



Suite 1160, 1188 West Georgia Street
Vancouver, British Columbia
Canada V6E 4A2

T 604.697.6700
F 604.697.6703
www.corix.com

June 22, 2017

British Columbia Utilities Commission
Sixth Floor, 900 Howe Street, Box 250
Vancouver, British Columbia V6Z 2N3

Attention: Patrick Wruck, Commission Secretary & Manager Regulatory Services

Dear Mr. Wruck:

Re: Application for a Certificate of Public Convenience and Necessity for the Burnaby Mountain District Energy Utility filed February 28, 2017 (the "Application")

In respect of the Application, please find enclosed ten copies of Corix's Final Argument.

Should you have any questions or require any additional information, please contact me at 604-697-6702.

Yours truly,

A handwritten signature in blue ink, appearing to read "Ian Wigington".

Ian Wigington
Director, Regulatory

IN THE MATTER OF

The Utilities Commission Act, R.S.B.C. 1996, Chapter 473

and

Corix Multi-Utility Services Inc.

Certificate of Public Convenience and Necessity Application

for

Burnaby Mountain District Energy Utility

Corix Multi-Utility Services Inc.

FINAL ARGUMENT

Submitted 22 June 2017

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I. INTRODUCTION

1. This submission summarizes the position of Corix Multi-Utility Services Inc. ("**Corix**") on the Application for a Certificate of Convenience and Necessity ("**CPCN**") for the development of the Burnaby Mountain District Energy Utility ("**Burnaby Mountain DEU**").
2. This submission briefly reviews the main aspects of the Application and, in light of Commission staff and intervenor questions received during the Application process, clarifies and provides justification for the approvals sought by Corix.

II. OVERVIEW

3. Corix has operated a district energy utility serving the residents of UniverCity on Burnaby Mountain since 2011, following approval by the Commission under Order C-7-11 of the initial CPCN application for the UniverCity Neighbourhood Utility System (the "**UniverCity Application**").
4. As outlined in the UniverCity Application, the intent of Corix and the SFU Community Trust ("**SFU Trust**") was to transition from the current natural gas temporary energy centres to a permanent central energy facility ("**CEP**") supplied by a low carbon energy source when sufficient load supported the development of such a facility.¹
5. Simon Fraser University ("**SFU**") also independently evaluated its requirements for a low carbon energy source to supply its campus on Burnaby Mountain ("**SFU Campus**"). SFU Trust, SFU and Corix believe that a combined central energy plant ("**CEP**") serving UniverCity and the SFU Campus would be optimal.
6. As of January 27, 2017, Corix and SFU have entered into the Amended and Restated Infrastructure Agreement (the "**SFU Infrastructure Agreement**") dealing with the design, financing, construction, and ownership of the CEP and associated facilities, including the Campus Connection, the Campus ETS, and the UniverCity Connection (collectively, the "**Project Facilities**"), as those facilities are defined in the Application, and the Amended and Restated Thermal Energy Services Agreement (the "**TESA**"), which sets out the terms and conditions on which Corix will provide thermal energy service to SFU.
7. This Application for the development of the Burnaby Mountain DEU is the culmination of the process to develop an integrated sustainable energy system for the customer groups on Burnaby Mountain.

¹ Exhibit B-1, Section 3.1, Page 9.

8. Upon approval of the Application, the Burnaby Mountain DEU will be regulated by the Commission within the *Thermal Energy Systems – Regulatory Framework Guidelines* (August 2014) ("**TES Guidelines**").

III. COMMISSION APPROVALS SOUGHT

9. The approvals that Corix seeks are as follows:

- a) The grant of a CPCN pursuant to Section 45 of the *Utilities Commission Act* (the "**Utilities Act**") authorizing the construction and operation by Corix of the Project Facilities.
- b) Approval, pursuant to Sections 60 and 61 of the *Utilities Act*, of the TESA, including the cost of service, cost allocation and rate design principles set out in Schedule 1 (Cost of Service Parameters) and Schedule 2 (Cost Allocation and Rate Design Principles).
 - As noted above, the TESA sets out the terms and conditions under which Corix will provide thermal energy services to SFU. These provisions include:
 - a collar around capital costs and associated carrying charges recoverable from SFU;
 - a guaranteed supply of low carbon energy sufficient to meet the baseload energy demands of the SFU Campus;
 - operation of the CEP at or above a prescribed efficiency level;
 - ability of SFU to terminate the TESA without penalty after 20 years subject to providing the utility with sufficient notification (10 years); and
 - Commission oversight of all changes to rates and service provisions.
 - Corix is not seeking approval of final rates for SFU or UniverCity. Instead, it seeks approval of the TESA, the terms and conditions of which include the methodology by which the revenue requirement and rates for SFU would be established, including cost allocations between SFU and UniverCity and the rate design for SFU. The approval of the cost of service, cost allocation and rate design principles set out in the TESA is necessary to give SFU confidence the project will achieve the desired outcomes that are a condition for proceeding with the construction of the Project Facilities to develop the Burnaby Mountain DEU. Construction of the Project Facilities will commence before final rate approval by the Commission,

