>
Additions to property, plant and equipment	6	(352)	(415)
Additions to energy sales contract		(344)	—
Change in reserve funds		(33)	(27)
<b>NET CASH FLOWS RELATED TO INVESTING ACTIVITIES</b>		<b>(729)</b>	<b>(442)</b>
Repayments on non-current debt	9	(865)	(810)
<b>NET CASH FLOWS RELATED TO FINANCING ACTIVITIES</b>		<b>(865)</b>	<b>(810)</b>
<b>NET CHANGE IN CASH</b>		<b>415</b>	<b>(2)</b>
<b>CASH - BEGINNING OF YEAR</b>		<b>458</b>	<b>460</b>
<b>CASH - END OF YEAR</b>		<b>873</b>	<b>458</b>

The accompanying notes are an integral part of these financial statements.

# Notes to financial statements

As at December 31, 2018

(Tabular amounts are in thousands of Canadian dollars, unless otherwise specified.)

## Note 1. Nature of business

Boralex Ocean Falls Limited Partnership (the "Partnership") was formed on May 22, 2008 as a limited partnership under the *Partnership Act* (British Columbia). The registered office of the Partnership is located at 1500-1040 West Georgia Street, Vancouver, British Columbia, Canada. The General Partner of the Partnership is Boralex Western Energy Inc., incorporated under the *Canada Business Corporations Act*, and the Limited Partner of the Partnership is Boralex Inc., incorporated under the *Canada Business Corporations Act*. The Partnership is dedicated to the operation of a hydroelectric power station with a total installed capacity of 14.5 megawatts ("MW").

(The data expressed in MW contained in note 1 has not been audited by the auditor.)

## Note 2. Basis of presentation

These audited financial statements have been prepared in accordance with International Financial Reporting Standards ("IFRS"), as published by the International Accounting Standards Board ("IASB") and set out in the *CPA Canada Handbook*. The Partnership has consistently applied the same accounting policies for all of the periods presented, except for the new standards adopted during the year.

The preparation of financial statements in accordance with IFRS requires the use of certain critical accounting estimates. It also requires management to exercise its judgment in the process of applying the Partnership's accounting policies. These areas involving a higher degree of judgment or complexity, or areas where assumptions and estimates are significant to the consolidated financial statements are disclosed in note 4.

## Note 3. Significant accounting policies

The significant accounting policies used to prepare these audited financial statements are as follows:

### Measurement basis

The financial statements have been prepared on a going concern basis, under the historical cost method.

### Functional and reporting currency

These audited financial statements are presented in Canadian dollars, which is the Partnership's functional currency.

### Financial instruments

#### Accounting policies used after the application of the IFRS 9 on January 1, 2018:

##### Classification

The Partnership determines the classification of financial instruments at initial recognition and classifies its financial instruments in the following measurement categories:

- Those to be measured subsequently at fair value (either through profit or loss ("FVPL") or through other comprehensive income ("FVOCI");
- Those to be measured at amortized cost.

The classification of debt instruments is driven by the Partnership's business model for managing the financial assets and their contractual cash flow characteristics. Assets that are held to collect contractual cash flows where those cash flows represent solely payments of principal and interest are measured at amortized cost. Equity instruments that are held for trading (including all equity derivative instruments) are classified as FVPL. For other equity instruments, on the day of acquisition the Partnership can make an irrevocable election (on an instrument-by-instrument basis) to designate them as at FVOCI. Financial liabilities are measured at amortized cost, unless they are required to be measured at FVPL (such as instruments held for trading or derivatives) or the Partnership has opted to measure them at FVPL.

Financial instruments with embedded derivatives are considered in their entirety when determining whether their cash flows are solely payment of principal and interest.

##### Measurement

##### Financial instruments at amortized cost

Financial instruments at amortized cost are initially recognized at fair value, and subsequently carried at amortized cost less any impairment.

