British Columbia Ferry Services Inc.

Application to the

British Columbia Ferries Commissioner

To

Directly Utilize Revenues Generated Through the Monetization of Carbon Credits to Fund Clean Futures Initiatives

March 11, 2022

Note: In this copy of the Application, an appendix containing information of a confidential and commercially-sensitive nature has not been included.

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Executive Summary

The Province of British Columbia has implemented the BC Low Carbon Fuel Standard ("BC-LCFS") to reduce the carbon intensity of fuels. Under the BC-LCFS, Part 3 fuel suppliers like British Columbia Ferry Services Inc. ("BC Ferries" or the "Company") are required to meet these targets or incur financial penalty. Part 3 fuel suppliers who perform well, by having carbon emissions lower than these targets, are able to avoid penalties and are eligible to earn carbon credits and sell them to those exceeding the targets. This provides an opportunity to Part 3 fuel suppliers to earn revenue through the sale of surplus credits to offset the cost of transitioning to lower carbon intense fuels.

In early 2021, BC Ferries began to procure its own natural gas, thereby becoming recognized as a Part 3 fuel supplier. The Company has submitted its first two carbon intensity compliance reports and is awaiting approval and the award of earned carbon credits. BC Ferries is seeking the British Columbia Ferries Commissioner's (the "Commissioner") authorization to directly utilize revenue generated through the sale of earned carbon credits to reinvest in emission reduction initiatives. BC Ferries is requesting approval for:

> ***The establishment of a Carbon Reduction Investment Account ("CRIA") to be funded through the sale of carbon credits, earned through activities such as its purchases of natural gas and use of LNG, to partially fund further infrastructure investments, such as the electrification of the Island class vessels.***

The order sought from the Commissioner is consistent with section 38(1)(a.1) of *the Coastal Ferry Act*, which stipulates "ferry operators are to be encouraged to meet provincial greenhouse gas emission targets in their operations and when developing capital plans", the intent of the Province's carbon credit program, and regulatory mechanisms used by BC utilities and elsewhere.

Ferry customers will also benefit financially over time under the proposed approach, as it will reduce the Company's incremental borrowing needs to fund the capital investments required to reduce carbon emissions, and provide the opportunity for the Company to earn additional carbon credits. These benefits will minimize potential future fare increases for ferry customers resulting from the costs related to emission reduction investments. EES Consulting Inc. (see Appendix A) has calculated that creating the proposed CRIA is expected to provide financial

savings of $24 million to customers over the 2022 through 2045 period as it relates to credits earned through its purchases of natural gas through fiscal 2025.

Section 1 - Background

In recognition that greenhouse gas ("GHG") emissions are a primary contributor to climate change, the federal and provincial governments have implemented a number of legislative and regulatory measures to achieve targeted emissions reductions. In support of these measures, the Province has implemented a carbon credit program to incentivize transportation fuel suppliers to achieve emission reductions, and the federal government is currently implementing a similar market across Canada.

1.1 Province of BC Regulations

In 2010, the Province enacted the *Clean Energy Act* to achieve electricity self-sufficiency, reduce greenhouse gas emissions, promote the switch to cleaner energy sources, reduce waste and encourage economic development.

The *Clean Energy Act* is supported through the *Greenhouse Gas Reduction (Renewable and Low Carbon Fuel Requirements) Act* (the "Act") and the Renewable and Low Carbon Fuel Requirements Regulation (the "Regulation"), together known as the BC Low Carbon Fuel Standard. Part 3 of the Act addresses low carbon fuel requirements and the application process to become a Part 3 fuel supplier. A Part 3 fuel is considered any low-carbon fuel that is incentivized under the BC-LCFS – more specifically, any gasoline or diesel class fuel that does not include an energy source that is excluded by the Regulation.

Carbon intensity is defined as a measure of GHG emissions that occurs from producing and consuming transportation fuel over the complete emissions lifecycle. The Regulation defines the lifecycle of transportation fuel to include 12 GHG emission components ranging from fuel dispensing and production to storage, leaks and vehicle and vessel operations. The less the carbon intensive the activity, the lower the impact to the environment from GHG emissions.

To reduce the carbon intensity of fuels by 20 percent by 2030, as compared to 2020, the BC-LCFS has established progressively more stringent annual fuel carbon intensity ("CI") reduction targets through to that year. These targets are currently under review, and potentially will be strengthened so that the carbon intensity of fuels will need to be reduced by *30* percent. To achieve these targets, the BC-LCFS imposes low carbon fuel requirements on Part 3 fuel suppliers, which are defined as a person that sells Part 3 fuel for the first time, or uses it before such sale, after it is

manufactured in or brought into BC. As discussed in Section 1.3 below, BC Ferries is a Part 3 fuel supplier.

The requirements imposed on Part 3 fuel suppliers include:

- Annual carbon intensity limits; and
- Minimum renewable content in gasoline and diesel.

Part 3 fuel suppliers are required to maintain a net zero (or credit) carbon intensity compliance balance to avoid financial penalties. This creates a financial incentive to choose a lower carbon intensive fuel and to invest in cleaner transportation fuel.

Part 3 fuel suppliers meet their targets when they generate or acquire credits equal to or greater than the number of debits they generate or acquire. The formula is as follows:

Credit or Debit = (CI class x EER fuel – CI fuel) x EC fuel / 1,000,000

Where:

CI Class = the prescribed carbon intensity limit for the compliance period for the class of fuel of which the fuel is a part;

EER Fuel = the prescribed energy effectiveness ratio for that fuel in that class of fuel;

CI Fuel = the carbon intensity of the fuel (generated or acquired); and

EC Fuel = the energy content of the fuel calculated in accordance with the regulations.

1.2 Province of BC Carbon Credit Program

A market for carbon credits arose in BC from the regulated obligation either to remain carbon intensive compliant or incur a financial penalty. The Ministry of Energy, Mines and Low Carbon Innovation established a carbon credit program as a further incentive to reduce GHG emissions. Under the Act, Part 3 fuel suppliers are able to generate carbon credits by manufacturing or importing fuel with a carbon intensity below the levels outlined in the Regulation. Validated credits can then be used to offset debits, or sold to others needing to offset their debit position, to achieve the reduction targets and avoid penalties.

This provides the opportunity to Part 3 fuel suppliers like BC Ferries to earn revenue through the sale of surplus credits to offset the cost of transitioning to lower carbon intense fuels. The actual sale price of carbon credits is determined by supply and demand, with the cost of non-compliance determined by the Province.

1.3 BC Ferries Position as a Part 3 Fuel Supplier under BC-LCFS

Under the BC-LCFS, the carbon intensity of natural gas and LNG is below the established targets for carbon emissions. As natural gas requires compression, or liquefaction, before it can be used in transportation, it is considered to be "manufactured" at the time it is compressed, liquefied, or otherwise processed. As such, natural gas is designated as a Part 3 fuel.

BC Ferries currently operates a fleet of thirty-two vessels, with five currently operating on LNG. The Company replaced two retired diesel-consuming vessels with three Salish class LNG/diesel dual fuel vessels in 2016 and 2017, and converted its two Spirit class vessels to LNG/diesel dual fuel during their mid-life upgrades in 2018 and 2019. Additionally, a fourth Salish class LNG/diesel dual fuel vessel is expected to enter service in 2022 to replace a retiring diesel vessel.

Until recently, BC Ferries was required to purchase its natural gas from FortisBC, due to FortisBC's regulated minimum contract threshold requirements under its British Columbia Utilities Commission-approved tariff. FortisBC was regulated to require a minimum of 1,825,000 GJ/yr be purchased by customers in order to provide transportation and liquefaction services (BC Ferries currently requires approximately 1,000,000 GJ/yr). This framework meant that under the BC-LCRS, FortisBC (and not BC Ferries) was the Part 3 fuel supplier.

On September 16, 2019, the British Columbia Utilities Commission approved an application from FortisBC to allow their contract demand threshold to be reduced from 1,825,000 GJ/yr to 182,500 GJ/yr. This ruling allowed qualified customers to manage their own supply independently, or through a gas marketer, rather than through FortisBC.

These recent changes enabled BC Ferries to procure its own natural gas, and then to contract with FortisBC to liquefy the natural gas into LNG and transport it to BC Ferries for use in its fleet. As a result, in January 2021 BC Ferries enlisted the services of a gas marketer to procure its own natural gas and placed itself in a position to be defined

as a Part 3 fuel supplier under the BC-LCFS and eligible to earn carbon credits for using LNG.

In April 2021, BC Ferries submitted its first compliance report to the Ministry of Energy Mines and Low Carbon Innovation and, subsequently became listed as a Part 3 fuel supplier in July 2021. The Company is now awaiting approval and validation of its carbon credit compliance report.

BC Ferries expects to continue to generate credits for its natural gas purchases on a declining basis until the carbon intensity of LNG becomes equal to or exceeds the declining carbon intensity of the regulated compliance target. This is currently forecast to occur in approximately 2031/2032. Anticipated updates to the regulated compliance targets and the carbon intensity calculations would shorten the time horizon by an estimated two years.

1.4 Federal Regulation

The federal government is currently finalizing a Canada wide fuel standard, called the Canada Clean Fuel Standard ("CFS"). The CFS is designed to reduce Canada's greenhouse gas emissions by an expected 30 percent by 2030, as compared to the base year of 2005. The federal government has released its draft of the CFS and has completed public consultations. The final regulations were expected to be published in late 2021, with implementation scheduled for December 2022. The CFS will exist concurrently with BC-LCFS, meaning fuel suppliers will need to comply with both the federal and provincial regimes.

In conjunction with the CFS, Canada is also implementing a nationwide marketplace to trade carbon credits, currently called the Federal Greenhouse Gas Offset System. Much like the BC-LCFS, BC Ferries may qualify for credits under the federal program.

1.5 Additional Opportunities to Lower / Eliminate Emissions and Earn Carbon Credits

BC Ferries is currently assessing the financial feasibility of fully electrifying its Island class vessels. This program is separated into two stages. The first stage includes converting the Company's existing diesel-hybrid six Island class vessels to fully electric, including upgrades to shore-side terminal and electrical infrastructure, and is contingent upon BC Ferries receiving appropriate federal funding. The Commissioner has approved the Company's application under section 55 of the *Coastal*

Ferry Act for a proposed capital expenditure for stage one (Order 21-01). Stage two would include acquiring seven more Island class vessels and implementing them as fully electric as part of the Company's vessel replacement program.

In partnership with BC Hydro, BC Ferries recently submitted and received some funding for stage one of the Island Class Electrification Program under the Province's Part 3 agreement program, whereby Part 3 fuel suppliers are awarded credits for investment in low carbon fuel initiatives that increase the adoption of lower carbon intensive fuels used for transportation. The awarded credits are to be used towards the conversion investment to support the adoption of Part 3 fuels that reduce GHGs.

Stage 1 is in the detailed engineering and design phase, and is awaiting additional funding to proceed. Once completed, BC Ferries will have the potential to claim additional carbon credits by utilizing lower carbon intensive electricity in place of diesel, estimated at 17,500 carbon credits per year over a five-year period.

Section 2 -Value of Carbon Credits

2.1 British Columbia

The value of carbon credits in the BC market is based on a supply and demand model.

In prior years (2013-2017) there was a net surplus of carbon credits. However, as carbon intensity targets have declined, the penalties issued through carbon debits are now exceeding carbon credits. To remain in compliance, fuel suppliers have been willing to pay a premium for carbon credits. Where the penalty for non-compliance is currently $200 per debit, carbon credit values in calendar year 2020 were between $32.50-$385.20 per credit, and $85.00-$493.50 per credit for the first half of calendar year 2021.

It is uncertain how the market will respond as the regulated allowable carbon intensity continues to decline. Demand for credits may escalate, along with the price, or fuel suppliers may be willing to become non-compliant and pay the corresponding penalty.

It is important to note that the listed value of credits sold in any given time period may not reflect current market pricing, and that the wide range in value can be attributed to longstanding contracts between suppliers that span several years.

2.2 Agreements in Place for the Sale of Earned Carbon Credits

The Company expects to generate carbon credits from its use of lower carbon intensive energy sources. In anticipation of these awarded credits, BC Ferries entered into a credit purchase and sale agreement with an interested party whereby BC Ferries committed to sell up to 20,000 validated carbon credits earned in calendar year 2021.

2.3 Request is Consistent with the *Coastal Ferry Act* and Beneficial to Ferry Users

BC Ferries developed a Clean Futures Plan (2019) to reduce GHGs and to contribute to the Province's CleanBC plan. The plan focuses on the use of low carbon-intensive energy, maximizing energy efficiencies, and reducing emissions from waste. To meet these objectives, the plan recognizes the need for collaboration and partnerships with provincial and federal regulatory bodies, along with significant investment in advancing cleaner technologies.

BC Ferries expects to earn revenue generated from the sale of earned carbon credits, currently through its purchases of natural gas and the use of LNG. This revenue could

be recognized as general ancillary revenue, which, as with all such revenue, is included in the determination for future price caps. Alternatively, the revenue may be used as an offset to fuel costs and therefore included in the fuel deferral account.

Instead, BC Ferries' proposal to the Commissioner would see the utilization of the revenue generated from the sale of earned carbon credits to partially fund investments in the infrastructure identified in its Clean Futures plan and progress GHG emissions reduction. Specifically, BC Ferries' proposal is:

> ***The establishment of a Carbon Reduction Investment Account ("CRIA") to be funded through the sale of carbon credits, earned through activities such as its purchases of natural gas and use of LNG, to partially fund further infrastructure investments, such as the electrification of the Island class vessels.***

This proposal supports the public interest and aligns with section 38(1)(a.1) of the *Coastal Ferry Act*, which stipulates "ferry operators are to be encouraged to meet provincial greenhouse gas emission targets in their operations and when developing capital plans".

Consistent with this, utilizing the proceeds from earned carbon credits towards further investment in GHG emission reductions also assists in meeting the intent of the provincial carbon credit program. The carbon credit program(s) is intended to promote investments that carry a high capital cost to lower the CI of fuels consumed in BC, and more broadly, manufactured or imported into Canada.

Moreover, the proposed mechanism and approach operates in such a way as to benefit ferry users over time by lowering fare increase requirements for costs related to emission reduction investments. By directly investing revenues generated through earned carbon credits, further emission reduction investments support the interests of ferry users by requiring less incremental borrowing and providing the opportunity to earn additional carbon credits and corresponding revenue, through the use of electricity. This brings these benefits in a way that is consistent with how other regulators are addressing similar considerations.

To confirm this benefit, BC Ferries engaged EES Consulting, experts in cost of service and rate design in regulated environments, to assess the benefits of using carbon credit revenue to fund the capital cost associated with stage 1 of the Island Class

Electrification Program. EES Consulting's complete report is provided at Appendix A. Their analysis indicates material savings by using carbon credit revenue to fund the electrification program, which in turn, reduces upward pressure on fares:

> *Creating the proposed CRIA is expected to provide financial savings of $24 million to customers over the 2022 through 2045 period. These savings result from BC Ferries being able to lower the price caps on fares due to the reduction in capital costs funded by the capital credits revenues of roughly $24 million expected between 2022 and 2025.*

EES Consulting further noted that while other regulatory precedents are not exactly the same as BC Ferries' proposed CRIA, the overall intent of the Company's proposal is consistent with other regimes:

> *While the precedents reviewed are not identical to the proposed CRIA for BC Ferries, they do reflect the overall intent of deferring revenues and/or expenses into a future time period to better reflect the long-term benefits of low carbon activities. Because of the clean energy goals of the Province, treatment of activities that reduce greenhouse gas or otherwise promote clean air goals are awarded regulatory treatment that allows for both costs and benefits of activities to be spread over a longer time frame than for other types of activities.*
>
> *By looking at a longer-term approach, the long-term nature of clean energy projects is recognized, incentives are allowed to encourage spending on clean energy projects, and rate impacts are reduced in the short term to alleviate the impediments to clean energy spending.*
>
> *These are the same goals and objectives BC Ferries relied on when developing its proposal for the CRIA. By using the revenues from the carbon credits during the short term to help fund the Electrification program, the short-term rate impacts of the program are reduced in exchange for the long-term financial benefits associated with lower fuel costs and increased carbon credit revenues. While the proposal makes sense from a financial perspective over the long term, it provides even greater value when the resulting reductions in GHG are considered.*

Conclusion

Regulatory accounts have been part of the regulatory framework for BC Ferries since 2004, when the Commissioner first approved BC Ferries' fuel deferral account,[1] and are routinely used in economic (rate and price) regulation. A Carbon Reduction Investment Account supports the public interest, a principle now enshrined in the *Coastal Ferry Act*, by enabling the Company to reinvest the proceeds generated through the Provincial carbon credit program in initiatives to lower GHG emissions, as intended by the program, while at the same time lowering fare increase requirements to ferry users.

BC Ferries is to be encouraged under section 38(1)(a.1) of the *Coastal Ferry Act* to meet provincial greenhouse gas emission targets in its operations and when developing capital plans. Pursuant to section 38(5)(a) of the same Act, the Commissioner may order the Company to prepare a plan to indicate how it proposes to achieve an outcome, proposed by it, that is consistent with the objectives of that Act. Section 38(6) provides the authority to the Commissioner to approve the plan.

For the reasons set out above, BC Ferries submits that the Commissioner grant the requested order by requiring the creation of a Carbon Reduction Investment Account to achieve the outcome of this plan. In light of the time sensitivity associated with capturing the value of the credits and directing the revenue proceeds from their sale in support of the Island Class Electrification Program, BC Ferries respectfully requests that the Commissioner determine this application by April 30, 2022.

[1] The Commissioner approved the account by order dated September 28, 2004 and it has remained in place ever since, providing significant benefits to both ferry users and BC Ferries. The *Coastal Ferry Act* was later amended in 2012 to explicitly acknowledge the Commissioner's jurisdiction.

Appendix A - Treatment of Carbon Credit Revenues, EES Consulting

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