Columbia Power Corporation

2019/20 – 2021/22
SERVICE PLAN

February 2019

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Board Chair Accountability Statement

The 2019/20 – 2021/22 Columbia Power Corporation (Columbia Power) Service Plan was prepared under my direction in accordance with the *Budget Transparency and Accountability Act*. The plan is consistent with government's strategic priorities and fiscal plan. I am accountable for the contents of the plan, including what has been included in the plan and how it has been reported. I am responsible for the validity and reliability of the information included in the plan.

All significant assumptions, policy decisions, events and identified risks, as of January 31, 2019 have been considered in preparing the plan. The performance measures presented are consistent with the *Budget Transparency and Accountability Act*, Columbia Power's mandate and goals, and focus on aspects critical to the organization's performance. The targets in this plan have been determined based on an assessment of Columbia Power's operating environment, forecast conditions, risk assessment and past performance.

Tim Stanley
Board Chair

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Strategic Direction and Alignment with Government Priorities

Columbia Power Corporation (Columbia Power), a commercial Crown corporation, operates under the *Business Corporations Act* and owns and operates hydroelectric power generation assets in the Columbia Basin. This service plan supports the continued safe and reliable operation of these facilities and the generation of clean hydropower and provides continued support for community sponsorship and a dividend return to the Province.

Each year, Columbia Power receives a Mandate Letter from the Government of British Columbia, which sets out the organization's corporate mandate, including making life more affordable, delivering services that people count on, and building a strong, sustainable, innovative economy that works for everyone. The Mandate Letter directs Columbia Power to conduct its operations and financial activities in a manner that is consistent with the legislative, regulatory and policy framework established by government.

Columbia Power's strategic priority in 2019/20 is to:

- Continue to ensure long-term profitability and reliability of our facilities through effective and efficient oversight of plant operation and maintenance.

Columbia Power is aligned with the government's key priorities:

Government Priorities	Columbia Power Aligns with These Priorities By:
Making life more affordable	• Ensuring efficient and reliable plant operations. (Goal 1)
Delivering the services people count on	• Ensuring efficient and reliable plant operations. (Goal 1)
A strong, sustainable economy	• Optimizing shareholder value. (Goal 2)

Contribution towards Truth and Reconciliation Commission Calls to Action

Historically, project development work undertaken by Columbia Power has included meaningful consultation with First Nations. Columbia Power acknowledges that our operational facilities and corporate head office are in the traditional territories of the Sinixt, Sylix/Okanagan, Ktunaxa and Secwepemc peoples. Indigenous relations activities will be aligned with the Ministry of Indigenous Relations and Reconciliation's direction and will reflect the provincial government's objectives. As noted in its Mandate Letter, Columbia Power will align with the Province's commitment to the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) and the Calls to Action of the Truth and Reconciliation Commission (TRC).

Columbia Power intends to continue meaningful engagement with Indigenous peoples. Columbia Power will deliver on commitments made in consultation with First Nations through project development and construction of the Arrow Lakes, Brilliant Expansion and the Waneta Expansion generating facilities.

Operating Environment

Columbia Power's operating facilities provide energy to British Columbia's power market where BC Hydro is the dominant wholesale purchaser. Availability of transmission capacity to adjacent power markets in Alberta and the U.S. Pacific Northwest is constrained due to limited transmission capacity and limited demand for power in the near-term. The operating environment is complex, and includes federal and provincial regulators, the Columbia River Treaty and multi-party operating agreements, as well as First Nations and local, regional and American stakeholders.

Columbia Power manages three power generation assets that it jointly owns with Columbia Basin Trust (the Trust). Columbia Power also provides environmental services at the Waneta Expansion facility which it co-owns with Fortis Inc. and the Trust. Columbia Power and the Trust have entered into an agreement with Fortis Inc. to purchase its 51 per cent interest in the Waneta Expansion hydroelectric generating facility for $991 million. This transaction is expected to be finalized in April 2019, with Columbia Power's portion being $337 million. The increase in power project revenues with this additional investment has been reflected in financial forecasts for Columbia Power.