Currently, the Partnership classifies cash and trade and other receivables, as financial assets measured at amortized cost and trade and other payables as financial liabilities measured at amortized cost.

### Note 3. Significant accounting policies (cont'd)

#### **Financial instruments at fair value**

Financial instruments are initially recorded at fair value and transaction costs are expensed in the *statement of earnings*. The effective portion of gains and losses on financial instruments designated as hedges is included in the statements of *comprehensive income* in the period in which they arise. Where management has opted to recognize a financial liability at FVPL, any changes associated with the Partnership's own credit risk will be recognized in *other comprehensive income*.

Currently, the Partnership classifies other non-current financial liabilities as financial liabilities measured at amortized cost.

#### **Impairment**

From January 1, 2018, the Partnership assesses on a forward-looking basis the expected credit losses associated with its debt instruments carried at amortized cost or at FVOCI. The impairment methodology applied depends on whether there has been a significant increase in credit risk.

For trade receivables, the Partnership applies the simplified approach permitted by IFRS 9, which requires lifetime expected losses to be recognized from initial recognition of the receivables.

#### **Derecognition**

##### **Financial assets**

The Partnership derecognizes financial assets only when the contractual rights to cash flows from the financial assets expire, or when it transfers the financial assets and substantially all the associated risks and rewards of ownership to another entity. Gains and losses on derecognition are generally recognized in the statements of *comprehensive income*.

##### **Financial liabilities**

The Partnership derecognizes financial liabilities only when its obligations under the financial liabilities are discharged, cancelled or expired. The difference between the carrying amount of the financial liability derecognized and the consideration paid or payable, including any non-cash assets transferred or liabilities assumed, is recognized in the *statement of earnings*.

#### **Accounting policies used under IAS 39 before the application of the new standard (IFRS 9) on**

##### **January 1, 2018:**

Financial assets and liabilities are recognized when the Partnership becomes a party to the contractual provisions of the instrument. Financial assets are removed from the statement of financial position when the rights to receive cash flows from the assets have expired or have been transferred and the Partnership has transferred substantially all risks and rewards of ownership. Financial liabilities are derecognized when the obligation specified in the contract is extinguished, cancelled or terminated.

#### **Classification of financial instruments**

The Partnership classifies its financial instruments by category according to their nature and their characteristics. The Partnership determines the classification of its financial assets and liabilities upon initial recognition. The Partnership classifies its financial assets and liabilities in the following categories:

##### **(a) Loans and receivables**

Loans and receivables are non-derivative financial assets with fixed or determinable payments that are not quoted in an active market. They are presented in current assets when recoverable within 12 months following the end of the reporting period. Otherwise, they are classified as non-current assets. Financial instruments classified in this category include *Cash, Trade and other receivables* and *Reserve funds*. Such instruments are initially recognized at fair value plus directly attributable transaction costs and subsequently, receivables are measured at amortized cost using the effective interest method less provisions for impairments

##### **(b) Other liabilities at amortized cost**

Other liabilities are recognized initially at fair value and transaction costs are deducted from this fair value. Subsequently, other liabilities are measured at amortized cost. The difference between the initial carrying amount of other liabilities and their repayment value is recognized in net earnings over the term of the contract using the effective interest method. Other liabilities are presented in current liabilities when they are repayable within 12 months following the end of the reporting period. Otherwise, they are classified as non-current liabilities. This item includes *Trade and other payables* and *Non-current debt*.

#### **Cash**

Cash includes cash on hand and bank balances.

#### **Property, plant and equipment**

Property, plant and equipment, consisting mainly of the power stations, are recorded at cost less accumulated amortization and impairment losses, including interest incurred during the construction period. Amortization begins on the date the assets are commissioned using the following methods:

##### **Hydroelectric power station**

The hydroelectric power station is amortized by component using the straight-line method over their useful life of 40 years.