therefore approval of the cost of service, cost allocation and rate design principles set out in the TESA is a key part of this Application process.

- Prior to the in-service date of the Project Facilities, Corix will apply to the Commission for approval of the actual SFU rates and rate schedule (in the form set out in Schedule 3 to the TESA) and the actual UniverCity residential rates and rate schedule to be in effect as of the in-service date of the Project Facilities based on the actual costs to date and updated forecast at that time, and the approved cost of service and cost allocation principles set out in the Application.

Approval of the establishment of the following deferral accounts, as detailed in the TESA, Schedule 1, page 10:

- A deferral account to address any difference between forecast and actual property tax related to SFU infrastructure for the initial property tax assessment.
- A deferral account to capture the difference between the forecast and actual costs incurred by Corix for biomass and electricity to provide service to SFU with the account to be trued up annually and recovered through the SFU Capacity Charge.
 - While the TESA initially proposed to capture deferral account balances via the Consumption Charge, based on the Commission's Information Requests and after further consideration SFU and Corix will undertake the amendment of the TESA to change the mechanism for recovering the annual variances in biomass and electricity costs through the SFU Capacity Charge to ensure these will be recovered or refunded within a year and independent of the actual consumption of energy by SFU in the subsequent year.

IV. JUSTIFICATION

10. Many aspects support the compelling public interest underlying the development of the Burnaby Mountain DEU.
11. As a sustainable and economically efficient low carbon energy system, the Burnaby Mountain DEU supports the goals of both SFU Trust and SFU. It meets the SFU Trust's objectives for developing UniverCity in a sustainable manner and satisfies the requirements under the Infrastructure Agreement between Corix and SFU Trust, dated April 26, 2010 and amended February 2, 2012, to develop a low carbon energy supply. The Burnaby Mountain DEU also meets SFU's objective to

significantly reduce greenhouse gas ("**GHG**") emissions as part of its commitment to be carbon neutral.

12. The Burnaby Mountain DEU further serves several "government energy objectives" as outlined in the Utilities Act, incorporating by reference Section 2 of the *Clean Energy Act*, which the Commission is mandated to consider under Section 46(3.1) of the Utilities Act. The following objectives are relevant:
 - a) To use and foster the development in British Columbia of innovative technologies that support energy conservation and efficiency and the use of clean or renewable resources.
 - b) To reduce BC GHG emissions.
 - c) To encourage the switching from one kind of energy source or use to another that decreases GHG emissions in British Columbia.
 - d) To encourage communities to reduce GHG emissions and use energy efficiently.
 - e) To reduce waste by encouraging the use of waste heat, biogas and biomass.
13. A central biomass facility was determined to be the most viable option for supplying low carbon energy in a cost-effective manner in the quantity required.² The project benefits from economies of scale in supplying energy service to both the existing UniverCity community as it builds out, and to the SFU Campus. The Burnaby Mountain DEU will supply low carbon energy to UniverCity at a lower cost than would be the case if a discrete energy plant and associated facilities were built to serve only UniverCity. Estimated UniverCity customer rates for the project are lower than the rates for stand-alone systems sized to service only the UniverCity community either through biomass or using natural gas.³
14. The use of biomass fuel to provide heat energy in this type of application is recognized by provincial, federal and international agencies as an appropriate approach for mitigating the impacts of GHG when compared to using conventional fossil fuel energy sources. Corix estimates that the use of biomass will reduce GHG emissions by 11,600 tonnes/year⁴, a conservative figure, which takes into account the emissions from transporting the fuel to the biomass facility and does not include any emission savings from avoided biomass disposal. According to the BC Ministry of Environment's "2016/17 B.C Best Practices Methodology for Quantifying Greenhouse Gas Emissions", CO² emissions from burning biomass is considered "carbon-neutral". Moreover,

² Exhibit B-1, Section 3.2, Page 10.

³ Exhibit B-1, Section 8.13, Page 46.