Columbia Power, in partnership with Columbia Basin Trust, entered into a shared services arrangement in September 2017 under which the Trust provides Columbia Power with services in the areas of human resources, communications, accounting, payroll, information technology, records management, corporate secretary and executive services, office services, procurement and environmental, health and safety compliance services. This arrangement is intended to maximize operational efficiencies.

Columbia Power actively assesses its operating environment to ensure risks that could impact performance are identified and appropriate mitigation actions are in place. For the fiscal 2019/20 to 2021/22 planning period, Columbia Power has evaluated its risks and how to manage these risks using a variety of strategies, as outlined in its Risk Matrix/Management Table.

Performance Plan

Columbia Power's goals are to ensure long-term profitability and reliability of the facilities through effective and efficient plant operations and maintenance. Performance is measured through efficient and reliable plant operations (Goal 1) and optimizing shareholder value (Goal 2).

Columbia Power's performance measures are linked to the specific goals, objectives and strategies outlined in this plan. Where possible, performance targets are verified by external benchmarks. The data underlying the company's performance is independently audited or verified by a third party.

Goal 1: Efficient and reliable plant operations

Objective 1.1: Maximize availability of power generation facilities of Arrow Lakes Power Corporation (ALPC) and Brilliant Expansion Power Corporation (BEPC).

Key Strategies:
Manage joint ventures effectively and efficiently and keep Operations, Maintenance and Administration (OMA) costs within industry norms by implementing an Asset Management System focused on improving availability of the generating units and financial performance. The key strategic priorities of the Asset Management System are:

1. Issuing Asset Management Plans for Key Performance Indicators and Spare Parts management;
2. Addressing the potential for equipment failure by doing the right maintenance at the right time and implementing a Reliability Centered Maintenance program at Arrow Lakes Generating Station (ALH);
3. Improving project and maintenance planning; and
4. Preparing for the potential adverse effects of zebra and quagga mussels entering our region through the development and issue of action plans.

Performance Measure(s)[5]		Benchmark	2017/18 Actuals	2018/19 Forecast	2019/20 Target	2020/21 Target	2021/22 Target
1.1a	Equivalent Availability Rate (Hours)	ALH[1]: 90.5% BRX[2]: 90.5%	ALH: 95.0% BRX: 94.8%	ALH: 93.6% BRX: 89.5%[6]	ALH: 94.4% BRX: 94.0%	ALH: 92.1% BRX: 92.9%	ALH: 92.1% BRX: 94.6%
1.1b	Equivalent Availability Rate (MWh)	ALH: 98.8% BRX: 94.3%	ALH: 99.6% BRX: 98.5%	ALH: 98.4% BRX: 97.4%	ALH: 98.7%[3] BRX: 98.4%[3]	ALH: 98.5% BRX: 98.6%	ALH: 98.5% BRX: 98.5%
1.1c	OMA Costs ($ per MWh)	ALH: 10.3[4] BRX: 15.1[4]	ALH: 7.1 BRX: 10.3	ALH: 8.1 BRX: 12.0	ALH: 7.5 BRX: 12.2	ALH: 8.0 BRX: 13.8	ALH: 8.3 BRX: 12.2

[1] ALPC holds Arrow Lakes Generating Station (ALH).
[2] BEPC holds Brilliant Expansion Generating Station (BRX).
[3] The unplanned outage rate target was reduced to 1.33% annually. This is an improvement of 0.33% from fiscal year 2018/19 (1.66%).
[4] Columbia Power participates in a Navigant GSK Hydro Benchmarking Study periodically to gauge plant performance relative to industry. The most recent study was completed in 2016 (Columbia Power GSK Hydro Benchmarking Study- March 2016) with the next benchmarking planned for 2019. GSK Hydro Benchmarking Study advancements have resulted in benchmark sample sizing changes whereby ALH and BRX now have separate benchmarks based on a sample of similar sized facilities. Benchmarks were established based on a sample of 16 facilities for ALH and 13 facilities for BRX. The study has a sufficiently large sample population base to normalize regional differences such as labour rates and CANADIAN/US dollar conversions.
[5] Columbia Power and Columbia Basin Trust have entered into an agreement with Fortis Inc. to purchase its 51 per cent interest in the Waneta Expansion hydroelectric generating facility for $991 million. This transaction is expected to be finalized in April 2019. Performance measurement data is not available at this time but will be included in Columbia Power's 2020/21 Service Plan.
[6] In 2018/19, the forecasted availability rate of BRX is lower due to a planned outage for a 10-year major equipment overhaul.

Linking Performance Measures to Objectives:

1.1a Equivalent Availability Rate (Hours) - this is an industry standard measure used in benchmarking to gauge the percentage of time that the plant is available to provide energy to the grid. It also measures the efficiency of operator response to unplanned outages and in carrying out planned outages.

1.1b Equivalent Availability Rate (MWh) - this metric gauges effective revenue generation. The greater the percentage of realized entitlement MWh available to each facility annually relative to the total entitlement MWh available, the greater the plant's revenue from the sale of that entitlement.
1.1c OMA Costs ($ per MWh) - this is an industry standard measure used to benchmark plant efficiency and helps gauge Columbia Power performance relative to other hydropower producers. Effective management of OMA costs supports lower cost of power generation.

Discussion:

Plant availability benchmarks are measures for Columbia Power to assess asset reliability performance relative to industry standard as well as internal criteria. Performance Measure 1.1a compares the percentage of time the generating unit is available in hours to the benchmark. The benchmark of 90.5 per cent is derived from the five-year average equivalent rate for medium-sized hydro plants in operation for less than forty-five years, as provided by the Navigant Study.

The ALH and BRX unplanned outage rate target was reduced from 1.67 per cent to 1.33 per cent for the 2019/20 budget year resulting in a higher availability rate (Hours) due to a lower expectation of unplanned outage occurrence. The target was adjusted to recognize Columbia Power's strong results and strive for even better performance in the future.

Columbia Power has used its own historic and forecasted production level data to develop an internal benchmark for Performance Measure 1.1b Equivalent Availability Rate (MWh). This measure shows the proportion of entitlement that is available for sale, taking entitlement lost through both planned and unplanned outages into consideration. The benchmark is based on a historical 10-year average of plant performance for ALH and BRX and reflects an optimal scenario of reliable plant operations while efficiently completing required maintenance. This metric allows a comparison of Columbia Power's revenue generating performance to the internal benchmark. The long-term target is to meet or exceed the benchmark. The fluctuation of targets is due to the variability in the duration of the planned outages. The Equivalent Availability Rate (EAR) in hours and megawatt hours (MWh) targets have been revised to reflect the most current projections of planned outages.

Performance Measure 1.1c OMA Costs ($ per MWh) is a measure of plant operational cost efficiency which consists of the Operations, Maintenance and Administration costs for each facility (net of allowance for outages) divided by entitlement energy for that facility, in dollars per MWh. OMA is a standard measure used by industry to assess cost effective operations. OMA targets have been revised to reflect the most current estimates of budgets and resources required for each of the operating facilities.

Goal 2: Optimize shareholder value

Objective 2.1: Effective Financial Management

Key Strategies:

- Maximize generated revenue by controlling facility operating costs and achieving reliable operations.
- Manage working capital to meet Columbia Power's mandate while returning free cash-flow to the shareholder through an annual dividend.

Performance Measures ($000)		2017/18 Actual	2018/19 Forecast	2019/20 Target	2020/21 Target	2021/22 Target
2.1a	Net Income	$ 50,121	$ 48,184	$ 56,595	$ 57,111	$ 58,740
2.1b	Earnings Before Interest Taxes Depreciation and Amortization	$ 57,273	$ 58,220	$ 66,508	$ 66,884	$ 68,545

Linking Performance Measures to Objectives:

2.1a Columbia Power's net income is the most appropriate measure to gauge the company's financial performance. Net income is closely monitored throughout the reporting period and audited annually.

2.1b Earnings Before Interest Taxes Depreciation and Amortization (EBITDA) is a measure of operating income which focuses on items of importance to ongoing operations and excludes items that do not impact ongoing operations, such as financing decisions and accounting policies. EBITDA also approximates cash flow from operations before payment of financing costs and necessary capital investment. After financing costs are paid and capital investment is made, the balance is available to be paid as a dividend to the Shareholder.

Discussion:

Financial statements calculating both net income and EBITDA are prepared monthly for internal use and quarterly for reporting to the Province. Variances from monthly net income targets are reported monthly to the Finance and Audit Committee and on a quarterly basis to the Board of Directors and the Province. Corrective measures are taken to achieve forecast net income if variances are identified. Annual revisions to Columbia Power's financial projections have been made to include all known and anticipated events. This has resulted in updates to the annual service plan.

Summary Financial Outlook

($000)	2018/19 Forecast	2019/20 Budget	2020/21 Budget	2021/22 Budget
Total Revenue				
Operating Revenue				
Service Agreement	$ 600	$ 282	$ 282	$ 282
Recoveries	3,000	3,646	3,934	4,088
Income from Equity Accounted Investees				
Arrow Lakes Power Corporation	16,327	16,377	16,483	16,653
Brilliant Expansion Power Corporation	9,018	9,222	8,921	9,325
Brilliant Power Corporation	12,562	12,889	13,134	13,532
Waneta Expansion Power Corporation	2,350	2,500	-	-
Waneta Expansion Limited Partnership [1]	19,473	27,097	29,441	30,148
Total Revenue	**$ 63,330**	**$ 72,013**	**$ 72,195**	**$ 74,028**
Total Expenses				
Staff and General Administration	$ 3,605	$ 4,020	$ 4,314	$ 4,473
Development Costs	500	500	-	-
Sponsorships and Bursaries	145	122	122	122
Zebra Quagga Mussel - Provincial Defense Contribution	250	250	250	250
Grants in Lieu of Property Taxes	610	613	625	638
Interest Expense	11,474	11,659	11,664	11,696
Amortization of Property, Plant and Equipment	229	145	-	-
Less: Interest Revenue	(1,667)	(1,891)	(1,891)	(1,891)
Total Expenses	**$ 15,146**	**$ 15,418**	**$ 15,084**	**$ 15,288**
Net Income	**$ 48,184**	**$ 56,595**	**$ 57,111**	**$ 58,740**

[1] The Trust and Columbia Power Corporation have entered into an agreement with Fortis Inc. to purchase its 51% interest in the Waneta Expansion hydroelectric generating facility for $991 million. This transaction is expected to be finalized in April 2019, with Columbia Power's portion being $337 million. The increase in power project revenues, with this additional investment have been reflected in future forecasts.

Key Forecast Assumptions, Risks and Sensitivities

The issues, impacts and potential magnitude of risks and how these risks are managed are provided in the Risk Matrix/Management Table. Future dividends to the Province will be determined based on annual earnings, working capital requirements, contingency reserves and reserves for future sustaining capital requirements.

Sensitivity Analysis

The financial outlook indicates stable net income for the forecast period. Key assumptions affecting the forecasted operations are as follows:

- Plant availability for ALH, BRX and Waneta Expansion are as forecasted. Power sales for Brilliant Dam and Generating Station (BRD) are in the form of a lease and not impacted by plant availability.
- Capital and operating needs of the assets are as forecasted.
- Operating cost inflation, including water rental increases, is approximately two per cent per year.
- Columbia Power assumes adequate working capital to maintain operations, meet liabilities to parties outside the government and achieve goals within the service plan period and into the future.

Plant availability has a large impact on forecasted revenues. Unanticipated Operations and Maintenance cost increases and capital requirements could impact net revenues. An increase in unplanned outages of one per cent would decrease revenues in 2018/19 by $689,000 at ALH and $334,000 at BRX. To compensate for the potential variability of plant availability, a provision for unplanned outages is incorporated into the revenue projections for ALH and BRX. To impact the revenue results from Operations, plant availability will have to fall below the targets presented in the Goal 1 performance measures.

Management's Perspective on the Financial Outlook

Management is projecting growth from our Equity Accounted Investees as a direct result of our strategic focus on operating reliability and cost management. We expect this growth trend to continue into future years. We will also realize some increased services agreement revenues to provide support to the Waneta Expansion Limited Partnership (WELP) for a transition period after final acceptance of the Waneta Expansion Project (final acceptance was achieved April 1, 2018). Columbia Power and the Trust have entered into an agreement with Fortis Inc. to purchase its 51 per cent interest in the Waneta Expansion hydroelectric generating facility for $991 million. This transaction is expected to be finalized in April 2019, with Columbia Power's portion being $337 million. The increase in power project revenues with this additional investment has been reflected in financial forecasts for Columbia Power.

With Final Acceptance of Columbia Power's third and final mandated project, the corporation has moved fully to an operational mandate from one that had included development. This, in combination with the Shared Services agreement with the Trust, has reduced the Staff and General Administration expenses budgeted for 2019/20 and future years.

Major Capital Projects

Major Capital Projects (over $50 million)	Targeted Completion Date (Year)	Project Cost to Dec 31, 2018 ($ millions)	Estimated Cost to Complete ($ millions)	Approved Anticipated Total Capital Cost of Project ($ millions)
Purchase of 51% interest in Waneta Expansion	2019	0,000	$ 337	$ 337
The Columbia Basin Trust and Columbia Power Corporation purchase of the Waneta Expansion asset totals $991 million, of which Columbia Power Corporation's portion is $337 million.				

Appendix A: Hyperlinks to Additional Information

Corporate Governance

- Corporate Governance

Organizational Overview

- Organizational Overview
- Mandate Letter
- Risk Matrix/Management Table (PDF, 60KB)

Appendix B: Subsidiaries and Operating Segments

Active Subsidiaries

CPC Waneta Holdings Ltd. (CPC Waneta)

CPC Waneta started operations on October 1, 2010. Its purpose is to be party to the Waneta Expansion Project through its 32.5 per cent ownership of the Waneta Expansion Limited Partnership (WELP) according to the Waneta Expansion General Partner Shareholder Agreement and the Waneta Expansion Amended and Restated Partnership Agreement. Columbia Power is the sole shareholder of CPC Waneta. Columbia Power and the Trust have entered into an agreement with Fortis Inc. to purchase its 51 per cent interest in the Waneta Expansion hydroelectric generating facility for $991 million. This transaction is expected to be finalized in April 2019, with Columbia Power's portion being $337 million. The increase in power project revenues with this additional investment has been reflected in future forecasts.

CPC Waneta's Board of Directors members are Tim Stanley and Lillian White. As the manager of CPC Waneta, Columbia Power ensures that the corporation's business activities are in alignment with Columbia Power's mandate, strategic priorities, and fiscal plan.

CPC Waneta invests in WELP in the form of cash contributions. WELP requests cash from the partners as required to meet its obligations to the design-build contractor and other suppliers to the project. The Waneta Expansion Project achieved Final Acceptance on April 1, 2018; there are no planned capital expenditures during the reporting period of this service plan.

CPC Waneta's main risk is related to the reliability of operations and cost control. Plant outages causing lost revenues and high maintenance costs could significantly reduce returns from WELP to CPC Waneta.

Summary Financial Outlook Table for CPC Waneta Holdings Ltd.

($000)	**2018/19 Forecast**	**2019/20 Budget**	**2020/21 Budget**	**2021/22 Budget**
Total Revenue	$ 19,473	$ 27,097 [2]	$ 29,441	$ 30,148
Total Expenses	-	-	-	-
Net Income/Excess of Revenue over Expenses/Annual Surplus (Deficit)	**$ 19,473**	**$ 27,097**	**$ 29,441**	**$ 30,148**

[2] Columbia Power and the Trust have entered into an agreement with Fortis Inc. to purchase its 51 per cent interest in the Waneta Expansion hydroelectric generating facility for $991 million. This transaction is expected to be finalized in April 2019, with Columbia Power's portion being $337 million.

Operating Segments

Columbia Power owns three hydropower facilities in joint venture partnership with Columbia Basin Trust (the Trust). These facilities are owned by corporations that are jointly owned by Columbia Power and indirect subsidiaries of the Trust, as follows:

- Arrow Lakes Power Corporation (ALPC): owns the Arrow Lakes Generating Station (ALH) and associated 48-kilometre transmission line from the power plant to BC Hydro's Selkirk Substation.
- Brilliant Expansion Power Corporation (BEPC): owns the Brilliant Expansion Generating Station (BRX).
- Brilliant Power Corporation (BPC): owns the Brilliant Dam and Generating Station (BRD) and the Brilliant Terminal Station.

The Boards of Directors of these corporations are comprised of six directors – three appointed by Columbia Power and three appointed by the Trust. Columbia Power manages these assets on behalf of the joint ventures. Senior Management for these corporations is consistent with that of Columbia Power.

The Brilliant Dam and Generating Station, the Arrow Lakes Generating Station, the Brilliant Expansion Generating Station and Brilliant Terminal Station are operated and maintained by FortisBC (a subsidiary of Fortis Inc.) or its related company, FortisBC Pacific Holdings Inc., under the oversight of Columbia Power.

Most of the power generated at these facilities is committed under long-term sales agreements to two utilities, FortisBC and BC Hydro. Short-term sales of capacity and energy maximize revenue.

Summary Financial Outlook Table for Arrow Lakes Power Corporation

($000)	2018/19 Forecast	2019/20 Budget	2020/21 Budget	2021/22 Budget
Revenues	$ 68,350	$ 68,205	$ 68,596	$ 68,985
Operating Expenses	12,153	11,872	12,330	12,708
Amortization & Financing Expenses	23,543	23,578	23,299	22,971
Net Income	**$ 32,654**	**$ 32,755**	**$ 32,967**	**$ 33,306**
Capital Expenditures	**$ 1,409**	**$ 2,618**	**$ 2,570**	**$ 1,459**

Capital expenditures for ALPC focus on improvements to site security and the intake gates.

Summary Financial Outlook Table for Brilliant Expansion Power Corporation

($000)	2018/19 Forecast	2019/20 Budget	2020/21 Budget	2021/22 Budget
Revenues	$ 32,479	$ 33,086	$ 33,243	$ 33,402
Operating Expenses	10,066	10,209	10,923	10,243
Amortization & Financing Expenses	4,378	4,433	4,479	4,509
Net Income	**$ 18,035**	**$ 18,444**	**$ 17,841**	**$ 18,650**
Capital Expenditures	**$ 439**	**$ 253**	**$ 1,386**	**$ 1,187**

Capital Expenditures for BEPC include the 10-year major equipment overhaul and the control system replacement.

Summary Financial Outlook Table for Brilliant Power Corporation

($000)	2018/19 Forecast	2019/20 Budget	2020/21 Budget	2021/22 Budget
Revenues	$ 45,778	$ 46,106	$ 46,438	$ 46,265
Operating Expenses	13,339	13,650	14,213	14,024
Amortization & Financing Expenses	7,314	6,679	5,958	5,177
Net Income	$ **25,125**	$ **25,777**	$ **26,267**	$ **27,064**
Capital Expenditures	$ **3,588**	$ **3,946**	$ **4,216**	$ **13,551**

Capital Expenditures for BPC include concrete rehabilitation, HVAC upgrade, dam safety and fire safety projects.

Non-Operating Segments

Waneta Expansion Power Corporation (WEPC) (owned 58 per cent by Columbia Power and 42 per cent by the Trust) holds a $72 million non-interest bearing promissory note maturing in 2020. The promissory note is consistent with the terms of the Asset Purchase Agreement between WEPC and WELP.

Summary Financial Outlook Table for Waneta Expansion Power Corporation

($000)	2018/19 Forecast	2019/20 Budget	2020/21 Budget	2021/22 Budget
Revenues	$ 2,350	$ 2,500	-	-
Expenses		-	-	-
Net Income	$ **2,350**	$ **2,500**	-	-