Columbia Power Corporation

2021/22 – 2023/24

Service Plan

April 2021

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Board Chair's Accountability Statement

The 2021/22 – 2023/24 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 February 28, 2021 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.

John Stephens
Board Chair

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Strategic Direction and Alignment with Government Priorities

In 2021/22, British Columbians continue to face significant challenges as a result of the global COVID-19 pandemic. Recovering from the pandemic will require focused direction, strong alignment and ongoing engagement between public sector organizations and the Government of British Columbia. The government has identified five foundational principles that will inform each Crown agency's policies and programs and contribute to COVID recovery: putting people first, lasting and meaningful reconciliation, equity and anti-racism, a better future through fighting climate change and meeting our greenhouse gas commitments, and a strong, sustainable economy that works for everyone.

Columbia Power Corporation (Columbia Power), a commercial Crown corporation existing under the *Business Corporations Act,* operates four hydroelectric power generation assets in the West Kootenay region of the Columbia Basin: Arrow Lakes Generating Station; Brilliant Dam and Generating Station; Brilliant Expansion Generating Station and the Waneta Expansion Generating Station. These power generation assets are owned in partnership with Columbia Basin Trust (the Trust) on a 50/50 basis. Columbia Power uses its share of the income to pay dividends to its shareholder, the Province of BC.

This service plan supports the continued safe and reliable operation of these facilities, 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, which sets out the organization's corporate mandate. 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 2021/22 is to ensure long-term profitability, reliability, safety, and environmental sustainability of the facilities in which Columbia Power has an ownership share, through effective and efficient management of plant operation and maintenance.

Operating Environment

Columbia Power's mandate is to ensure the long-term reliability and profitability of its power assets in the West Kootenay. Priorities include maintaining a commitment to safety, regulatory compliance, and environmental sustainability. Fiscal year 2021/22 will see Columbia Power continue to implement its Strategic Asset Management Plan through to 2022/23 to support optimum asset performance and profitability while managing the risks inherent in owning and operating hydroelectric facilities.

Columbia Power continues to actively assess its operating environment to ensure risks that could impact performance of the assets are identified and appropriate mitigation actions are in place. For the 2021/22 to 2023/24 fiscal planning period, Columbia Power has evaluated its risks and outlined strategies for the effective management of these risks as outlined in the Risk Matrix/Management Table.

Performance Planning

Columbia Power's performance is measured through efficient and reliable plant operations (Goal 1) and optimizing shareholder value (Goal 2). These performance measures are linked to the specific goals, objectives and strategies outlined in this plan. Where possible, performance targets are verified by external benchmarks.

Goal 1: Efficient and reliable plant operations

Objective 1.1: Maximize generation availability at Arrow Lakes Generating Station (ALH), Brilliant Expansion Generating Station (BRX), and Waneta Expansion Generating Station (WAX).

Columbia Power manages power assets effectively and efficiently to ensure high reliability and controlled Operations, Maintenance and Administration (OMA) costs. Our Strategic Asset Management Plan and financial management processes focus on improving availability of the generating units while achieving strong financial performance.

Key Strategies

- Minimize forced outages through completion of a Failure Mode Effects and Criticality Analysis process at BRX.
- Reduce maintenance costs and outage lengths through utilization of a spare parts inventory and tracking system for ALH and BRX.
- Monitor and manage risk associated with climate change through implementation of wildfire risk assessment recommendations for transmission lines and facilities.
- Complete a review of O&M outsourcing to confirm cost-effective performance and evaluate options.
- Monitor financial performance regularly throughout the year against established targets.

Performance Measure		2019/20 Benchmark[1]	2019/20 Actuals	2020/21 Forecast	2021/22 Target	2022/23 Target	2023/24 Target
1.1a	Equivalent Availability Rate - Hours[2]	ALH: 93.1% BRX: 93.1% WAX: 93.1%	ALH: 94.3% BRX: 93.7% WAX: 97.0%	ALH: 95.1% BRX: 91.5% WAX: 96.8%	ALH: 94.0% BRX: 90.5% WAX: 96.4%	ALH: 92.6% BRX: 95.1% WAX: 96.4%	ALH: 94.7% BRX: 93.2% WAX: 96.4%
1.1b	Equivalent Availability Rate - MWh[3]	ALH: 99.0% BRX: 98.7%	ALH: 99.3% BRX: 98.3%	ALH: 99.6% BRX: 99.2%	ALH: 99.0% BRX: 98.4%	ALH: 98.7% BRX: 98.7%	ALH: 99.0% BRX: 98.6%
1.1c	Equivalent Availability Rate - Revenue[4]	WAX: 97.2%	WAX: 97.9%	WAX: 97.6%	WAX: 97.2%	WAX: 97.2%	WAX: 97.2%
1.1d	OMA Costs - $ per MWh[5]	ALH: $6.98 BRX: $11.19 WAX: $10.43	ALH: $6.80 BRX: $10.66 WAX: N/A	ALH: $6.78 BRX: $11.74 WAX: $8.96	ALH: $7.58 BRX: $11.08 WAX: $9.52	ALH: $7.87 BRX: $11.30 WAX: $10.43	ALH: $8.11 BRX: $11.54 WAX: $10.70