⁴ Exhibit B-2, Section 3.1, Pages 6 - 8.

the *Clean Energy Act* defines "clean or renewable resource" as biomass, biogas, geothermal heat, hydro, solar, ocean, wind or any other prescribed resource.

15. The biomass that will be used in the facility must meet stringent specifications to comply with Metro Vancouver air quality requirements and also the performance targets for the facility⁵. A preferred fuel supplier, Cloverdale Fuel, was selected based on meeting those specifications, as well as their proven track record from many years supplying the local market.⁶ Corix is currently in discussions with this supplier to secure a suitable long-term reliable supply of biomass that meets the needs of the SFU Campus and the UniverCity residents for cost effective low carbon energy.
16. Capital and operations costs are fairly allocated between UniverCity and SFU.
 - a) All costs associated with dedicated facilities and equipment are directly allocated to the respective customer group⁷. These include:
 - Campus Connection, Campus ETS and SFU Interconnection at CEP serving SFU and related operations and maintenance of these facilities, and
 - UniverCity Connection, natural gas equipment, UniverCity interconnection at CEP, UniverCity ETS and DPS serving UniverCity customers, related operations and maintenance of these facilities and natural gas commodity used by UniverCity customers for peaking and back-up.
 - b) For the shared portion of the CEP and associated operations, the proposed cost allocations ensure that both SFU and the UniverCity residents benefit from the economies of scale the facility provides while avoiding cross-subsidization between the two customer groups.
 - For shared development costs, which include Project Management Costs, Construction Management Costs and Development Costs, allocation was split 50/50 in recognition that the costs are largely comprised of fixed costs that would not change with the size of the CEP and that each party would have incurred comparable costs had the decision been to pursue independent central energy projects.⁸ The Development Costs do not include any SFU costs associated with due diligence and negotiations, which indirectly benefit UniverCity customers. For Construction Management Costs, the typical cost estimation using 6% of total

⁵ Exhibit B-4, Section 1, Pages 1 – 3.

⁶ Exhibit B-2, Section 5.3, Page 14; Exhibit B-6, Section 32.1, Pages 5 – 6.

⁷ Exhibit B-1, Table 19 and Table 21, Pages 40, 42 – 43.

⁸ Exhibit B-1, Table 19, Pages 40 – 42.

capital costs was deemed inappropriate for a project of this scale, and Corix used a cost based on the estimated time required for a dedicated Project Construction Management Team.⁹

- Corporate Overhead costs, which include legal, accounting, regulatory, human resources, IT and management and administration costs were allocated based on total peak energy load demand required by each customer group. This approach recognizes the investment made by the utility for each customer group, is stable from year to year (unlike factor allocation methods such as the Massachusetts Formula), and is easily understood.¹⁰
- Utilities, Licensing and Chemical Treatment costs are grouped together because they are impacted by the relative size of the CEP (installed capacity), and these costs are allocated based on each customer group's installed capacity.¹¹

17. The proposed rate design for SFU ensures UniverCity customers only pay for the portion of capacity allocated to UniverCity and for the energy from the biomass facility used by UniverCity. In periods where SFU does not take biomass energy, SFU will continue to pay for the fixed portion of its costs – the Capacity Charge and Availability Charge – and no extra costs will be allocated to UniverCity customers. Under the terms of the TESA, during periods of low thermal energy demand, SFU is obligated to give preference to obtaining its required thermal energy from the CEP to ensure the biomass facility operates within acceptable efficiency parameters and that biomass service to UniverCity customers is not compromised.¹²
18. Through a competitive tender process Wellons Canada, a local firm, was chosen as the preferred vendor for the biomass facility in recognition of their proven technology and track record for delivering successful biomass facilities locally and across North America.¹³
19. The Application proposes an innovative combination of conventional cost of service rates for UniverCity customers (continuing the approach approved by the Commission since the inception of service in 2011), and a cost of service approach for service to SFU that, as part of the TESA, was negotiated between two sophisticated parties and includes incentive mechanisms paid for by SFU that balance the risks and rewards of SFU and the utility while encouraging Corix to minimize

⁹ Exhibit B-2, Section 19.7, Page 39.

¹⁰ Exhibit B-2, Sections 22.4 and 22.5, Pages 43 – 44.

¹¹ Exhibit B-2, Sections 22.6 - 22.7, Pages 44 – 45.

¹² Exhibit B-1, Appendix II, Page 10.

¹³ Exhibit A-2, Sections 4.5 and 4.6, Pages 10 – 11.

capital costs and maximize plant output efficiencies, which is in keeping with the Commission's TES Guidelines and will benefit all customers.