### Note 3. Significant accounting policies (cont'd)

#### **Major maintenance**

Major maintenance work is capitalized and amortized using the straight-line method over the scheduled maintenance frequency, that is, a useful life of approximately five years.

Useful lives, residual values and amortization methods are reviewed every year according to asset type, expected usage and changes in technology. Impairment losses and reversals, if any, are recognized in net earnings under *Impairment of property, plant and equipment*.

#### **Intangible assets**

##### **Water rights**

Water rights are amortized on a straight-line basis over the remaining time of the contract term, which is 20 years. Any impairment loss is charged to earnings in the period in which it arises.

##### **Energy sales contract**

Acquisition costs for the energy sales contract are amortized on a straight-line basis over the contract term, which is 20 years.

##### **Reserve funds**

Reserve funds represent funds held in trust for the purpose of meeting the requirements of the non-current debt agreement including an amount to serve as collateral for the letters of credit issued to BC hydro, to maintain a reserve for debt servicing and to maintain property, plant and equipment. The reserve funds, consist of deposit certificates, and are valued at amortized cost.

##### **Borrowing costs**

The Partnership capitalizes borrowing costs directly attributable to the acquisition or construction of qualifying assets during their active construction. Other borrowing costs are expensed during the period in which they are incurred.

Finance leases are capitalized at the commencement of the lease term at the lower of the fair value of the leased property and the present value of the minimum lease payments. Each lease payment is allocated between the liability and finance costs so as to achieve a constant rate on the balance outstanding. Such lease obligations, net of financing costs, are included under *Other non-current liabilities*. The interest component of the financing costs is charged to loss over the lease period so as to produce a constant periodic rate of interest on the remaining balance of the liability for each period. *Property, plant and equipment* acquired under finance leases are amortized over the shorter of the useful life of the asset and the lease term.

##### **Leases**

Leases are classified as operating leases when the lease arrangement does not transfer substantially all the risks and rewards of ownership to the Partnership. Payments made under operating leases are charged to the statements of loss on a straight-line basis over the lease term.

##### **Impairment of assets**

Non-current assets with indefinite useful lives, specifically the goodwill and water rights of the Buckingham power station, as well as intangible assets that are not yet ready for use, are tested for impairment annually on October 31 or if trigger events occur.

The assets are tested for impairment when particular events or changes in circumstances indicate that their carrying amount might not be recoverable. An impairment loss is recognized when the carrying amount exceeds the recoverable amount. The recoverable amount of an asset is the higher of that asset's fair value less costs of disposal and its value in use.

At the end of each reporting period, if there is any indication that an impairment loss recognized in a prior period, no longer exists or has decreased, the loss is reversed up to its recoverable amount. The carrying amount following the reversal must not be higher than the carrying amount that would have prevailed (net of amortization) had the original impairment not been recognized in prior periods.

Impairment testing of assets is conducted at the level of the cash-generating units ("CGUs"). A CGU is the smallest identifiable group of assets that generates cash inflows that are largely independent of the cash inflows from other assets or groups of assets.

The recoverable amount of an asset is the higher of its fair value less costs of disposal and its value in use. To calculate value in use, estimated future cash flows are discounted to their present value using a rate that reflects changes in the time value of money and the risks specific to the asset. When determining fair value less costs of disposal, the Partnership considers whether there is a current market price for the asset. Otherwise, the Partnership uses an income approach, which is based on the present value of future cash flows generated by an asset. The discounted cash flow method consists of projecting cash flows and converting them into present values by applying discount rates.

### Provisions

A provision is recognized in the statement of financial position when the Partnership has a legal or constructive obligation as a result of a past event and it is probable that settlement of the obligation will require a financial payment or cause a financial loss, and a reliable estimate can be made of the amount of the obligation. Provisions are measured using the Partnership management's best estimate as to the outcome based on known facts as at the reporting date.

### Income taxes

The Partnership is not liable for any income taxes as this is the responsibility of the Partners. As a result, no provision for income taxes has been recorded in these financial statements.

Income taxes attributable to the earnings of the Partnership are assumed by its Partners.

### Partners' equity

Partners' equity is presented at the value at which the units were issued. Costs related to the issuance of units are presented in equity, as a deduction from issuance proceeds.

### Distribution

Distributions are recognized in the financial statements in the period in which the distributions are approved by the Partnership.

### Revenue recognition

#### Revenues from energy sales

The Partnership recognizes its revenues, which consist of energy sales, when persuasive evidence of an arrangement exists, the goods are delivered, the significant risks and benefits of ownership are transferred, the price is fixed or determinable and collection of the resulting receivable is reasonably assured.

#### Variable consideration

Penalties for non-production of electricity are recorded at the time when it is highly probable that the amount will be payable as a reduction of revenues over the remaining term of the energy sales contract.

#### Accounting policy used before the application of the new standard:

The Partnership recognizes its revenues, which consist of energy sales, when persuasive evidence of an arrangement exists, the goods are delivered, the significant risks and benefits of ownership are transferred, the price is fixed or determinable and collection of the resulting receivable is reasonably assured.

### Changes in accounting policies

#### IFRS 9, *Financial Instruments*

In July 2014, IASB completed its three-phase project to replace IAS 39, *Financial Instruments: Recognition and Measurement*, by issuing IFRS 9, *Financial Instruments*. IFRS 9 addresses the classification and measurement of financial assets and liabilities, and introduces a forward-looking expected credit loss impairment model and a substantially reformed hedge accounting model.

To determine whether a financial asset should be measured at amortized cost or at fair value, IFRS 9 uses a new approach that replaces the multiple rules of IAS 39. The approach recommended by IFRS 9 is based on how an entity manages its financial instruments and the contractual cash flow characteristics of financial assets. Most of the requirements of IAS 39 for the classification and measurement of financial liabilities are carried forward in IFRS 9. However, the portion of the changes in fair value related to the entity's own credit risk, in measuring a financial liability at fair value through profit or loss, will be presented in *Accumulated other comprehensive income* instead of in the *statement of earnings*.

IFRS 9 also sets out an expected credit loss impairment model that will require more timely recognition of credit losses. More specifically, the new standard requires entities to account for expected credit losses upon initial recognition of financial instruments, and to recognize lifetime credit losses on a timely basis.

Lastly, IFRS 9 introduces a new hedge accounting model together with corresponding disclosure requirements about risk management activities. The new hedge accounting model represents a substantial overhaul of hedge accounting that will enable entities to better reflect their risk management activities in their financial statements.

The Partnership has adopted IFRS 9, *Financial Instruments*, as of January 1, 2018. The adoption of IFRS 9 resulted in changes to accounting policies, but in no adjustment to the amounts recognized in the financial statements.

### Note 3. Significant accounting policies (cont'd)

The Partnership completed a detailed assessment of its financial assets and liabilities as at January 1, 2018. The following table shows the original classification under IAS 39 and the new classification under IFRS 9:

<b>Financial assets and liabilities</b>	<b>Original classification under IAS 39</b>	<b>New classification under IFRS 9</b>
Cash	Loans and receivables (amortized cost)	Amortized cost
Trade and other receivables	Loans and receivables (amortized cost)	Amortized cost
Reserve funds	Loans and receivables (amortized cost)	Amortized cost
Trade and other payables	Other financial liabilities (amortized cost)	Amortized cost
Current and non-current debt	Other financial liabilities (amortized cost)	Amortized cost

#### **IFRS 15, Revenue from Contracts with Customers**

In May 2014, the IASB issued IFRS 15, Revenue from Contracts with customers, a new standard that specifies the steps and timing for issuers to recognize revenue as well as requiring them to provide more informative, relevant disclosures. The core principle of IFRS 15 is that an entity should recognize revenue to depict the transfer of promised services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those services. This standard supersedes IAS 11, *Construction Contracts*, IAS 18, *Revenue*, as well as various interpretations regarding revenue.

The Partnership has adopted IFRS 15 as of January 1, 2018, which resulted in changes in accounting policies, but in no adjustment to the amounts recognized in the financial statements. In accordance with the transition provisions in IFRS 15, the Partnership adopted the new standard retrospectively.

#### **Future changes in accounting policies**

#### **IAS 1, Presentation of Financial Statements, and IAS 8, Accounting Policies, Changes in Accounting Estimates and Errors**

In October 2018, the IASB issued amendments to IAS 1, *Presentation of Financial Statements*, and IAS 8, *Accounting Policies, Changes in Accounting Estimates and Errors*, to align the definition of “material” across the standards and to clarify certain aspects of the definition. The amendments are intended to improve financial reporting by promoting a better understanding of the existing requirements and should not significantly impact an entity’s materiality judgments. The amendments are applicable prospectively to annual periods beginning on or after January 1, 2020, with earlier application permitted. The Partnership is currently assessing the impact of these amendments.

#### **Conceptual Framework for Financial Reporting**

In March 2018, the IASB issued a comprehensive set of concepts for financial reporting: the revised *Conceptual Framework for Financial Reporting* (“Conceptual Framework”), which replaces its previous version. It assists companies in developing accounting policies when no IFRS standard applies to a particular transaction and it helps stakeholders more broadly to better understand the standards. The revised Conceptual Framework’s effective date is January 1, 2020, with earlier application permitted. The Partnership does not expect any impact upon its adoption.

## **Note 4. Main sources of uncertainty**

The preparation of financial statements in conformity with IFRS requires management to make estimates and judgments that can materially affect the revenues, expenses, comprehensive income, assets and liabilities, and the information reported in the financial statements.

The following items require management to make the most critical estimates and judgments.

### **Main sources of uncertainty relating to management's estimates**

Management determines its estimates based on a number of factors, namely its experience, current events and measures the Partnership could subsequently take, as well as other assumptions it deems reasonable given the circumstances. By their nature, these estimates are subject to measurement uncertainty and actual results may differ from them. Underlying estimates and assumptions are periodically reviewed and the impact of any changes is recognized immediately.

#### **Impairment of assets**

At each reporting date, if any evidence of impairment exists, the Partnership must perform impairment tests on its assets to assess whether their carrying amounts are recoverable. Impairment tests require the use of various assumptions based on management's best estimates.

#### **Recoverable amount**

Recoverable amounts are determined using value-in-use calculations based on cash flows discounted over the term of the project that factor in current economic conditions and management's estimates based on past experience. Expected future cash flows are inherently uncertain and could materially change over time. They are significantly affected by a number of factors, including market and production estimates, together with economic factors such as selling prices and contract renewal prices, production cost estimates, future capital expenditure, discount rates, the growth rate and useful lives.

#### **Discount rate**

The discount rate estimated and used by management represents the weighted average cost of capital determined for a group of CGUs.

#### **Growth rate**

The growth rate is determined based on past experience, economic trends as well as market and industry trends.

#### **Useful lives of property, plant and equipment and intangible assets with finite useful lives**

In determining the useful lives of property, plant and equipment and intangible assets with finite useful lives, management takes into account estimates of the expected use period of the asset. Such estimates are reviewed annually and the impacts of any changes are accounted for prospectively.

#### **Fair value of financial instruments**

Fair value is determined using discounted cash flow models. Fair value determined using such valuation models requires the use of assumptions concerning the amount and timing of estimated future cash flows, as well as for numerous other variables. These assumptions are determined using external, readily observable market inputs. Since they are based on estimates, fair values may not be realized in an actual sale or immediate settlement of the instruments. See note 15 for a more detailed explanation of the bases for the calculations and estimates used. Derivative financial instruments designated as cash flow hedges are accounted for at fair value in the statement of financial position and changes in fair value are reported in comprehensive income.

#### **Production**

The Partnership determines long-term average annual energy production (LTAP) over the expected life of the facility, based on engineering studies that consider, historical water flow and head height, technology used and aesthetic and ecological instream flows. Other factors considered include site topography, installed capacity, energy losses, operational characteristics and maintenance. Although varying from year to year, production is expected to approximate LTAP over an extended period.

### **Main sources of uncertainty relating to management's key judgments**

#### **Evidence of asset impairment**

At each reporting date, management is required to use its judgment to assess whether there is any evidence that property, plant and equipment and intangible assets may be impaired. If applicable, the Partnership performs impairment tests on its CGUs to assess whether the carrying amounts of assets are recoverable. As described in the previous section, various estimates made by management are used in the impairment tests.

Note 4. Main sources of uncertainty (cont'd)

Management is required to exercise judgment and assess whether any events or changes in circumstances could have affected the recoverability of the carrying amount of assets. In making these assessments, management uses various indicators including, but not limited to, adverse changes in the industry or economic conditions, changes in the degree or method of use of the asset, a lower-than-expected economic performance of the asset or a significant change in market returns or interest rates.

## Note 5. Trade and other receivables

	As at December 31, <b>2018</b>	As at December 31, <b>2017</b>
Trade receivables	358	247
Other receivables	8	12
	366	259

All trade receivables have current maturities. Their net carrying amounts reasonably approximate their fair values.

The Partnership has not recorded a provision for the accounts in the above table given the client's high credit rating. As at December 31, 2018 and 2017, all trade and other receivables were current (under 30 days).

## Note 6. Property, plant and equipment

<b>Year ended December 31, 2017:</b>	
Balance - beginning of year	17,980
Additions	383
Amortization	(564)
Balance - end of year	17,799
<b>As at December 31, 2017:</b>	
Cost	22,220
Accumulated amortization	(4,421)
Net carrying amount	17,799
<b>Year ended December 31, 2018:</b>	
Balance - beginning of year	17,799
Additions	242
Amortization	(564)
Balance - end of year	17,477
<b>As at December 31, 2018:</b>	
Cost	22,462
Accumulated amortization	(4,985)
Net carrying amount	17,477

## Note 7. Energy sales contract and water rights

	Energy sales contract	Water rights
<b>Year ended December 31, 2017:</b>		
Balance - beginning of year	662	1,958
Additions	32	—
Amortization	(54)	(160)
Balance - end of year	640	1,798
<b>As at December 31, 2017:</b>		
Cost	1,112	3,197
Accumulated amortization	(472)	(1,399)
Net carrying amount	640	1,798
<b>Year ended December 31, 2018:</b>		
Balance - beginning of year	640	1,798
Additions	452	—
Amortization	(423)	(160)
Balance - end of year	669	1,638
<b>As at December 31, 2018:</b>		
Cost	1,564	3,197
Accumulated amortization	(895)	(1,559)
Net carrying amount	669	1,638

## Note 8. Trade and other payables

	Note	As at December 31, 2018	As at December 31, 2017
Trade payables		139	49
Related party payables	19	1,397	699
Accrued liabilities		90	17
Other payables		63	34
		1,689	799

## Note 9. Non-current debt

	Maturity	Rate	As at December 31, 2018	As at December 31, 2017
Term loan	2024	6.55%	5,702	6,567
Current portion			(923)	(865)
Borrowing costs, net of accumulated amortization			(52)	(77)
			4,727	5,625

The financing, secured by all of the assets of the Partnership, consists of a term loan of \$11,000,000. The term loan, with a fixed interest rate of 6.55% is repayable in monthly instalments started on July 1, 2011. The credit agreement allows for early repayment, subject to the payment of a premium calculated on the date of repayment as the difference, if any, between the balance of the debt and the future cash flows discounted using the rate of Government of Canada bonds with a similar term plus 0.5%.

### Financial ratio

The term loan contains a debt service ratio that the Partnership must meet. As at December 31, 2018, the Partnership was in compliance with its ratio requirement.

## Note 10. Partners' capital

The authorized capital of the Partnership consists of unlimited number of units.

Partners' capital consists of 1,000,100 units and \$14,540,000 as at December 31, 2017 and 2018.

## Note 11. Expenses by nature

### Operating and administrative

	2018	2017
Management fees	450	441
Employee benefits	288	231
Property and school taxes	149	388
Maintenance and repairs	365	379
Other	195	302
	1,447	1,741

## Note 12. Financing costs

	Note	2018	2017
Interest on non-current debt		400	472
Interest and other interest income		(19)	(5)
Amortization of borrowing costs	9	25	28
		406	495

## Note 13. Change in non-cash items related to operating activities

	2018	2017
Decrease (Increase) in:		
Trade and other receivables	(106)	(12)
Other current assets	1	1
Increase in:		
Trade and other payables	895	400
	790	389

## Note 14. Statements of cash flows

				As at December,31 2018
	Balance - Beginning of year	Cash	Non-cash item Amortization of borrowing costs (note 12)	Balance - End of year
Debt <sup>(1)</sup>	6,490	(865)	25	5,650

				As at December,31 2017
	Balance - Beginning of year	Cash	Non-cash item Amortization of borrowing costs (note 12)	Balance - End of year
Debt <sup>(1)</sup>	7,272	(810)	28	6,490

<sup>(1)</sup> Including Non-current debt and Current portion of debt.

## Note 15. Financial instruments

The classification of financial instruments, complete with the respective carrying amounts and fair values, is as follows:

	As at December 31, 2018		As at December 31, 2017	
	Carrying amount	Fair value	Carrying amount	Fair value
<b>DEBT<sup>(1)</sup></b>	5,650	6,088	6,490	7,254

<sup>(1)</sup> Including *Non-current debt* and *Current portion of debt*.

The fair value of a financial instrument is the amount of consideration that would be agreed upon in an arm's length transaction between knowledgeable, willing parties who are under no compulsion to act.

The fair values of *Cash*, *Trade and other receivables*, *Trade and other payables* and *Reserve funds* approximate their carrying amounts due to their short-term maturities and high liquidity.

The fair value of *Debt* is essentially based on the calculation of discounted cash flows. Discount rate of 4.21% (3.41% in 2017) was determined based on local government bond yields adjusted for the risks specific to the borrowing and for credit market liquidity conditions.

At initial recognition the *Advance from Boralex Inc.* will be recorded at its fair value, which is the amount received by the borrower. The difference between this initial amount and the maturity amount will never be amortized, since there is no repayment of principal. This means that, at each reporting date, the *Advance from Boralex Inc.* will be recorded at its principal amount, which is also its amortized cost.

### Hierarchy of financial assets and liabilities measured at fair value

Financial instruments measured at fair value in the financial statements are classified according to the following hierarchy of levels:

- Level 1: Consists of measurements based on quoted prices (unadjusted) in markets for identical assets or liabilities;
- Level 2: Consists of measurement techniques based mainly on inputs, other than quoted prices, that are observable either directly or indirectly in the market;
- Level 3: Consists of measurement techniques that are not based mainly on observable market data.

The level in the fair value hierarchy within which the fair value measurement is categorized in its entirety shall be determined on the basis of the lowest level input that is significant to the financial instrument fair value measurement in its entirety.

For *Debt*, the Partnership classified the fair value measurements as Level 2, as they are based mainly on observable market data, namely government bond yields.

## Note 16. Financial risks

The Partnership is exposed in the normal course of business to various financial risks: market risk (including foreign exchange risk, price risk and interest rate risk), credit risk and liquidity risk.

### Market risk

#### Foreign exchange risk

In the normal course of business, the Partnership is not significantly exposed to currency fluctuations because its operations are in Canadian dollars.

#### Price risk

The hydroelectric facility has long-term indexed fixed-price energy sales contract immune to fluctuations in electricity prices. The Partnership is thus not significantly exposed to price risk.

#### Interest rate risk

The term loan payable bears interest at a fixed rate. The Partnership is thus not significantly exposed to interest rate risk.

### Credit risk

Credit risk stems primarily from the potential inability of clients to meet their obligations. Given the nature of the Partnership's business, its clients are few in number and their credit ratings are generally high. The electricity markets that the Partnership serves are limited essentially to a monopoly and, to lesser degree, to private customers. The Partnership regularly monitors the financial condition of these clients.

### Liquidity risk

Liquidity risk is the risk that the Partnership will experience difficulty meeting its obligations as they fall due. The Partnership manages cash resources based on financial forecasts and expected cash flows.

The contractual maturities of the Partnership's financial liabilities and derivative financial instruments as at December 31, 2018 and 2017 are detailed in the following tables:

As at December 31, <b>2018</b>	Undiscounted cash flows (principal and interest)					
	Carrying amount	Current portion	From 1 to 2 years	From 2 to 5 years	Over 5 years	Total
<b>Non-derivative financial liabilities:</b>						
Trade and other payables	1,689	1,689	—	—	—	1,689
Advance from Boralex Inc.	548	—	—	—	548	548
Debt <sup>(1)</sup>	5,650	1,270	1,270	3,809	423	6,772
	<b>7,887</b>	<b>2,959</b>	<b>1,270</b>	<b>3,809</b>	<b>971</b>	<b>9,009</b>

  

As at December 31, <b>2017</b>	Undiscounted cash flows (principal and interest)					
	Carrying amount	Current portion	From 1 to 2 years	From 2 to 5 years	Over 5 years	Total
<b>Non-derivative financial liabilities:</b>						
Trade and other payables	799	799	—	—	—	799
Advance from Boralex Inc.	548	—	—	—	548	548
Debt <sup>(1)</sup>	6,490	1,270	1,270	3,809	1,692	8,041
	<b>7,837</b>	<b>2,069</b>	<b>1,270</b>	<b>3,809</b>	<b>2,240</b>	<b>9,388</b>

<sup>(1)</sup> Including *Non-current debt* and *Current portion of debt*.

## Note 17. Capital management

The Partnership's objectives when managing its capital represented by *Partners' equity* and *Non-current debt* are as follows:

- Safeguard its ability to continue its regular operations;
- Maintain sufficient liquidity to meet its debt service obligations;
- Provide steady distributions to its Partners; and
- Mitigate the seasonal nature of hydroelectricity.

The Partnership monitors capital on a quarterly and annual basis based on various financial ratios and non-financial performance indicators. The Partnership is also required to meet certain financial ratios under its credit agreement. More specifically, the Partnership must maintain a historical annual debt service coverage ratios of at least 1.20 before it can distribute cash to its Partners.

## Note 18. Commitment

### Energy Sales Contract

The Partnership is committed to selling approximately 97% of its power output (subject to certain minimum criteria) under a contract maturing in June 2019. This contract provides for annual indexation based on the Consumer Price Index ("CPI").

## Note 19. Related party transactions

Details of related party transactions are as follows:

	2018	2017
<b>COSTS AND OTHER EXPENSES</b>		
Management fees - Boralex Inc. - Ultimate partner	450	441
Operating - Boralex Inc. - Ultimate partner	275	228
	725	669

Payables arising from the above transactions at the end of the fiscal year are as follows:

	As at December 31, 2018	As at December 31, 2017
<b>RELATED PARTY PAYABLES</b>		
Boralex Inc. - Ultimate partner	1,397	699