[1] Columbia Power participates in benchmarking periodically to gauge plant performance relative to industry. The most recent external study was finalized in 2020 by Guidehouse.

[2] Equivalent Availability Rate - Hours 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.
[3] Equivalent Availability Rate - MWh uses an internal benchmark Columbia Power establishes based on historic and forecasted performance and accounts for both planned and unplanned outages.
[4] This measure tracks WAX's availability relative to its Capacity Purchase Agreement with FortisBC in addition to its Energy Purchase Agreement with BC Hydro. Equivalent Availability Rate - Revenue for WAX is an internal benchmark Columbia Power establishes based on historic and forecasted performance and accounts for both planned and unplanned outages.
[5] OMA Cost - $ per MWh uses an internal benchmark Columbia Power establishes based on historic and forecasted performance.

Linking Performance Measure to Objective

1.1a Equivalent Availability Rate - Hours is effective in measuring the number of available generating hours over the year. The established benchmark is derived from the external study prepared by Guidehouse. Successful scheduling and completion of planned outages and efficient response and management of unplanned outages ensure maximum generation availability. It provides a measure of our asset management effectiveness and equipment reliability.

1.1b Equivalent Availability Rate - MWh helps gauge revenue generation and utilizes an internally established benchmark based on historic and forecasted performance. The greater the percentage of entitlement MWh available from each facility annually relative to the total entitlement MWh possible, the greater the plant's revenue from the sale of the entitlement energy.

1.1c Equivalent Availability Rate – Revenue will gauge WAX availability considering business decisions on planned and unplanned outage duration and timing and will be comprised of both entitlement energy and capacity sales for WAX. This availability is calculated by comparing the actual revenue from entitlement energy and capacity sales to the maximum possible revenue from entitlement energy and capacity sales.

The targets reflect an optimal scenario of reliable plant operations with successful scheduling and completion of planned outages and efficient response and management of unplanned outages. The long-term goal is to meet or exceed annual targets. The fluctuation of targets is due to the variability from year to year in the duration of planned outages.

1.1d OMA Costs - $ per MWh is a measure of controllable operating costs per megawatt-hour. The effective management of OMA costs will achieve an optimized cost of power generation and higher reliability through planned maintenance scheduling. The objective is to optimize full life-cycle value of the power assets.

Discussion

Columbia Power and the Trust are parties to agreements with BC Hydro and FortisBC under which ALH, BRX, Brilliant Dam (BRD) and WAX receive firm monthly energy and capacity entitlements. Under these arrangements, non-BC Hydro generating facility owners transfer hydrology risk (variable annual water flows) and BC Hydro directs the operation of all regional generating plants to optimize overall generation. If a plant is not available to generate due to planned or unplanned outages, entitlements are reduced accordingly. This is the reason for the focus on plant availability in the performance measures.

Plant availability measures allow Columbia Power to assess asset reliability performance relative to industry benchmarks and its own performance based on internal criteria.

1.1a - Equivalent Availability Rate – Hours: The established benchmark of 93.1% is derived from the median equivalent rate for medium-sized, high-capacity factor hydro plants from the Guidehouse Study. There were 39 station groups in this category. The 2021/22 through 2023/24 targets for ALH, BRX and WAX were derived from planned outage schedules while allowing for an expected unplanned outage rate throughout the year.

1.1b – Equivalent Availability Rate – MWh: Columbia Power uses historic and forecasted production level data at ALH and BRX to develop internal benchmarks. The benchmark reflects an optimal scenario of reliable plant operations while efficiently completing maintenance outages. This metric allows a comparison of Columbia Power's revenue generating performance to the internal target. The long-term goal is to meet or exceed the annual targets. The fluctuation of targets is due to the variability in the duration of planned outages and the unplanned outage rate target, which has been set progressively more ambitious at ALH and BRX over the years to a current value of 1%. As this measure is entitlement-based, it is not comparable to external industry metrics but useful for Columbia Power's purposes.

1.1c - Equivalent Availability Rate – Revenue: Similar to 1.1b, targets reflect an optimal scenario of reliable plant operations while efficiently completing maintenance outages. This metric allows a comparison of Columbia Power's revenue generating performance to the internal target. The unplanned outage rate for WAX is 0.70% annually based on strong historical performance. The long-term goal is to meet or exceed the annual targets.

1.1d - OMA Costs - $ per MWh: The targets fluctuate year over year due to the changing requirements to annual operating maintenance schedules. Improvements and repairs are also required as needed and contribute to these fluctuations in operating costs. Efforts are made to ensure an effective balance between OMA costs and maintaining high reliability.

The target for ALH for 2021/22 has decreased since the last Service Plan from $7.77 to $7.58 as we continue to proactively manage budgets through maintenance planning and asset management. The 2022/23 target of $7.87 has not changed from the last Service Plan. The forecast for ALH in 2020/21 of $6.78 is significantly below the target of $7.69 set in the 2020/21 – 2022/23 Service Plan due to lower operating costs resulting from impacts of COVID-19. There are no projected long-term impacts to operations or equipment reliability.

The targets for BRX for 2021/22 and 2022/23 have decreased since the last Service Plan from $13.45 and $13.58 to $11.08 and $11.30. This decrease is a result of continued focus on managing operating costs and ensuring projects are appropriately planned and scheduled effectively. Variability in projections for OMA costs can be impacted by changes to the scope of projects. The forecast for BRX in 2020/21 of $11.74 is below the target of $12.92 set in the 2020/21 – 2022/23 Service Plan due to reduced operating costs resulting from impacts of COVID-19. There are no projected long-term impacts to operations or equipment reliability.

The target for WAX for 2021/22 has decreased since the last Service Plan from $10.17 to $9.52 and the 2022/23 target has increased slightly from $10.12 to $10.43. The changes year over year are due to updates to project schedules for some non-routine projects. The forecast for WAX in 2020/21 of $8.96 is below the target of $10.02 set in the 2020/21 – 2022/23 Service Plan due to reduced operating costs resulting from impacts of COVID-19. There are no projected long-term impacts to operations or equipment reliability.

Goal 2: Optimize Shareholder value

Objective 2.1: Deliver effective financial management

Key Strategies

- Maximize 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 Measure ($000)		2019/20 Actuals	2020/21 Forecast	2021/22 Target	2022/23 Target	2023/24 Target
2.1a	Net Income	53,386	54,578	55,349	57,403	59,069
2.1b	Earnings Before Interest Taxes Depreciation and Amortization	71,522	74,108	74,518	76,063	77,378

Linking Performance Measure to Objective

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. 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

Columbia Power's financial results are monitored frequently throughout the fiscal year. Variances from net income targets are reported quarterly to the Finance and Audit Committee, the Board of Directors and the Province. In addition, five-year forecasts are prepared quarterly to ensure financial objectives are in-line with our long-term planning.

Net income and EBITDA targets for fiscal years 2021/22 through 2023/24 have been decreased modestly. This is due to declining interest income from a reduced prime interest rate and rising insurance expenses that are being impacted by unfavourable conditions in the insurance market.

Financial Plan

Financial Summary

($000)	2020/21 Forecast	2021/22 Budget	2022/23 Plan	2023/24 Plan
Total Revenue				
Operating Revenue				
Recoveries	3,326	3,550	3,657	3,767
Income for Equity Accounted Investees				
Arrow Lakes Power Corporation	18,176	17,887	18,218	18,574
Brilliant Expansion Power Corporation	9,293	9,435	9,724	9,666
Brilliant Power Corporation	13,624	13,920	14,483	14,998
Waneta Expansion Power Corporation	34,798	35,155	35,577	36,144
Total Revenue	**79,217**	**79,947**	**81,659**	**83,149**
Total Expenses				
Staff and General Administration	3,766	4,039	4,154	4,275
Sponsorships and Bursaries	50	50	50	50
Zebra Quagga Mussel - Provincial Defense Contribution	250	250	250	250
Grants in Lieu of Property Taxes	1,044	1,092	1,143	1,197
Interest Expense	20,730	20,765	20,780	20,795
Amortization of Property, Plant and Equipment	49	47	40	18
Less: Interest Revenue	(1,250)	(1,645)	(2,161)	(2,505)
Total Expenses	**24,639**	**24,598**	**24,256**	**24,080**
Net Income	**54,578**	**55,349**	**57,403**	**59,069**

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 and reserves for future sustaining capital investments.

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 WAX are as forecasted. Power sales for BRD are in the form of a long-term agreement which is not impacted by plant availability.
- Capital and operating needs of the assets are as forecasted.
- Operating cost inflation is approximately 2% per year, with water rentals increasing by 4% based on the past 5-year average.
- Columbia Power maintains adequate working capital levels to meet operational and capital requirements and achieve goals within the service plan periods.

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 1% would decrease revenues in 2021/22 by $708,000 at ALH, $336,000 at BRX and $1,088,000 at WAX.

To compensate for the potential variability of plant availability, a provision for unplanned outages is incorporated into the revenue projections for ALH, BRX and WAX. To impact the revenue results from operations, plant availability will have to fall below the targets presented in Goal 1 - efficient and reliable plant operations.

Management's Perspective on the Financial Outlook

Over the last year, Columbia Power experienced some disruption caused by the COVID-19 pandemic. Certain planned operating maintenance and capital programs were delayed as a result. The pandemic has not had any negative long-term impacts to operations or equipment reliability.

Management is projecting growth from jointly owned power subsidiaries as a direct result of our focus on Strategic Asset Management Planning and Reliability Centered Maintenance programs that target increased plant reliability.

In addition, we continue to improve budget and forecasting processes to maximize shareholder value and returns. We expect this growth trend to continue into future years.

Appendix A: Additional Information

Corporate Governance

- Corporate Governance

Organizational Overview

- Organizational Overview
- Mandate Letter
- Risk Matrix/Management Table

Appendix B: Subsidiaries and Operating Segments

Operating Segments

Columbia Power owns four hydropower facilities in partnership with the Trust. These facilities are owned by corporations jointly owned by Columbia Power and indirect subsidiaries of the Trust, as follows:

Arrow Lakes Power Corporation

Arrow Lakes Power Corporation (ALPC) owns ALH and an associated 48-kilometre transmission line from the power plant to BC Hydro's Selkirk Substation.

Summary Financial Outlook Table for ALPC

($000)	2020/21 Forecast	2021/22 Budget	2022/23 Plan	2023/24 Plan
Total Revenue	70,489	70,402	70,945	71,487
Operating Expenses	11,319	12,168	12,553	12,904
Amortization & Financing Expenses	22,819	22,461	21,965	21,435
Net Income	**36,351**	**35,773**	**36,436**	**37,148**
Capital Expenditures	**2,760**	**2,841**	**2,092**	**2,298**

Brilliant Expansion Power Corporation

Brilliant Expansion Power Corporation (BEPC) owns BRX.

Summary Financial Outlook Table for BEPC

($000)	2020/21 Forecast	2021/22 Budget	2022/23 Plan	2023/24 Plan
Total Revenue	33,335	33,470	33,778	34,091
Operating Expenses	10,238	10,063	10,255	10,460
Amortization & Financing Expenses	4,512	4,538	4,076	4,300
Net Income	**18,585**	**18,869**	**19,447**	**19,331**
Capital Expenditures	**1,230**	**1,784**	**5,787**	**1,000**

Brilliant Power Corporation

Brilliant Power Corporation (BPC) owns BRD and the Brilliant Terminal Station (BTS).

Summary Financial Outlook Table for BPC

($000)	2020/21 Forecast	2021/22 Budget	2022/23 Plan	2023/24 Plan
Total Revenue	45,704	47,425	47,509	47,826
Operating Expenses	12,766	14,604	14,522	14,751
Amortization & Financing Expenses	5,691	4,982	4,021	3,080
Net Income	**27,247**	**27,839**	**28,966**	**29,995**
Capital Expenditures	**3,560**	**3,800**	**4,100**	**20,800**

Waneta Expansion Power Corporation

Waneta Expansion Power Corporation (WEPC) owns WAX.

Summary Financial Outlook Table for WEPC

($000)	2020/21 Forecast	2021/22 Budget	2022/23 Plan	2023/24 Plan
Total Revenue	102,158	103,147	104,587	106,207
Operating Expenses	14,258	14,849	15,432	15,836
Amortization & Financing Expenses	29,996	29,951	29,964	30,045
Net Income	**57,634**	**58,347**	**59,191**	**60,326**
Capital Expenditures	**825**	**411**	**1,324**	**623**

The Boards of Directors of these corporations are comprised of six directors, three nominated by Columbia Power and three nominated by the Trust. Columbia Power manages these assets on behalf of the power subsidiaries.

BRD, ALH, BRX, BTS and WAX 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.