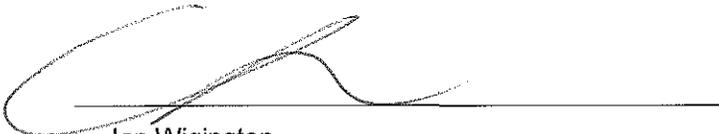
V. CONCLUSION AND SUGGESTED FORM OF ORDER

20. The Burnaby Mountain DEU is in the public interest for the following compelling reasons:
- a) It provides cost-effective low carbon energy to customers.
 - b) It meets the sustainability objectives of SFU Trust for the ongoing development of the UniverCity community.
 - c) It assists SFU in meeting its GHG reduction targets.
 - d) It aligns with provincial energy and climate action policy objectives including the BC Energy Plan, *Clean Energy Act* and the *Greenhouse Gas Reduction Targets Act*.
 - e) It represents a carefully negotiated arrangement between SFU and Corix that is fair and reasonable for all customers.
 - f) It aligns with the Commission's TES Guidelines and the Utilities Act since it encourages Corix "to increase efficiency, reduce costs and enhance performance."
21. Corix requests the Commission's approval of the Application and the issuance of an order in the form attached.

Vancouver, BC

June 22, 2017

ALL OF WHICH IS RESPECTFULLY SUBMITTED



Ian Wigington,
Director Regulatory

DRAFT

IN THE MATTER OF

The Utilities Commission Act, R.S.B.C. 1996, Chapter 473

and

Corix Multi-Utility Services Inc.

Certificate of Public Convenience and Necessity Application

for

Burnaby Mountain District Energy Utility

ORDER

WHEREAS:

- A. Corix Multi-Utility Services Inc. ("**Corix**") established and operates the UniverCity Neighbourhood Utility Service in accordance with Order C-7-11, the approved Certificate of Public Convenience and Necessity ("**CPCN**") issued by the British Columbia Utilities Commission (the "**Commission**") on May 6, 2011, and subsequent Order G-48-16A issued by the Commission on April 11, 2016.
- B. In June 2016, Corix and Simon Fraser University ("**SFU**") entered into an infrastructure agreement (as amended and restated on January 27, 2017, the "**SFU Infrastructure Agreement**") and a thermal energy services agreement (as amended and restated on January 27, 2017, the "**TESA**", (together the "**Agreements**"), whereby Corix, subject to Commission approval, would construct and operate a permanent low-carbon biomass central energy plant ("**CEP**") using locally sourced wood fuel to provide low-carbon energy to SFU located on Burnaby Mountain ("**SFU Campus**") and to the adjacent UniverCity community as it builds out.
- C. The Agreements provide the framework for the establishment and operation of an expanded utility, the Burnaby Mountain District Energy Utility ("**Burnaby Mountain DEU**"), to provide the SFU Campus with base load energy service (SFU will retain its existing natural gas energy facility for peaking and back-up) and to provide energy service to the UniverCity community, via the construction and operation by Corix of the CEP and associated facilities.
- D. On February 28, 2017, Corix filed an application (the "**Application**") for a CPCN under sections 45 and 46 of the *Utilities Commission Act* ("**Utilities Act**") in respect of the Burnaby Mountain DEU and approval of the TESA.

E. On March 20, 2017, by Order G-40-17, the Commission established a Regulatory Timetable, which has guided a process of information requests and responses by the Commission, various intervenors and Corix.

NOW THEREFORE the Commission orders as follows:

1. A CPCN is granted to Corix pursuant to Section 45 of the Utilities Act, authorizing the construction and operation by Corix of the CEP and associated facilities including the Campus Connection, the Campus ETS, and the UniverCity Connection as defined in the Application.
2. Approval is granted pursuant to Sections 60 and 61 of the Utilities Act of the TESA, including the cost of service, cost allocation and rate design principles set out in Schedule 1 (Cost of Service Parameters and establishment of two Deferral Accounts) and Schedule 2 (Cost Allocation and Rate Design Principles). The following Deferral Accounts are to be established:
 - A deferral account to address any difference between forecast and actual property tax related to SFU infrastructure for the initial property tax assessment.
 - A deferral account to capture the difference between the forecast and actual costs incurred by Corix for biomass and electricity to provide service to SFU with the account to be trued up annually and recovered through the SFU Capacity Charge.

DATED at the City of Vancouver, in the Province of British Columbia, this _____ day of _____, 2017.

BY ORDER

Original Signed By: