

July 7, 2023

Via eFile

British Columbia Utilities Commission  
Suite 410, 900 Howe Street  
Vancouver, British Columbia V6Z 2N3

Attention: Patrick Wruck, Commission Secretary

Dear Mr. Wruck:

**Re: Corix Multi-Utility Services Inc.  
Neighbourhood District Energy System at the University of British Columbia  
Application to flow through energy costs**

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Corix Multi-Utility Services Inc. (Corix) hereby submits an application for the Neighbourhood District Energy System at the University of British Columbia (UBC NDES) seeking approval to discontinue capturing energy cost variances in the existing Revenue Deficiency Deferral Account and instead flow through energy cost variances to ratepayers by:

- establishing an Energy Cost Reconciliation Account; and
- replacing the existing Variable Charge with the Variable Energy Charge effective September 1, 2023.

This application has been prepared in accordance with the British Columbia Utilities Commission (BCUC) Regulatory Account Filing Checklist, which is Appendix B to BCUC's Regulatory Account Filing Checklist letter issued on May 3, 2017.

Please contact [RegulatoryAffairs.Canada@corix.com](mailto:RegulatoryAffairs.Canada@corix.com) if you have any questions.


All of which is respectfully submitted,

**Corix Multi-Utility Services Inc.**

Per:



Errol South  
Director, Regulatory Affairs



# Neighbourhood District Energy System at the University of British Columbia (UBC NDES)

## Application to flow through energy costs

July 2023

### Submitted To:

**British Columbia Utilities Commission**  
Suite 410, 900 Howe Street  
Vancouver, BC V6Z 2N3

Contact:

**Patrick Wruck**  
Commission Secretary

### Submitted By:

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## 1. APPROVALS SOUGHT

Corix Multi-Utility Services Inc. (“Corix”) is the owner and operator of the University of British Columbia (“UBC”) Neighbourhood District Energy System (“NDES”), the district energy utility providing thermal energy utility services to the community at UBC (“UBC NDES”).

Corix submits this application to the British Columbia Utilities Commission (“BCUC”) seeking approvals to: (i) replace the approved existing Variable Charge with a Variable Energy Charge; and (ii) capture non-controllable energy cost variances in an Energy Cost Reconciliation Account (“ECRA”) (the “Application”). These non-controllable energy cost variances are presently approved to be captured in the existing Revenue Deficiency Deferral Account (“RDDA”).

Specifically, Corix seeks under Section 61(4) of the *Utilities Commission Act*:

- 1) Approval to flow-through energy costs by:
  - a. replacing the existing Variable Charge with a Variable Energy Charge, which recovers only energy costs, commencing on September 1, 2023, as discussed in Section 4.1.1;
  - b. establishing an Energy Cost Reconciliation Account commencing on September 1, 2023, as discussed in Section 4.1.4;
  - c. discontinuing capturing energy related variances in the Revenue Deficiency Deferral Account after August 31, 2023, as discussed in Section 4.1.4;
  - d. establishing a Variable Energy Charge rate setting mechanism, as discussed in Section 4.1.2; and
  - e. establishing the proposed regulatory process to adjust the Variable Energy Charge, as discussed in Section 4.1.2.
- 2) Approval as set out in Section 4.1.3 on a final basis to:
  - a. set the proposed Variable Energy Charge per kWh at \$0.0516, effective September 1, 2023; and
  - b. rescind the Variable Charge per kWh rates in the tariff that was previously approved in Order G-84-15 for the period from September 1, 2023 to year 2034.
- 3) Approval that if the final order regarding this Application has not yet been issued by the BCUC before August 31, 2023, (i) the Variable Energy Charge per kWh be set at \$0.0516, effective September 1, 2023 on an interim basis, and (ii) the Variable Charge be set at \$0.0000 per kWh, effective September 1, 2023 on an interim basis, as discussed in Section 4.2.
- 4) Approval that if interim rates are implemented, Corix proposes that the final decision to set the permanent rates the same as the interim rates so customers would avoid any subsequent adjustment in rates. If any calculation or adjustment is required arising from interim and final rates differences, Corix proposes to place those adjustments into the ECRA for future recovery.

A draft Order has been provided with this filing as Appendix A.

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## 2. REGULATORY REVIEW PROCESS

Corix proposes that the BCUC review this Application internally without the use of a public review process for the following reasons:

- i. Energy costs are non-controllable costs for the utility and the proposals in this application flow-through these costs to customers in a fair, just and reasonable manner.
- ii. Variances between energy related revenues and energy costs are currently captured in the existing Revenue Deficiency Deferral Account. This Application seeks on a go forward basis commencing September 1, 2023 to instead capture variances in actual energy revenues and actual energy costs in an Energy Cost Reconciliation Account (ECRA).
- iii. This Application seeks to implement a Variable Energy Charge Rate Setting Mechanism that emulates the process already approved for Corix Burnaby Mountain District Energy Utility – UniverCity.
- iv. The annual ECRA rate re-setting process will eliminate any long-term intergenerational inequity issues regarding the use of energy costs that are consumed each year and not fully recovered within a short period from the consumption year.
- v. As noted in Section 6 of this Application, the use of an ECRA to flow-through energy related costs to customers has already been reviewed and approved by the BCUC for other regulated energy utilities in BC.
- vi. The Application has been prepared in accordance with the BCUC’s Regulatory Account Filing Checklist and is thorough, detailed and complete (see Section 4.3).

An internal BCUC review allows BCUC staff to send written questions to the utility seeking additional information. If BCUC staff considers that written questions are required, Corix submits that one (1) round of BCUC staff questions should suffice given the similarity with Corix Burnaby Mountain District Energy Utility – UniverCity and also given that this topic has been reviewed and addressed by the BCUC for many other utilities in the past.

### 3. BACKGROUND

#### 3.1 PRIOR BCUC APPROVALS FOR UBC NDES

UBC NDES' initial application for a Certificate of Public Convenience and Necessity ("CPCN") was reviewed by the BCUC and led to a Decision dated December 12, 2014 accompanied by Order C-11-14A dated December 12, 2014 and signed on December 16, 2014. Order C-11-14A denied a CPCN however the BCUC indicated it would approve a CPCN for Phase 1 Wesbrook if certain changes were made to the application that included filing a revised Infrastructure Agreement with the Carbon Emission Rider removed and a revised System Extension Policy that is aligned with the Commission's Thermal Energy Systems Regulatory Framework Guidelines (2014) ("TES Guidelines").

Subsequently, Corix filed a revised application in accordance with Order C-11-14A, which resulted in the BCUC issuing a CPCN in Order C-2-15 dated March 10, 2015 for UBC NDES Phase 1 – Wesbrook. In response to the CPCN issuance Corix then filed a Final Rate Application for Phase 1 – Wesbrook. The BCUC then issued Order G-84-15 dated May 25, 2015 that approved final rates for UBC NDES subject to certain decision adjustments.

Order G-84-15 approved, in part, the following:

- a 20-year levelized rate structure from Phase 1 – Wesbrook at UBC NDES (Directive 3).
- the accounting treatment of the revenue deficiency deferral account (Directive 5).
- the categorization of controllable and non-controllable costs for the purpose of variances for the deferral account (Directive 6).
- the proposed rate design and schedule of residential rates (Directive 7).

Corix filed its tariff pages in accordance with Order G-84-15. BCUC accepted the UBC NDES tariff on June 12, 2015. The approved UBC NDES tariff rates commenced with an effective date of June 1, 2015 (see Section 3.5).

#### 3.2 APPROVED RATE DESIGN – TWO PART RATE STRUCTURE

The approved tariff in Section C - Rate Schedule, page 16 of 18, shows a two-part rate structure:

- 1) Basic Charge Monthly Fixed Rate per Building Square Metre, and
- 2) Variable Charge per kWh.

Section C includes a table of escalating rates for the period from 2015 to 2034, inclusive (see Section 3.5). There have been no changes to the tariff since the last approval by Order G-84-15, more than eight years ago.

#### 3.3 FIXED AND VARIABLE CHARGES

Corix in its 2015 Final Rate Application for UBC NDES filed on February 10, 2015 stated in Section 5.1.1 Fixed and Variable Charges the following:



“Corix proposes an initial allocation of the annual NDES rate per MWh shown in *Table 28: Residential Rate Design: Facts and Assumptions* above based on 61.7% fixed charges and 38.3% variable charges. For this purpose, the fixed charges in the annual revenue requirement include all capital charges (i.e., depreciation, amortization, interest, return on equity and taxes) and all indirect charges (i.e., insurance, administration and overhead, land leases, water and sewer fees, UBC service levy, UBC franchise fee, and property tax) as well as operating costs (i.e., labour and maintenance). Variable charges include fuel. The 61.7% / 38.3% allocation is supported by the relative fixed versus variable charges included in the NDES portion of annual revenue requirement, calculated on an NPV basis over a 10-year forecast period. The rates will reflect a 61.7% basic charge expressed as an amount per square meter of floor space for each connected building, and a 38.3% commodity charge expressed as an amount per MWh of energy provided to the customer building.”

Additionally, in the rate application on Table 28: Residential Rate Design: Facts and Assumptions, page 39, include the following table with Commodity charge % at 38.3%. Table 28 from the 2015 rate application is shown below.

**Table 28: Residential Rate Design: Facts and Assumptions**

RESIDENTIAL RATE DESIGN	
Annual escalation	2.90%
Rate per MWh (year 1)	\$ 98.58
Levelized rate per MWh	\$ 133.73
Basic charge %	61.7%
Commodity charge %	38.3%
Basic charge per sq. metre (year 1)	\$ 0.498
Commodity charge per kWh (year 1)	\$ 0.038

Corix further elaborated in Section 5.1.2 Controllable and Non-controllable Costs where in the second bullet it stated:

“Non-controllable costs are all charges relating to the NDES occurring in a year that Corix is unable to influence or minimize. This would include all fuel costs, the cost of necessary supplies, changes to the cost of external labour, and all taxes, levies and fees.” [underline added for emphasis]

Prior to Order G-84-15, the BCUC had issued Order C-11-14A dated December 12, 2014 and signed December 16, 2014. Directive 4(a) of Order C-11-14A approved:

“an initial allocation of the NDES rate proposed by CMUS of 66.3 percent fixed charge and a 33.7 percent variable charge. However, the Panel directs that CMUS recalculate the variable and fixed components of the rate based on the revised 20-year levelized rate structure as directed in Section 5.2.1”.

Also, the accompanying decision to Order C-11-14A on page 43 stated:

“Therefore, the Panel will approve a rate design with an initial allocation of the NDES rate proposed by CMUS of 66.3 percent fixed charge and a 33.7 percent variable charge. However, the Panel directs that CMUS recalculate the variable and fixed components of the rate based on the revised 20-year levelized rate structure as directed in this decision.”

The 33.7% in 2014 (mentioned in C-11-14A) was later revised to 38.3% in the 2015 rate application.

#### 3.4 **APPROVED VARIABLE (COMMODITY) CHARGE WITH RDDA FOR VARIANCES**

The BCUC approved a fixed and variable charge schedule of rates in Order G-84-15. In 2015, the estimated revenues from the Variable (Commodity) Charge % would be 33.7% of total revenues. In other words, the commodity revenues would cover the estimated fuel costs.

Given that there would be annual differences between the energy revenues collected and the energy costs incurred these would be captured in the approved RDDA. The energy cost or “fuel cost” (natural gas and electricity commodity costs) are considered non-controllable costs that is eligible to be captured for variance treatment in the RDDA.

#### 3.5 **EXISTING APPROVED SCHEDULE OF RATES**

The rate schedule approved by Order G-84-15 and accepted in the UBC NDES tariff on June 12, 2015 is shown in Table 1 that follows. As shown in the table, the Variable Charge per kWh has been set for 20 years from 2015 to 2034. The rates for the charges escalate a small amount each year.

**Table 1: UBC NDES Section C tariff rates, page 16 of 18 (approved by Order G-84-15)**

UBC Neighbourhood District Energy System Schedule of Residential Rates		
Year	Basic Charge Monthly Fixed Rate per Building Square Metre	Variable Charge per kWh
2015	\$0.4967	\$0.0377
2016	\$0.5111	\$0.0388
2017	\$0.5259	\$0.0399
2018	\$0.5411	\$0.0411
2019	\$0.5568	\$0.0423
2020	\$0.5730	\$0.0435
2021	\$0.5896	\$0.0447
2022	\$0.6067	\$0.0460
2023	\$0.6243	\$0.0474
2024	\$0.6424	\$0.0487
2025	\$0.6610	\$0.0502
2026	\$0.6802	\$0.0516
2027	\$0.6999	\$0.0531
2028	\$0.7202	\$0.0547
2029	\$0.7411	\$0.0562
2030	\$0.7626	\$0.0579
2031	\$0.7847	\$0.0595
2032	\$0.8075	\$0.0613
2033	\$0.8309	\$0.0630
2034	\$0.8550	\$0.0649

### 3.6 BC CARBON TAX ANNUAL INCREASES TO AT LEAST 2030

The BC Government in the Fall of 2021 issued its CleanBC Roadmap to 2030.<sup>1</sup> The CleanBC Roadmap provides B.C.’s plan to cut greenhouse gas emissions and build a sustainable, low-carbon future.

On February 28, 2023, the BC Government announced the following: “Effective April 1, 2023, carbon tax rates are increased by \$15 per tonne of carbon dioxide equivalent emissions (CO<sub>2</sub>e) annually until reaching \$170 per tonne of CO<sub>2</sub>e in 2030.”<sup>2</sup>

The carbon tax rate was recently increased on April 1, 2023. The carbon tax rate schedule for years beginning April 1, 2022, to 2026 has been issued by the BC Government.<sup>3</sup> Table 2 below summarizes the carbon tax rate schedule for natural gas in dollars per gigajoule (\$/GJ).

<sup>1</sup> BC CleanBC Roadmap to 2030, [https://www2.gov.bc.ca/assets/gov/environment/climate-change/action/cleanbc/cleanbc\\_roadmap\\_2030.pdf](https://www2.gov.bc.ca/assets/gov/environment/climate-change/action/cleanbc/cleanbc_roadmap_2030.pdf)

<sup>2</sup> B.C. Provincial budget tax changes, <https://www2.gov.bc.ca/gov/content/taxes/tax-changes/budget-changes#:~:text=Effective%20April%201%2C%202023%2C%20carbon,tonne%20of%20CO2e%20in%202030>

<sup>3</sup> Carbon tax rates by fuel type, <https://www2.gov.bc.ca/gov/content/taxes/sales-taxes/motor-fuel-carbon-tax/publications/carbon-tax-rates-by-fuel-type>

**Table 2: Carbon Tax rates for natural gas**

Effective Date	Carbon tax rate (\$/GJ)	Change (%)	Change (%)
April 1, 2022	\$2.5588		
April 1, 2023	\$3.2384	\$0.6796	27%
April 1, 2024	\$3.9859	\$0.7475	23%
April 1, 2025	\$4.7334	\$0.7475	19%
April 1, 2026	\$5.4809	\$0.7475	16%

The table above shows a dramatic increase in the carbon tax through to 2026. Based on the BC Government’s February 28, 2023 news release the carbon tax will continue to increase each year until at least 2030. The carbon tax may rise further after 2030.

The carbon tax is paid by Corix through the invoices from its natural gas service provider, FortisBC Energy Inc. There is no carbon tax on Corix’s thermal energy service at UBC NDES. Therefore, the direct recovery from ratepayers of the carbon tax paid is through the rates charged in the existing approved Variable Charge. Presently any difference between the actual energy costs paid by Corix and the actual Variable Charge revenues recovered by Corix in its rates is captured in the RDDA.

### 3.7 HISTORY OF VARIABLE CHARGE REVENUES COMPARED TO ENERGY COSTS

Table 3 below compares the total energy costs incurred to the Variable Charges received in revenues.

**Table 3: Historical Variable Charges Shortfall / (Surplus)**

	2015 <u>Actual</u> (1)	2016 <u>Actual</u> (2)	2017 <u>Actual</u> (3)	2018 <u>Actual</u> (4)	2019 <u>Actual</u> (5)	2020 <u>Actual</u> (6)	2021 <u>Actual</u> (7)	2022 <u>Actual</u> (8)	2023 <u>Projected</u> (9)	G-84-15 2024 <u>Forecast</u> (10)
Gas	\$8,855	\$86,997	\$195,228	\$247,646	\$348,061	\$504,583	\$708,199	\$1,083,844	\$1,008,304	\$1,212,037
Electricity	\$0	\$25,678	\$39,177	\$41,843	\$39,583	\$33,971	\$49,273	\$37,406	\$42,895	\$46,723
Total Energy Costs (\$)	\$8,855	\$112,675	\$234,405	\$289,490	\$387,643	\$538,554	\$757,472	\$1,121,251	\$1,051,199	\$1,258,760
Approved Variable Charge per kWh	\$0.0377	\$0.0388	\$0.0399	\$0.0411	\$0.0423	\$0.0435	\$0.0447	\$0.0460	\$0.0474	\$0.0487
Consumption (kWh)	178,720	2,597,280	5,965,000	8,643,000	11,031,000	14,475,283	17,897,310	19,304,117	19,464,816	21,287,362
Revenue from Variable Rate	\$6,738	\$100,774	\$238,004	\$355,227	\$466,611	\$629,675	\$800,010	\$887,989	\$922,632	\$1,036,695
Annual Shortfall / (Surplus)	\$2,117	\$11,900	(\$3,598)	(\$65,738)	(\$78,968)	(\$91,121)	(\$42,538)	\$233,261	\$128,567	\$222,066
Cumulative Shortfall / (Surplus)	\$2,117	\$14,017	\$10,419	(\$55,319)	(\$134,287)	(\$225,408)	(\$267,946)	(\$34,685)	\$93,882	\$315,948

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### Recent growing disconnect between existing Variable Charge recoveries and energy costs incurred

The Variable Charge rates that were set in 2015 represented the long-term smoothed energy costs for the next 20 years assuming nominal price increases of natural gas and electricity. Electricity costs have been relatively stable. However, natural gas costs have risen substantially particularly since 2022. Given recent rises in natural gas commodity costs and much higher carbon taxes, Corix does not expect the Variable Charge revenue to recover actual incurred energy costs going forward. This difference can be seen with the annual shortfalls for 2022 Actual, 2023 Projected<sup>4</sup>, and 2024 Forecast, which result in a cumulative shortfall of \$315,948 by the end of 2024. The forecast for 2024 is based on the assumption that the previously approved January 1, 2024 Variable Rate of \$0.0487 / kWh would be charged.

To address this issue, Corix in Section 4.1 of this Application has proposed refinements to the variable portion of the rates (Variable Energy Charge) that would be annually updated to better match the actual incurred energy costs. This proposal will better align the energy cost recovery process with other Corix owned thermal energy utilities, BMDEU – UniverCity and Dockside Green Energy (see Section 6), where they have an annual energy cost reconciliation and recovery process.

### 3.8 REVENUE DEFICIENCY DEFERRAL ACCOUNT

The existing approved Revenue Deficiency Deferral Account (RDDA) captures allowed variances each year. The total actual revenues in the year less the total allowed costs in the year are included in the RDDA each year. When revenues are higher than allowed costs, the net amount is a surplus and thus a credit to the RDDA. If the revenues are lower than allowed costs, the net amount is a deficit and thus a debit to the RDDA. The last UBC NDES rate application (approved by Order G-84-15) and the CPCN application (approved by CPCN Order C-2-15) anticipated that cumulatively over 20 years, the RDDA would be in a deficit in the early years and over time the annual surpluses would fully draw down the balance in the 20th year.

For the purpose of the RDDA the actual non-controllable costs (including energy costs) are allowed to be flowed through to customers. Controllable costs are not trued-up to actual and held at test year figures for the purpose of calculating the annual RDDA balance.

The energy costs that are the subject of this Application are uncontrollable costs that presently are captured in the RDDA for any variances between actual variable revenues and actual energy costs.

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<sup>4</sup> Based on five (5) months of actuals from January to May inclusive.

## 4. ENERGY COST RECONCILIATION ACCOUNT

### 4.1 THE PROPOSAL

Corix proposes to create an Energy Cost Reconciliation Account (ECRA) to record forecast variances for the non-controllable energy cost from September 1, 2023 onwards. Consistent with the BCUC Regulatory Account Filing Checklist this forecast variance represents the variance between actual energy revenues and actual energy costs.

Corix in this Application is proposing an ECRA for UBC NDES that emulates the prior ECRA approvals for Corix BMDEU – UniverCity in BCUC Order G-27-21. The BCUC in its Decision dated September 24, 2021 and Order G-279-21 for BMDEU – UniverCity approved a Variable Energy Charge and established an Energy Cost Reconciliation Account on permanent basis, to capture actual energy costs and revenues from the Variable Energy Charge.

Prior to Order G-27-21, BMDEU – UniverCity had a rate structure and RDDA that was very similar to what UBC NDES has now. Table 4 below provides a comparison of how BMDEU – UniverCity transitioned from its Old Rate Design (column a) to its Current Rate Design (column b) that was approved in Order G-27-21. In this Application, Corix proposes the same approach to transition UBC NDES from its Existing Rate Design (column c) to the Proposed New Rate Design (column d) that emulates what has been approved for BMDEU – UniverCity.

**Table 4: BMDEU – UniverCity and UBC NDES Rate Design Comparison**

Utility:	BMDEU – UniverCity		UBC NDES	
Rate Design:	Old Rate Design (Prior to G-27-21)	Current Rate Design (With G-27-21)	Existing Rate Design (With G-84-15)	Proposed New Rate Design
	(a)	(b)	(c)	(d)
Variable Charge per kWh	Yes	No	Yes	No
Revenue Deficiency Deferral Account (RDDA)	Yes (non-energy and energy)	Yes (non-energy only)	Yes (non-energy and energy)	Yes (non-energy only)
Variable Energy Charge per kWh	No	Yes	No	Yes
Energy Cost Reconciliation Account (ECRA)	No	Yes	No	Yes
Annual Energy Charge rate setting process	No	Yes	No	Yes

#### 4.1.1 Proposal to maintain two-part rate structure with modification to the variable charge

Currently Corix recovers UBC NDES’ costs through a two-part rate structure with a Basic Charge Monthly Fixed Rate per Building Square Metre (fixed charge) and a Variable Charge per kWh (variable charge). In this Application Corix proposes to retain the two-part rate structure but to replace the Variable Rate with a Variable Energy Charge that will facilitate the recovery of total energy costs (natural gas and electricity) from UBC NDES customers on a flow-through basis. The balance of the Revenue

Requirements would then be addressed through the Basic Charge. These rates would appear as two separate line items on customer bills:

- Basic Charge (\$ / m<sup>2</sup> / month)
- Variable Energy Charge (\$ / kWh)

The Variable Energy Charge commencing on September 1, 2023 would be set on a forecast basis to recover the total energy costs of UBC NDES (see Section 4.1.2).

This proposal of a two-part rate structure for UBC NDES would emulate the approval for BMDEU – UniverCity in Order G-27-21.

Corix is not requesting any change to the Basic Charge at this time. Any changes to the Basic Charge will be addressed in a future revenue requirements and rates application for UBC NDES.

#### **4.1.2 Proposal to modify the Rate Design and implement Variable Energy Charge Rate Setting Mechanism**

Corix proposes to modify the existing RDDA and establish a new regulatory account, the ECRA.

Energy costs are variable costs that are impacted by energy prices in the market and customer consumption and are therefore outside of Corix's control. Corix proposes the following:

- To recover total energy costs (natural gas and electricity) for UBC NDES on a flow-through basis without markup through a Variable Energy Charge based on forecast customer consumption commencing on September 1, 2023. The Variable Energy Charge would not recover any costs other than energy costs;
- To include Variable Energy Charge revenue in the ECRA. Since the Variable Energy Charge will be based on forecast costs and actual costs will differ from forecast costs due to price or consumption variances, the difference between the actual energy costs and the revenue collected through the Variable Energy Charge would be tracked in the ECRA; and
- To adjust the Variable Energy Charge associated with energy costs on a periodic basis in a manner consistent with a 12-month amortization period for the balance in the ECRA, subject to BCUC approval.

Corix proposes to establish a Variable Energy Charge on September 1, 2023. On the same day, the ECRA will start out with a nil balance.

Corix proposes to submit a compliance filing, no later than March 1<sup>st</sup> of each year, that provides information on the year-end balance in the ECRA, the forecast energy costs, the forecast revenue at existing rates and, if required, requests a change in the Variable Energy Charge effective April 1<sup>st</sup> with the aim of amortizing the balance in the deferral account within 12 months. The first of such filing would occur March 1, 2024. A March 1<sup>st</sup> filing would provide Corix sufficient time to review year-end figures for the previous year and energy supply rate changes effective January 1<sup>st</sup> of each year.

Corix proposes to establish a Variable Energy Charge Rate Setting Mechanism for UBC NDES’ Variable Energy Charge, based on Trigger Ratios (0.95 and 1.05), which equate to a ±5 percent dead-band range for the ECRA Ratio. The ECRA Ratio is defined below:

$$ECRA\ Ratio = \frac{12\ mth\ Forecast\ Variable\ Energy\ Charge\ Revenue}{(12\ mth\ Forecast\ Energy\ Costs + ECRA\ Balance\ at\ beginning\ of\ 12\ mth\ Forecast\ period)}$$

No change to the Variable Energy Charge would be required if the ECRA Ratio is within the dead-band range bounded by the Trigger Ratios as follows:  $0.95 \leq ECRA\ Ratio \leq 1.05$ . If the ECRA Ratio is lower than the 0.95 Trigger Ratio or higher than the 1.05 Trigger Ratio, then Corix would request a change in the Variable Energy Charge that would result in the 12-month amortization of the balance in the ECRA.

Under Section 61(4) of the UCA, the BCUC can approve a new schedule of rates “that the utility considers to be made necessary by a change in the price, over which the utility has no effective control, required to be paid by the public utility for its gas supplies, other energy supplied to it, or expenses and taxes, and the new schedule may be put into effect by the public utility on receiving the approval of the commission.” This allows for the expedited review of a compliance filing and proposed changes to the Variable Energy Charge.

Corix considers that the Variable Energy Charge and the ECRA proposals result in an efficient method to flow through variable energy costs to customers. Corix’s proposals enhance energy price transparency, send the appropriate price signal to customers and reduce regulatory and administrative costs. The proposed Variable Energy Charge Rate Setting Mechanism and the 12-month amortization period strikes a balance between minimizing the ECRA balance and providing rate stability to customers.

This proposal of a regulatory process (including timing and ECRA ratio) to adjust the Variable Energy Charge for UBC NDES would emulate the approval for BMDEU – UniverCity in Order G-27-21.

#### 4.1.3 Proposal to set the initial Variable Energy Charge rate for UBC NDES

UBC NDES customers have existing Basic Charge and Variable Charge rates approved by the BCUC from 2015 to 2034 through G-84-15 (see Section 3.5). Corix proposes to discontinue the Variable Charge per kWh on August 31, 2023 and implement a Variable Energy Charge per kWh on September 1, 2023.

Corix notes the existing Basic Charge Monthly Fixed Rate for UBC NDES customers remains unchanged as previously approved in Order G-84-15 since this Application pertains to only flow through energy costs. However, Corix in this Application proposes to change rates on September 1, 2023 for the variable portion of the rates.

Existing rates for UBC NDES customers are:

- **Basic Charge:** \$0.6243 /m<sup>2</sup> per month (effective January 1, 2023); and
- **Variable Charge:** \$0.0474 /kWh (effective January 1, 2023).

Table 5 below includes Corix’s existing and requested September 1, 2023 rates. The rates for 2024 are shown for continuity of the presented rates.



**Table 5: Existing Rates and Proposed Variable / Variable Energy Charges**

RATE:	EXISTING	PROPOSED FOR VARIABLE / VARIABLE ENERGY CHARGE		
		JAN 1 <sup>ST</sup>	SEP 1 <sup>ST</sup>	JAN 1 <sup>ST</sup>
EFFECTIVE DATE:	2023	2023	2024	2024
Basic Charge (\$/m <sup>2</sup> per Month) <sup>1</sup>	0.6243	0.6243	0.6424	0.6424
Variable Charge (\$/kWh) <sup>2</sup>	0.0474	Discontinued		
Variable Energy Charge (\$/kWh) <sup>3</sup>	N/A	0.0516	0.0516	TBD <sup>4</sup>

**Notes:**

1. The Basic Charge approved in Order G-84-15 remains unchanged in this Application.
2. This Application proposes to discontinue the Variable Charge on August 31, 2023.
3. This Application proposes the Variable Energy Charge commence on September 1, 2023. This rate would be effective until the next anticipated Variable Energy Charge rate change on April 1, 2024.
4. TBD – To be determined in a future rate application.

Based on the above table, Corix proposes in this Application, the following for UBC NDES:

- to set the Variable Energy Charge per kWh at \$0.0516, effective September 1, 2023, and
- with the establishment of the Variable Energy Charge, that the BCUC rescind the Variable Charge per kWh rates in the tariff that was previously approved in Order G-84-15 for the period from September 1, 2023 to year 2034.

Corix notes it has not requested approval of a Variable Energy Charge rate for April 1, 2024, since these would be set based on flow-through energy costs if and when required based on the proposed Variable Energy Charge Rate Setting Mechanism (see Section 4.1.2).

Corix has provided a clean version (see Appendix B) of the UBC NDES Tariff along with a blackline copy (see Appendix C) in this Application to implement the proposed Variable Energy Charge, effective September 1, 2023.

**4.1.4 Proposal for establishment of an Energy Cost Reconciliation Account**

UBC NDES currently has an existing Revenue Deficiency Deferral Account (RDDA) that captures any variances between revenue received and allowed costs (energy and non-energy). Corix proposes to establish an Energy Cost Reconciliation Account (ECRA) commencing September 1, 2023 to capture the variances from the revenue received from the Variable Energy Charge and the costs incurred from the energy costs for natural gas and electricity.

Once an ECRA has been established, the existing RDDA would no longer capture the energy related variances (actual revenues from the proposed Variable Energy Charge and the actual energy costs incurred) after August 31, 2023. The RDDA would continue to capture the non-energy related variances from September 1, 2023 onwards.

## 4.2 INTERIM RATE REQUEST

Corix requests that if a final decision on this Application is not issued by August 31, 2023, Corix proposes interim rates effective September 1, 2023 for the following:

- **Variable Charge:** \$0.0000 /kWh (*effective September 1, 2023*).
- **Variable Energy Charge:** \$0.0516 /kWh (*effective September 1, 2023*).

If interim rates are implemented, Corix proposes that the final decision to set the permanent rates the same as the interim rates so customers would avoid any subsequent adjustment in rates. If any calculation or adjustment is required arising from interim rates, Corix proposes to place those adjustments into the ECRA for future recovery.

Corix submits this proposal will avoid the need for customer refunds/payments in its bills. Also, since it is anticipated if there was a difference between interim and final rates it would be minor and over a short period, the ECRA would be the most efficient method to implement any differences in rates.

## 4.3 REGULATORY ACCOUNT FILING CHECKLIST

This application has been prepared in accordance with the BCUC Regulatory Account Filing Checklist, which is Appendix B to BCUC's Regulatory Account Filing Checklist letter issued on May 3, 2017.<sup>5</sup> The following subsections address the checklist.

### 4.3.1 Change existing regulatory account and create a new regulatory account

Corix proposes to modify the existing RDDA and establish a new regulatory account, the ECRA.

The purpose and intended use of the ECRA is:

- To flow-through actual energy cost variances due to the fact that this cost is non-controllable; and
- to allow for the timely recovery or refund of energy cost variances, as opposed to a long recovery period associated with a RDDA.

Once the ECRA is implemented to capture the energy related variances, the existing RDDA would discontinue capturing these same energy related variances. The existing RDDA would continue to capture the non-energy related variances.

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<sup>5</sup> BCUC Regulatory Account Filing Checklist, dated May 3, 2017.

### 4.3.2 Energy Cost Reconciliation Account term

Corix requests that the Energy Cost Reconciliation Account be approved in perpetuity for the following reasons:

- Energy costs are ongoing and non-controllable costs that vary from year to year. Section 4.3.4 provides additional details regarding the nature of the costs and the materiality.
- The BCUC has approved this reconciliation account on an ongoing basis for other regulated utilities. Please refer to Section 6 for details.
- The proposed ECRA will be a fundamental part of the proposed Variable Energy Charge that will be reset annually.

### 4.3.3 Alternative treatment

Corix considered the alternative to the proposed ECRA. The alternative to establishing an ECRA is to continue to add the energy cost variance to the existing RDDA. However, Corix considers that:

- (1) Energy costs going forward, particularly for natural gas, will continue to rise until at least 2030 since the Provincial Government has mandated substantial carbon tax rate increases (see Section 3.6) that is well beyond a nominal inflation of 2%. These known carbon tax increases are much more than the schedule of Variable Charges currently approved (see Section 3.5 for the Variable Charge rates from 2024 to 2034). Additionally, it would be expected that FEI's delivery rates and commodity rates (without carbon tax) would continue to have modest increases of at least a nominal inflation rate of 2%. All this combined, demonstrates that the currently approved UBC NDES Variable Charge would be insufficient to recover the anticipated forecast energy costs in the upcoming years leading to higher RDDA deficits due to annual energy cost deficits.
- (2) The RDDA is a tool used to aid greenfield utilities buildout over time, given the small customer base in initial years that cannot reasonably support the large capital costs associated with building a greenfield utility. As a result, utilities typically recover their deficit RDDA balance over a longer timeframe, such as ten years or more. Given that energy costs are an annual operating cost, Corix does not believe it is presently appropriate to recover from the RDDA the flow-through variance of anticipated material annual energy cost variances over an extended timeframe such as 10, 15, or 20 years.

### 4.3.4 Nature of the costs

#### Non-controllable nature of costs

Energy costs consisting of natural gas and electricity invoices are ongoing and non-controllable costs.

Natural gas is supplied by FortisBC Energy Inc. and its rates are regulated by the BCUC. Additionally, the cost of natural gas includes the provincially mandated carbon tax which will rise substantially each year until at least 2030 (see Section 3.6). The carbon tax forms a part of the total natural gas invoice costs, and is flowed-through to UBC NDES customers. Corix does not charge a carbon tax on its thermal energy

service. As explained above (Section 4.3.3) the total invoice cost of natural gas up to 2030 will continue to rise well beyond a nominal inflation rate of 2% primarily due to carbon tax increases.

Electricity is supplied by BC Hydro and its rates are regulated by the BCUC. Electricity rates would be expected to rise in line with general inflation.

In addition, to the rates charged for natural gas and electricity, the energy invoices are also influenced by the heating demand of UBC NDEDS customers. For example, as UBC NDES customers demand more load in a cold winter season, the higher consumption cost of natural gas and electricity is required to meet the customer load. The actual demand load of customers is not controlled by Corix.

Given all of the above, energy cost is outside of UBC NDES management's control.

#### Degree of forecast uncertainty

The actual customer demand of customers will vary depending on weather and when new connections for service commence. The ability to match actual revenues to actual energy costs exactly are unlikely therefore an energy cost reconciliation account to capture variances is required.

#### Materiality of the costs

Actual energy costs have generally tracked actual variable charge revenues but in recent years it has seen a divergence (see Section 3.7). From 2015 to 2022, the cumulative energy costs have generally matched the cumulative variable charge revenue. However, since 2022 there has been a noticeable disconnect between the actual energy and the actual variable charge revenues that has resulted in annual deficits in 2022 and 2023. If these annual energy cost deficits continue it will have a large impact to the RDDA.

#### Intergenerational inequity

The proposals in this Application will not result in intergenerational inequity given the proposed recovery timeframe. Instead, the intent of this Application is to avoid intergenerational inequity from occurring by proposing an ECRA and improving the process for timely recovery of energy costs.

### **4.3.5 Type of regulatory account**

Per BCUC's Regulatory Account Checklist, this will be classified as a forecast variance account to capture the variance between actual energy costs and actual Variable Energy Charge revenues. The regulatory account is a cash account.

### **4.3.6 Activity to the regulatory account**

Since incurred energy costs are ongoing, the activity in the regulatory account would be on an ongoing basis.

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#### **4.3.7 Recovery/refund mechanism and timeline**

As proposed in Section 4.1.2 above, the Variable Energy Charge will be analyzed and reported on annually, with rate changes occurring April 1<sup>st</sup> of each year once the trigger ratios are exceeded. The ECRA balance would be included in the Variable Energy Charge calculation with a target to draw it down to nil over 12 months when the trigger for a rate change is warranted. This is appropriate since it would reset the ECRA balance with a target of \$0 annually. Presently, the RDDA captures the energy cost variances and its recovery would extend well beyond one year.

Since the ECRA when reset each year targets a nil balance, Corix proposes no carrying costs for the balance whether it is in a debit or credit position.

## 5. ECRA SEPTEMBER 1, 2023 RATE CHANGE ANALYSIS

This section explains the assumptions used to calculate the initial Variable Energy Charge effective September 1, 2023, based on the energy costs forecast and the ECRA analysis. The ECRA Analysis Financial Schedules can be found in Appendix D.

### 5.1 ENERGY COSTS

Energy costs consist of electricity cost and natural gas costs. Corix receives:

- i. Electricity from BC Hydro and Power Authority (“**BC Hydro**”); and
- ii. Natural gas from FortisBC Energy Inc. (“**FEI**”).

UBC NDES’ forecast energy demand is calculated based on an updated build-out schedule with the actual and forecast gross floor area<sup>6</sup> and the 3-year average annual energy use intensity<sup>7</sup> (“**EUI**”). This forecast is used in conjunction with system efficiency to calculate the natural gas purchases required to meet the forecast energy demand. Electricity purchases are forecasted based on the 2022 actuals and the 2023 and 2024 forecast energy demand.

### 5.2 ECRA ANALYSIS

The ECRA balance at September 1, 2023 commences with a nil balance. If the new Variable Energy Charge assumes the same rate as the Variable Charge that will be replaced, then the forecast ECRA balance at March 31, 2024 is a deficit of \$63,776. This is based on:

- i. The existing rate and forecast customer demand to March 31, 2024;
- ii. Forecast natural gas costs using FEI’s current rates and Sproule forecast commodity cost increases; and
- iii. Forecast electricity costs based on BC Hydro’s current and forecast rates.

For the year 2024, Corix applies a 2% escalation to FEI’s delivery rates but does not apply any escalation to FEI’s rate riders. FEI’s annual commodity rate change (increase/decrease) is forecasted based on the most recently available Sproule commodity cost forecasts.

Over the 7-month period from September 2023 to March 2024<sup>8</sup> inclusive, the ratio of Corix’s forecast Variable Charge revenue to the sum of the ECRA balance at September 1, 2023 plus the forecast 7-month energy costs is 0.919 (see Schedule 2). This falls below the 0.95 Trigger Ratio, the lower threshold of the dead-band range. The tested rate required to bring the ECRA to a nil balance by March 31, 2024 is calculated to be \$0.0516 per kWh effective September 1, 2023 (Schedule 2, line 30).

<sup>6</sup> In square metres (m<sup>2</sup>).

<sup>7</sup> In kilowatt-hours per square metre (kWh/m<sup>2</sup>).

<sup>8</sup> This analysis has been prepared to March 31, 2024, since the proposed ECRA annual reset mechanism tests for new rates on April 1<sup>st</sup> of each year. The analysis has a target of a nil balance for the ECRA on March 31, 2024 based on forecast energy costs and proposed Variable Energy Charge revenues for the period. After this initial 7 month target recovery period, the April 1, 2024 will be tested for 12 months consistent with the approach used for BMDEU – UniverCity.

The above analysis is presented in detail in the schedules and charts included in Appendix D of this Application.

### 5.3 CUSTOMER BILL IMPACT ANALYSIS

Table 6 below provides the estimated impact of Corix’s proposals in this Application for a typical UBC NDES end-user. The table assumes all proposals in this Application are approved and compares it with the typical bill if this application was not submitted. These calculations are provided as estimates only since Corix’s district energy customers are typically strata corporations, who in turn bill individual unit owners in accordance with their strata bylaws and rules. The estimated bill impact is provided for a typical unit owner with a 74 sq. metre (800 sq. foot) residential suite with an annual consumption of 6,212 kWh. The Table 6 figures are sourced from the data in Appendix D, Schedule 3 to calculate the table for a 7 month bill impact.

**Table 6: Bill Impact of Variable Energy Charge to Typical UBC NDES Unit Owner**

	EXISTING RATE	PROPOSED RATE
Basic Charge (\$/m2 per Month) (Sep 2023 to Dec 2023)	0.6243	0.6243
Basic Charge (\$/m2 per Month) (Jan 2024 to Mar 2024)	0.6424	0.6424
Variable Charge (\$/kWh) (Sep 2023 to Dec 2023)	0.0474	N/A
Variable Charge (\$/kWh) (Jan 2024 to Mar 2024)	0.0487	N/A
Variable Energy Charge (\$/kWh) (Sep 2023 to Mar 2024)	N/A	<b>0.0516</b>
Change in Basic Charge (%)	N/A	0.0%
Change in Variable/Variable Energy Charge (%)	N/A	7.4%
<b>800 sq. ft. Residential Suite</b>		
Basic Charge Cost (\$)	329	329
Variable Charge Cost (\$)	220	-
Variable Energy Charge Cost (\$)	-	236
Total 7 Month Bill (\$)	548	565
7 Month Change in Bill (\$)	N/A	16
7 Month Change in Bill (%)	N/A	3.0%

As shown in the above table, the existing approved rates for the Variable Charge are \$0.0474 from Sept 2023 to Dec 2023 and then \$0.0487 from Jan 2024 to Mar 2024. These would have been the rates if

Corix did not submit this Application for a Variable Energy Charge and ECRA. Corix instead proposes to charge a Variable Energy Charge of \$0.0516 from Sep 2023 to Mar 2024. This translates to a 7.4% rate change (from the Variable Charge to the Variable Energy Charge) for the period from Sep 2023 to Mar 2024).

Corix calculates that for the 7 month period, the bill impact to a typical UBC NDES unit owner is \$16 per the period or 3.0% on the total bill for the period.



## 6. ENERGY RECONCILIATION ACCOUNTS USED BY OTHER BCUC-REGULATED UTILITIES

The BCUC has approved flow-through energy costs for other regulated energy utilities. Corix has provided a snapshot below, of some utilities regulated by the BCUC that have been approved to flow-through energy costs via the use of a deferral account.

### BCUC Gas Cost Reconciliation Balance

The BCUC in Letter L-5-01 dated February 5, 2001 has issued Guidelines for Setting Gas Recovery Rates and Managing the Gas Cost Reconciliation Account Balance. The Letter was in response to BC Gas Utility Ltd. (now FortisBC Energy Inc.), a natural gas utility. The Letter acknowledges a gas cost rate structure and the creation of a Gas Cost Reconciliation Account (“GCRA”) for the efficient setting of commodity rates in a timely manner.

Corix’s proposed Energy Cost Reconciliation Account is conceptually the same as the GCRA in Letter L-5-01. The key difference is that the GCRA is for gas utilities, whereas the proposed ECRA is for a thermal energy utility to recognize that UBC NDES is a thermal energy provider and not a natural gas provider. While the types of energy suppliers to each type of utility differs, conceptually the GCRA and ECRA and the associated rates are meant to flow through energy costs to utility customers.

### FortisBC Energy Inc. (“FEI”)

FEI formerly had a GCRA (referred to in L-5-01) which has now been segmented into a Commodity Cost Reconciliation Account (“CCRA”) and Midstream Cost Reconciliation Account (“MCRA”). Recently, the BCUC in Order G-34-22 for FEI, approved effective January 1, 2023 sales rate classes that utilized the CCRA and also approved a MCRA rate rider that utilized the MCRA.

### Pacific Northern Gas Ltd. (PNG-West) and Pacific Northern Gas (N.E.) Ltd (PNG N.E.)

Recently, the BCUC approved for PNG-West in Order G-346-22A the applied for 2022 Fourth Quarter Gas Supply Costs and Gas Cost Variance Account (“GCVA”) for PNG-West.

Similarly, the BCUC approved for PNG N.E. in Order G-365-22 the applied for 2022 Fourth Quarter Gas Supply Costs and GCVA for PNG N.E.

PNG’s GCVA is the same as the GCRA mentioned in BCUC Letter L-5-01.

### Corix Burnaby Mountain District Energy Utility – UniverCity

Corix in its 2020 to 2023 Revenue Requirement and Rates Application for BMDEU – UniverCity stated the following on page 73 of that application:

“Currently Corix recovers UniverCity’s costs through a two-part rate structure with a Basic Charge per square metre per month (fixed charge) and a Variable Rate per kilowatt-hour (variable charge). In this Application Corix proposes to retain the two-part rate structure but to replace the Variable Rate with a Variable Energy Charge that will facilitate the recovery of total energy costs (biomass, natural gas and electricity) from UniverCity customers on a flow-through basis. The balance of the Revenue Requirements would then be addressed through the Basic Charge. These rates would appear as two separate line items on customer bills:

- Basic Charge (\$ / m<sup>2</sup> / month)
- Variable Energy Charge (\$ / kWh)

The BCUC in Order G-279-21 in Directive 1 approved, in part, for the BMDEU – UniverCity customer group the following:

- “Establish a rate structure to consist of a Variable Energy Charge to flow-through and recover all energy costs, with the balance of the Revenue Requirement excluding energy costs and subject to the amounts added to the Revenue Deficiency Deferral Account (RDDA) under the levelized rate structure to be recovered through the existing Basic Charge”.
- “Establish the Energy Cost Reconciliation Account (ECRA) on a permanent basis, to capture actual energy costs and revenues from the Variable Energy Charge.”
- “Use an annual Variable Energy Charge Rate Setting Mechanism as set out in the Application.”
- “Use a 12-month amortization period for balances in the ECRA, unless otherwise determined by the BCUC.”

Corix notes that this Application for UBC NDES has been prepared to emulate the approvals for BMDEU – UniverCity when it transitioned from a Variable Rate to a Variable Energy Charge and created the ECRA from the existing BMDEU-UniverCity RRDA.

#### Corix Burnaby Mountain District Energy Utility – SFU

Although SFU and UniverCity both receive thermal energy service from BMDEU, they have separately approved rates due to the existence and BCUC-approval of a negotiated thermal energy services agreement with SFU.

The BCUC in the Decision dated September 24, 2021 accompanying Order G-279-21 on page 47 stated: “The SFU Fuel Cost Deferral Account was established as part of Corix’s CPCN Application and captures the difference between the forecast and actual biomass and electricity costs incurred by Corix for biomass and electricity, with the recovery or refund of any such differences in future periods through adjustments to SFU’s capacity charge.” The BCUC Panel then stated on the same page: “For 2022 and 2023, the Panel approves Corix’s proposed rate structure for the SFU Fuel Cost Deferral Account Rate Rider and Corix must use a 12 month amortization period for any balances in the deferral account.”

The SFU Fuel Cost Deferral Account is similar to the UniverCity ECRA but it differs in that the variances captured in the deferral account is recovered through a 12-month rate rider rather than through adjusting the SFU Consumption Charge. This is due to the unique requirements of SFU, a large and sophisticated customer.

#### Corix Dockside Green Energy

By Order G-248-19 dated October 16, 2019, the BCUC approved, among other things for DGE, Corix’s proposal to establish an Energy Cost Reconciliation Account (ECRA) to record variances between the

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actual energy costs and the revenue collected through the Variable Energy Charge, with the balance to be amortized over a one-year period.

On page 40 of the DGE application that resulted in G-248-19, Corix stated:

“Currently Corix recovers its costs through a Basic Charge per square metre per month (fixed charge) and a Variable Charge per kilowatt-hour (variable charge). In this Application Corix proposes to replace the Variable Charge with a Variable Energy Charge that will facilitate the recovery of total energy costs (gas and electricity) from DGE customers on a flow through basis. The balance of the Revenue Requirements would then be recovered through the Basic Charge. These rates would appear as two separate line items on customer bills:

- o Basic Charge
- o Variable Energy Charge”

Corix’s proposals in this application for UBC NDES are consistent with the above statement regarding DGE.

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## 7. CONCLUSION

Presently, energy related revenue and energy related cost variances are captured in the existing RDDA for UBC NDES. Corix in this Application, commencing on September 1, 2023, proposes to discontinue recording these energy related variances in the RDDA and instead create a new Energy Cost Reconciliation Account to capture the same energy related variances. The existing Variable Charge will be renamed the Variable Energy Charge that will recover in rates the utility's energy costs. The Variable Energy Charge rate would be reviewed annually and updated based on the proposed triggers, so it will be more representative of actual energy costs incurred by the utility to serve customers, thereby increasing transparency.

This proposal for UBC NDES emulates the approvals for BMDEU – UniverCity in Order G-279-21 where it transitioned from a Variable Rate to a Variable Energy Rate and also created an ECRA from the existing RDDA. This Application approach of flowing through energy costs aligns with a BCUC regulatory framework consistent with Corix BMDEU – UniverCity, Corix DGE, FortisBC, and Pacific Northern Gas. This approach for energy costs would also remove the issue of intergenerational inequity of costs being incurred by current customers and then paid for by future customers.

The BCUC should approve Corix's approvals sought in this Application for UBC NDES. It is fair and reasonable to flow-through energy costs through the use of a ECRA and the associated Variable Energy Charge. Energy costs are non-controllable and material in nature for UBC NDES. The BCUC has approved the flow-through of energy costs via reconciliation accounts for several other utilities, which is evidence that the requests in this Application are fair and reasonable.

## APPENDIX A: DRAFT ORDER



**DRAFT ORDER**  
**ORDER NUMBER**  
**G-XX-23**

IN THE MATTER OF  
the *Utilities Commission Act*, RSBC 1996, Chapter 473

and

Corix Multi-Utility Services Inc.  
Neighbourhood District Energy System  
at the University of British Columbia

**BEFORE:**  
[Panel Chair]  
Commissioner

on [Month] [XX], 2023

**ORDER**

**WHEREAS:**

- A. On July 7, 2023, Corix Multi-Utility Services Inc. (Corix) submitted an application to the British Columbia Utilities Commission (BCUC) seeking approval to flow-through energy costs for its Neighbourhood District Energy System at the University of British Columbia (UBC NDES) using a Energy Cost Reconciliation Account (ECRA) and an associated Variable Energy Charge (Application);
- B. ....;
- C. ...;
- D. ...;
- E. ...; and
- F. The BCUC has reviewed the Application and considers that the approvals sought by Corix are warranted.

**NOW THEREFORE**, pursuant to Section 61(4) of the *Utilities Commission Act*, the British Columbia Utilities Commission orders as follows:



1. Corix is approved to replace the existing Variable Charge with a Variable Energy Charge, which recovers only energy costs, commencing on September 1, 2023.
2. Corix is approved to establish an Energy Cost Reconciliation Account commencing on September 1, 2023.
3. Corix is approved to discontinue capturing energy related variances in the Revenue Deficiency Deferral Account after August 31, 2023;
4. Corix is approved to establish a Variable Energy Charge rate setting mechanism, as described in Section 4.1.4 of the Application.
5. Corix is approved to establish the proposed regulatory process to adjust the Variable Energy Charge, as described in Section 4.1.4 of the Application.
6. Corix is approved to set the Variable Energy Charge per kWh at \$0.0516, effective September 1, 2023.
7. Corix is approved to rescind the Variable Charge per kWh rates in the tariff that was previously approved in Order G-84-15 for the period from September 1, 2023 to year 2034.

**DATED** at the City of Vancouver, in the Province of British Columbia, this [DD] day of [Month], 2023.

BY ORDER

(X. X. last name)  
Commissioner

## **APPENDIX B: UBC NDES TARIFF (CLEAN)**



**Person:** means an individual or his or her legal personal representative, an unincorporated organization or association, or a corporation, partnership, trust, trustee, syndicate, joint venture, limited liability company, union, government agency or other entity or organization.

**Rate Schedule:** means that schedule attached to and forming part of these Terms and Conditions, which sets out the rates for Energy Services and certain related terms and conditions, as amended from time to time by the Utility with the approval of, and as filed with, the British Columbia Utilities Commission.

**Release:** means any release, spill, leak, pumping, pouring, emission, emptying or discharge, injection, escape, leaching, migration, disposal, or dumping.

**Service Connection:** means the system of water pipes and all ancillaries and fittings necessary to connect a Building System to the Distribution System via the Energy Transfer Station.

**Standard Fees and Charges Schedule:** means that schedule attached to and forming part of these Terms and Conditions which sets out certain standard fees and charges which may be charged to the Customer in accordance with these Terms and Conditions.

**Terms and Conditions:** means these Thermal Energy Service Terms & Conditions, including the definitions and schedules hereto, all as amended from time to time by the Utility with the approval of, and as filed with, the British Columbia Utilities Commission.

**Thermal Energy:** means thermal energy for space heating and domestic hot water.

**Thermal Energy System:** means the district energy system by which the Utility delivers Thermal Energy to Customers, including the central thermal energy plant, the Distribution System, the Service Connections and the Energy Transfer Stations.

**Utility:** means Corix Multi-Utility Services Inc. carrying on the business of a Thermal Energy distribution utility.

**Utility's Representatives:** means any Person who is an officer, director, employee, agent, contractor, subcontractor, consultant or advisor of either the Utility or any Affiliate of the Utility.

**Variable Energy Charge:** means a metered charge required to be paid by a Customer for Energy Services during a prescribed period as specified in the Rate Schedule.

classes of Customers or all its Customers, until notice of termination of the requirement is given, or between specified hours, to discontinue use of Thermal Energy for any purpose or purposes or to reduce in any specified degree or quantity such Customer(s)' consumption of Thermal Energy for any purpose or purposes.

Any such requirement may be communicated to any Customer or Customers or to all Customers by either or both of public notices in the press and announcements over the radio, and may be communicated to any individual Customer by either or both of notice in writing (via e-mail, regular mail or personal delivery, or left at the relevant Building) and oral communication (including by telephone). Any notice of the termination of any such requirement may be communicated similarly.

If in the opinion of any official of the Utility any Customer has failed to comply with any requirement of the Utility communicated in accordance with this Section, the Utility will be at liberty, after notice to the Customer is communicated in accordance with this Section, to discontinue Energy Service to such Customer.

The Utility will not be liable for any loss, injury, damage or expense occasioned to or suffered by any Customer for or by reason of any discontinuance of Energy Services as contemplated by this Section.

#### 24. Disturbing Use

All equipment for which Thermal Energy is supplied will be subject to the reasonable approval of the Utility and the Customer will take and use the Thermal Energy so as not to endanger apparatus or cause any undue or abnormal fluctuations on the Thermal Energy System.

The Utility may require the Customer, at the Customer's expense, to provide equipment which will reasonably limit such fluctuations or disturbances and may refuse to supply Thermal Energy or suspend the supply thereof until such equipment is provided.

#### 25. Sources of Energy

The Customer acknowledges and agrees that the Utility may, without the need to obtain any approval from the Customer and without any recourse by the Customer, from time to time incorporate other sources of energy or other energy supply systems into the Thermal Energy System, provided the Utility is still able to meet its obligations to the Customer hereunder.

#### 26. Taxes

The rates and charges set out in these Terms and Conditions do not include social services tax, goods and services tax, harmonized sales tax or any other tax that the Utility may be lawfully authorized or required to add to its normal rates and charges.

#### 27. Rate Schedule

The rates to be charged by, and paid to, the Utility for Energy Services will be the Basic Charge and Variable Energy Charge set out in the Rate Schedule from time to time in effect, which may be inspected during business hours at the Utility's office in Vancouver, British Columbia and at the office of the British Columbia Utilities Commission in Vancouver, British Columbia.

#### 28. Special Contracts and Supplements

In unusual circumstances, special contracts and supplements to these Terms and Conditions may be negotiated between the Utility and the Customer and submitted for approval by the British Columbia Utilities Commission where:

- (a) a minimum rate or revenue stream is required by the Utility to ensure that the provision of Energy Services to the Customer is economic; or

Issued by:  
Corix Multi-Utility Services Inc.

Order No. G-XXX-23  
Effective: September 1, 2023  
Commission Secretary:

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## SECTION C - RATE SCHEDULE

<b>UBC Neighbourhood District Energy System Schedule of Residential Rates</b>		
<b>Year</b>	<b>Basic Charge Monthly Fixed Rate per Building Square Metre</b>	<b>Variable Charge per kWh</b>
2015	\$0.4967	\$0.0377
2016	\$0.5111	\$0.0388
2017	\$0.5259	\$0.0399
2018	\$0.5411	\$0.0411
2019	\$0.5568	\$0.0423
2020	\$0.5730	\$0.0435
2021	\$0.5896	\$0.0447
2022	\$0.6067	\$0.0460
2023	\$0.6243	\$0.0474
2024	\$0.6424	
2025	\$0.6610	
2026	\$0.6802	
2027	\$0.6999	
2028	\$0.7202	
2029	\$0.7411	
2030	\$0.7626	
2031	\$0.7847	
2032	\$0.8075	
2033	\$0.8309	
2034	\$0.8550	

**Variable Energy Charge:**

<u>Effective Date</u>	<u>\$ per kilowatt-hour (kWh)</u>
September 1, 2023	\$ 0.0516

Note: The 2023 Variable Energy Charge per kWh at \$0.0474 is effective until August 31, 2023.

Issued by:  
Corix Multi-Utility Services Inc.

Order No. G-XXX-23  
Effective: September 1, 2023  
Commission Secretary:

## **APPENDIX C: UBC NDES TARIFF (BLACKLINE)**

**Person:** means an individual or his or her legal personal representative, an unincorporated organization or association, or a corporation, partnership, trust, trustee, syndicate, joint venture, limited liability company, union, government agency or other entity or organization.

**Rate Schedule:** means that schedule attached to and forming part of these Terms and Conditions, which sets out the rates for Energy Services and certain related terms and conditions, as amended from time to time by the Utility with the approval of, and as filed with, the British Columbia Utilities Commission.

**Release:** means any release, spill, leak, pumping, pouring, emission, emptying or discharge, injection, escape, leaching, migration, disposal, or dumping.

**Service Connection:** means the system of water pipes and all ancillaries and fittings necessary to connect a Building System to the Distribution System via the Energy Transfer Station.

**Standard Fees and Charges Schedule:** means that schedule attached to and forming part of these Terms and Conditions which sets out certain standard fees and charges which may be charged to the Customer in accordance with these Terms and Conditions.

**Terms and Conditions:** means these Thermal Energy Service Terms & Conditions, including the definitions and schedules hereto, all as amended from time to time by the Utility with the approval of, and as filed with, the British Columbia Utilities Commission.

**Thermal Energy:** means thermal energy for space heating and domestic hot water.

**Thermal Energy System:** means the district energy system by which the Utility delivers Thermal Energy to Customers, including the central thermal energy plant, the Distribution System, the Service Connections and the Energy Transfer Stations.

**Utility:** means Corix Multi-Utility Services Inc. carrying on the business of a Thermal Energy distribution utility.

**Utility's Representatives:** means any Person who is an officer, director, employee, agent, contractor, subcontractor, consultant or advisor of either the Utility or any Affiliate of the Utility.

**Variable Energy Charge:** means a metered charge required to be paid by a Customer for Energy Services during a prescribed period as specified in the Rate Schedule.

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Corix Multi-Utility Services Inc.

Order No. [G-XXX-23](#)  
Effective: [September 1, 2023](#)  
Commission Secretary:

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classes of Customers or all its Customers, until notice of termination of the requirement is given, or between specified hours, to discontinue use of Thermal Energy for any purpose or purposes or to reduce in any specified degree or quantity such Customer(s)' consumption of Thermal Energy for any purpose or purposes.

Any such requirement may be communicated to any Customer or Customers or to all Customers by either or both of public notices in the press and announcements over the radio, and may be communicated to any individual Customer by either or both of notice in writing (via e-mail, regular mail or personal delivery, or left at the relevant Building) and oral communication (including by telephone). Any notice of the termination of any such requirement may be communicated similarly.

If in the opinion of any official of the Utility any Customer has failed to comply with any requirement of the Utility communicated in accordance with this Section, the Utility will be at liberty, after notice to the Customer is communicated in accordance with this Section, to discontinue Energy Service to such Customer.

The Utility will not be liable for any loss, injury, damage or expense occasioned to or suffered by any Customer for or by reason of any discontinuance of Energy Services as contemplated by this Section.

24. Disturbing Use

All equipment for which Thermal Energy is supplied will be subject to the reasonable approval of the Utility and the Customer will take and use the Thermal Energy so as not to endanger apparatus or cause any undue or abnormal fluctuations on the Thermal Energy System.

The Utility may require the Customer, at the Customer's expense, to provide equipment which will reasonably limit such fluctuations or disturbances and may refuse to supply Thermal Energy or suspend the supply thereof until such equipment is provided.

25. Sources of Energy

The Customer acknowledges and agrees that the Utility may, without the need to obtain any approval from the Customer and without any recourse by the Customer, from time to time incorporate other sources of energy or other energy supply systems into the Thermal Energy System, provided the Utility is still able to meet its obligations to the Customer hereunder.

26. Taxes

The rates and charges set out in these Terms and Conditions do not include social services tax, goods and services tax, harmonized sales tax or any other tax that the Utility may be lawfully authorized or required to add to its normal rates and charges.

27. Rate Schedule

The rates to be charged by, and paid to, the Utility for Energy Services will be the Basic Charge and Variable Energy Charge set out in the Rate Schedule from time to time in effect, which may be inspected during business hours at the Utility's office in Vancouver, British Columbia and at the office of the British Columbia Utilities Commission in Vancouver, British Columbia.

28. Special Contracts and Supplements

In unusual circumstances, special contracts and supplements to these Terms and Conditions may be negotiated between the Utility and the Customer and submitted for approval by the British Columbia Utilities Commission where:

- (a) a minimum rate or revenue stream is required by the Utility to ensure that the provision of Energy Services to the Customer is economic; or

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Effective: September 1, 2023  
Commission Secretary:

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**SECTION C - RATE SCHEDULE**

<b>UBC Neighbourhood District Energy System Schedule of Residential Rates</b>		
<b>Year</b>	<b>Basic Charge Monthly Fixed Rate per Building Square Metre</b>	<b>Variable Charge per kWh</b>
2015	\$0.4967	\$0.0377
2016	\$0.5111	\$0.0388
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2018	\$0.5411	\$0.0411
2019	\$0.5568	\$0.0423
2020	\$0.5730	\$0.0435
2021	\$0.5896	\$0.0447
2022	\$0.6067	\$0.0460
2023	\$0.6243	\$0.0474
2024	\$0.6424	▼
2025	\$0.6610	▼
2026	\$0.6802	▼
2027	\$0.6999	▼
2028	\$0.7202	▼
2029	\$0.7411	▼
2030	\$0.7626	▼
2031	\$0.7847	▼
2032	\$0.8075	▼
2033	\$0.8309	▼
2034	\$0.8550	▼

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**Variable Energy Charge:**

<u>Effective Date</u>	<u>\$ per kilowatt-hour (kWh)</u>
September 1, 2023	\$ 0.0516

Note: The 2023 Variable Energy Charge per kWh at \$0.0474 is effective until August 31, 2023.

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Corix Multi-Utility Services Inc.

Order No. G-XXX-23  
Effective: September 1, 2023  
Commission Secretary:

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## **APPENDIX D: ECRA ANALYSIS FINANCIAL SCHEDULES**

- Schedule 1: ECRA Monthly Balances at existing rates**
- Schedule 2: Variable Energy Charge Calculation**
- Schedule 3: Residential End-User Bill Impact**
- Schedule 4: ECRA Monthly Balances at proposed rates**
- Chart 1: ECRA Balance Chart at existing Rates**
- Chart 2: ECRA Balance Chart at proposed Rates**



CORIX UBC NDES  
ENERGY COST RECONCILIATION ACCOUNT (ECRA)

Schedule 1

ECRA Monthly Balances at existing rates for the period: Sep 2023 to Dec 2024

	Actual Jan-23	Actual Feb-23	Actual Mar-23	Actual Apr-23	Actual May-23	Forecast Jun-23	Forecast Jul-23	Forecast Aug-23	Forecast Sep-23	Forecast Oct-23	Forecast Nov-23	Forecast Dec-23	Jan-23 to Dec-23
<b>ECRA Balance - Beginning</b>									\$ -	\$ 10,957	\$ 18,315	\$ 19,104	\$ -
Electricity Costs (excludes GST)	\$ 4,012	\$ 4,382	\$ 3,313	\$ 3,531	\$ 2,757	\$ 3,125	\$ 2,949	\$ 2,625	\$ 2,681	\$ 3,620	\$ 4,466	\$ 5,434	\$ 42,895
Natural Gas Costs (excludes GST)	\$ 123,258	\$ 119,070	\$ 111,131	\$ 94,004	\$ 54,801	\$ 46,517	\$ 41,264	\$ 42,052	\$ 50,163	\$ 72,866	\$ 109,957	\$ 143,221	\$ 1,008,304
Total Energy Costs (excl. GST)	\$ 127,270	\$ 123,451	\$ 114,444	\$ 97,535	\$ 57,558	\$ 49,642	\$ 44,213	\$ 44,677	\$ 52,844	\$ 76,487	\$ 114,423	\$ 148,655	\$ 1,051,199
Total Sales (kWh)	2,318,920	2,271,880	2,101,300	1,853,300	817,800	788,908	656,366	677,522	883,701	1,458,412	2,397,334	3,239,373	19,464,816
Variable Charge/Variable Energy Charge (\$/kWh)	\$ 0.0474	\$ 0.0474	\$ 0.0474	\$ 0.0474	\$ 0.0474	\$ 0.0474	\$ 0.0474	\$ 0.0474	\$ 0.0474	\$ 0.0474	\$ 0.0474	\$ 0.0474	
Revenue from Approved Variable Energy Charge	\$ (109,917)	\$ (107,687)	\$ (99,602)	\$ (87,846)	\$ (38,764)	\$ (37,394)	\$ (31,112)	\$ (32,115)	\$ (41,887)	\$ (69,129)	\$ (113,634)	\$ (153,546)	\$ (922,632)
Monthly Shortfall/(Surplus)	\$ 17,353	\$ 15,764	\$ 14,843	\$ 9,688	\$ 18,794	\$ 12,247	\$ 13,102	\$ 12,563	\$ 10,957	\$ 7,358	\$ 789	\$ (4,891)	\$ 128,567
<b>ECRA Balance - Ending</b>									\$ 10,957	\$ 18,315	\$ 19,104	\$ 14,213	\$ 128,567

	Forecast Jan-24	Forecast Feb-24	Forecast Mar-24	Forecast Apr-24	Forecast May-24	Forecast Jun-24	Forecast Jul-24	Forecast Aug-24	Forecast Sep-24	Forecast Oct-24	Forecast Nov-24	Forecast Dec-24	Jan 24 to Dec-24
<b>ECRA Balance - Beginning</b>	\$ 14,213	\$ 30,472	\$ 47,025	\$ 63,776	\$ 86,751	\$ 108,711	\$ 129,237	\$ 149,324	\$ 169,016	\$ 189,107	\$ 211,320	\$ 236,291	\$ 14,213
Electricity Costs (excludes GST)	\$ 4,361	\$ 4,598	\$ 4,480	\$ 3,938	\$ 3,774	\$ 3,209	\$ 3,028	\$ 2,696	\$ 2,754	\$ 3,718	\$ 4,586	\$ 5,581	\$ 46,723
Natural Gas Costs (excludes GST)	\$ 131,476	\$ 129,635	\$ 119,639	\$ 102,968	\$ 81,602	\$ 59,762	\$ 54,521	\$ 52,923	\$ 61,774	\$ 91,831	\$ 140,934	\$ 184,971	\$ 1,212,037
Total Energy Costs (excl. GST)	\$ 135,838	\$ 134,233	\$ 124,119	\$ 106,906	\$ 85,376	\$ 62,971	\$ 57,550	\$ 55,619	\$ 64,528	\$ 95,549	\$ 145,521	\$ 190,552	\$ 1,258,760
Total Sales (kWh)	2,522,763	2,482,701	2,265,146	1,770,705	1,337,886	895,455	790,354	757,939	937,483	1,547,171	2,543,237	3,436,523	21,287,362
Variable Charge/Variable Energy Charge (\$/kWh)	\$ 0.0474	\$ 0.0474	\$ 0.0474	\$ 0.0474	\$ 0.0474	\$ 0.0474	\$ 0.0474	\$ 0.0474	\$ 0.0474	\$ 0.0474	\$ 0.0474	\$ 0.0474	
Revenue from Approved Variable Energy Charge	\$ (119,579)	\$ (117,680)	\$ (107,368)	\$ (83,931)	\$ (63,416)	\$ (42,445)	\$ (37,463)	\$ (35,926)	\$ (44,437)	\$ (73,336)	\$ (120,549)	\$ (162,891)	\$ (1,009,021)
Monthly Shortfall/(Surplus)	\$ 16,259	\$ 16,553	\$ 16,751	\$ 22,974	\$ 21,960	\$ 20,526	\$ 20,087	\$ 19,692	\$ 20,091	\$ 22,213	\$ 24,971	\$ 27,661	\$ 249,739
<b>ECRA Balance - Ending</b>	\$ 30,472	\$ 47,025	\$ 63,776	\$ 86,751	\$ 108,711	\$ 129,237	\$ 149,324	\$ 169,016	\$ 189,107	\$ 211,320	\$ 236,291	\$ 263,952	\$ 263,952

## Calculation of Tested Variable Energy Charge

Line No.	(1) Details	(2) Pre-Tax	(3) Percentage	(4) Forecast Energy (kWh)	(5) Unit Rate (\$ / kWh)
1	<u>ECRA Rate Change Trigger Ratio</u>				
2	Deadband Maximum Ratio = 1.05				
3	Deadband Minimum Ratio = 0.95				
4					
5	ECRA Balance at Aug 31, 2023	\$ -			
6	Forecast Incurred Energy Costs - Sep 1, 2023 to Mar 31, 2024	\$ 786,599			
7	Forecast Recovery of Energy Costs based on existing Variable Charge (Sep 1, 2023 - Mar 31, 2024)	\$ (722,823)			
8					
9	ECRA Ratio = $\frac{\text{Forecast recovery of Energy Cost (Line 7)}}{\text{Forecast Incurred Energy Costs (Line 6) + Projected ECRA Balance (Line 5)}} = \frac{\$ (722,823)}{\$ 786,599} = 91.89\%$				
10					
11					
12	<b>ECRA Ratio = 0.919</b>				
13	<b>Analysis: ECRA Ratio less than deadband minimum</b>				
14					
15					
16	Existing Variable Charge				\$ 0.0474
17					
18	Forecast 7-month Demand - Sep 1, 2023 to Mar 31, 2024			15,249,430	
19					
20	ECRA Balance at Aug 31, 2023	\$ -			
21	Forecast 7-month ECRA Activities - Sep 1, 2023 to Mar 30, 2024	\$ 63,776			
22	Under / (Over) Recovery at Existing Rate(s)	\$ 63,776			
23					
24	<b>Rate Change Required to address Under / (Over) Recovery based on Forecast Demand</b>	\$ 63,776		15,249,430	\$ 0.0042
25					
26					
27					<b>Tested Rate \$ 0.0516</b>
28					
29					
30	<b>Indicative Rate effective: 1-Sep-23</b>				<b>Proposed Rate \$ 0.0516</b>
31	<b>Indicative rate increase/(decrease) relative to existing rate</b>				<b>8.82%</b>
32					

**Residential Customer Characteristics**

Floor Area: 800 sq. ft.  
 Floor Area: 74 sq. m.  
 3-year EUI for applicable buildings (kWh/m<sup>2</sup>): 83.58  
 Average Annual Consumption (3-yr Avg): 6,212 kWh

Line No.		Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	Jan-24	Feb-24	Mar-24
1	Floor Area (m <sup>2</sup> )	74.32	74.32	74.32	74.32	74.32	74.32	74.32	74.32	74.32	74.32	74.32	74.32	74.32	74.32	74.32
2	Consumption (kWh)	756.56	744.55	679.30	531.02	401.22	268.54	223.42	214.26	265.02	437.37	718.95	971.47	756.56	744.55	679.30
3																
4	<b>Approved Rates</b>	<b>Jan-23</b>	<b>Feb-23</b>	<b>Mar-23</b>	<b>Apr-23</b>	<b>May-23</b>	<b>Jun-23</b>	<b>Jul-23</b>	<b>Aug-23</b>	<b>Sep-23</b>	<b>Oct-23</b>	<b>Nov-23</b>	<b>Dec-23</b>	<b>Jan-24</b>	<b>Feb-24</b>	<b>Mar-24</b>
5	Basic Charge (\$/m <sup>2</sup> )	0.6243	0.6243	0.6243	0.6243	0.6243	0.6243	0.6243	0.6243	0.6243	0.6243	0.6243	0.6243	0.6424	0.6424	0.6424
6	Variable Charge (\$/kWh)	0.0474	0.0474	0.0474	0.0474	0.0474	0.0474	0.0474	0.0474	0.0474	0.0474	0.0474	0.0474	0.0487	0.0487	0.0487
7																
8	Basic Charge	\$ 46.40	\$ 46.40	\$ 46.40	\$ 46.40	\$ 46.40	\$ 46.40	\$ 46.40	\$ 46.40	\$ 46.40	\$ 46.40	\$ 46.40	\$ 46.40	\$ 47.74	\$ 47.74	\$ 47.74
9	Variable Charge	\$ 35.86	\$ 35.29	\$ 32.20	\$ 25.17	\$ 19.02	\$ 12.73	\$ 10.59	\$ 10.16	\$ 12.56	\$ 20.73	\$ 34.08	\$ 46.05	\$ 36.84	\$ 36.26	\$ 33.08
10	<b>Total Bill</b>	<b>\$ 82.26</b>	<b>\$ 81.69</b>	<b>\$ 78.60</b>	<b>\$ 71.57</b>	<b>\$ 65.42</b>	<b>\$ 59.13</b>	<b>\$ 56.99</b>	<b>\$ 56.56</b>	<b>\$ 58.96</b>	<b>\$ 67.13</b>	<b>\$ 80.48</b>	<b>\$ 92.45</b>	<b>\$ 84.59</b>	<b>\$ 84.00</b>	<b>\$ 80.83</b>
11																
12	<b>Proposed Rates</b>	<b>Jan-23</b>	<b>Feb-23</b>	<b>Mar-23</b>	<b>Apr-23</b>	<b>May-23</b>	<b>Jun-23</b>	<b>Jul-23</b>	<b>Aug-23</b>	<b>Sep-23</b>	<b>Oct-23</b>	<b>Nov-23</b>	<b>Dec-23</b>	<b>Jan-24</b>	<b>Feb-24</b>	<b>Mar-24</b>
13	Basic Charge (\$/m <sup>2</sup> )	0.6243	0.6243	0.6243	0.6243	0.6243	0.6243	0.6243	0.6243	0.6243	0.6243	0.6243	0.6243	0.6424	0.6424	0.6424
14	Variable Energy Charge (\$/kWh)	0.0474	0.0474	0.0474	0.0474	0.0474	0.0474	0.0474	0.0474	0.0516	0.0516	0.0516	0.0516	0.0516	0.0516	0.0516
15																
16	Basic Charge	\$ 46.40	\$ 46.40	\$ 46.40	\$ 46.40	\$ 46.40	\$ 46.40	\$ 46.40	\$ 46.40	\$ 46.40	\$ 46.40	\$ 46.40	\$ 46.40	\$ 47.74	\$ 47.74	\$ 47.74
17	Variable Energy Charge	\$ 35.86	\$ 35.29	\$ 32.20	\$ 25.17	\$ 19.02	\$ 12.73	\$ 10.59	\$ 10.16	\$ 13.67	\$ 22.56	\$ 37.08	\$ 50.11	\$ 39.03	\$ 38.41	\$ 35.04
18	<b>Total Bill</b>	<b>\$ 82.26</b>	<b>\$ 81.69</b>	<b>\$ 78.60</b>	<b>\$ 71.57</b>	<b>\$ 65.42</b>	<b>\$ 59.13</b>	<b>\$ 56.99</b>	<b>\$ 56.56</b>	<b>\$ 60.07</b>	<b>\$ 68.96</b>	<b>\$ 83.48</b>	<b>\$ 96.51</b>	<b>\$ 86.77</b>	<b>\$ 86.15</b>	<b>\$ 82.78</b>
19																
20	<b>Change in Revenue</b>	<b>Jan-23</b>	<b>Feb-23</b>	<b>Mar-23</b>	<b>Apr-23</b>	<b>May-23</b>	<b>Jun-23</b>	<b>Jul-23</b>	<b>Aug-23</b>	<b>Sep-23</b>	<b>Oct-23</b>	<b>Nov-23</b>	<b>Dec-23</b>	<b>Jan-24</b>	<b>Feb-24</b>	<b>Mar-24</b>
21	Basic Charge	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
22	Variable Energy Charge	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1.11	\$ 1.83	\$ 3.01	\$ 4.06	\$ 2.18	\$ 2.15	\$ 1.96
23	<b>Total Bill</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 1.11</b>	<b>\$ 1.83</b>	<b>\$ 3.01</b>	<b>\$ 4.06</b>	<b>\$ 2.18</b>	<b>\$ 2.15</b>	<b>\$ 1.96</b>
24																
25		<b>Jan-23</b>	<b>Feb-23</b>	<b>Mar-23</b>	<b>Apr-23</b>	<b>May-23</b>	<b>Jun-23</b>	<b>Jul-23</b>	<b>Aug-23</b>	<b>Sep-23</b>	<b>Oct-23</b>	<b>Nov-23</b>	<b>Dec-23</b>	<b>Jan-24</b>	<b>Feb-24</b>	<b>Mar-24</b>
26	Rolling Bill Impact (\$)									\$ 1.11	\$ 2.94	\$ 5.94	\$ 10.01	\$ 12.19	\$ 14.33	\$ 16.29
27	Rolling Bill Impact (%)									0.25%	0.67%	1.34%	2.12%	2.45%	2.73%	2.97%
28																

**Notes**

- (1) Bill Impact analysis excludes applicable taxes.
- (2) Rolling Bill Impact to March 2024 covers the seven (7) months from the proposed effective date of the ECRA (Sep 1, 2023).

CORIX UBC NDES  
ENERGY COST RECONCILIATION ACCOUNT (ECRA)

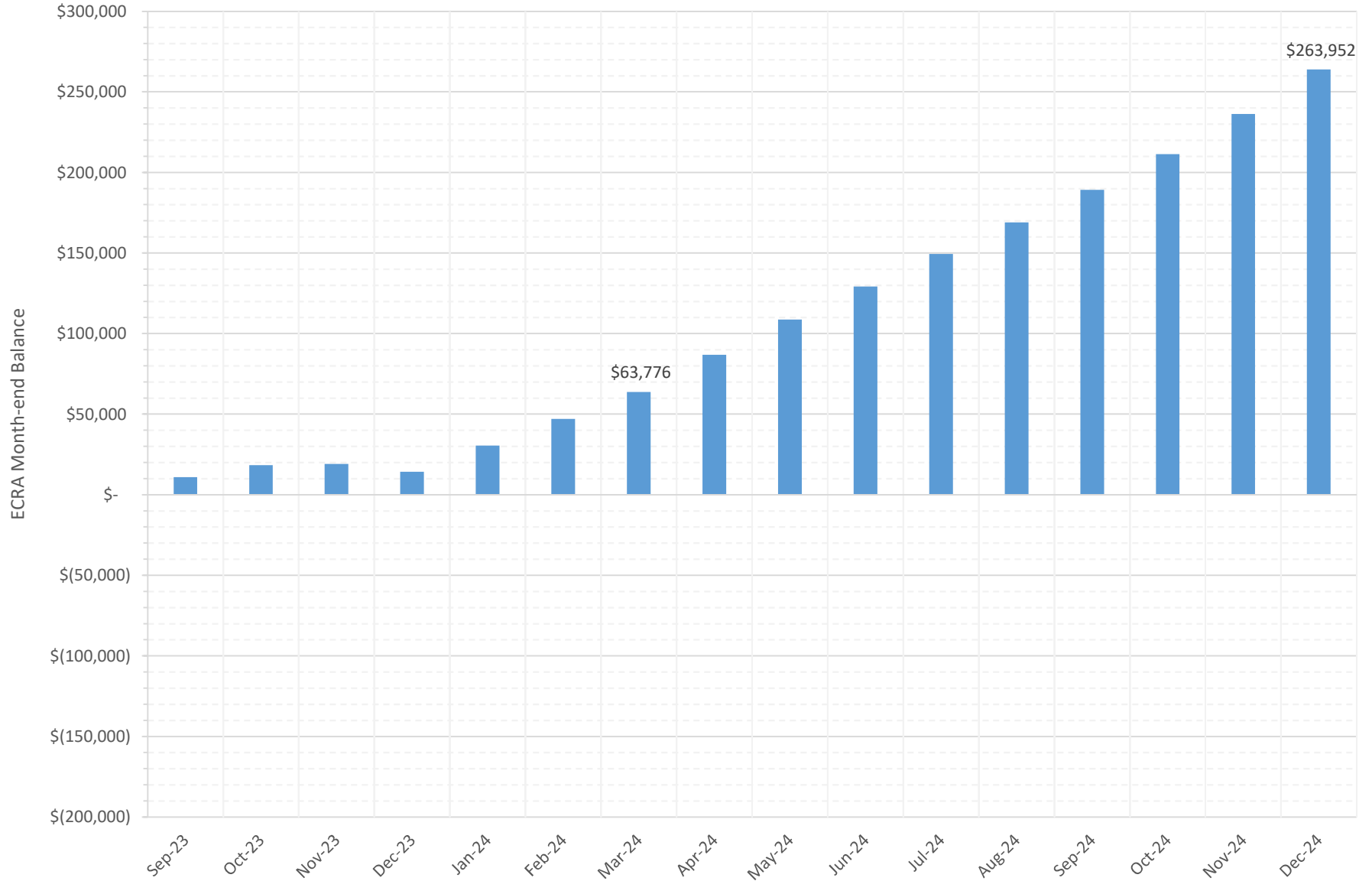
Schedule 4

ECRA Monthly Balances at proposed rates for the period: Sep 2023 to Dec 2024

	Actual Jan-23	Actual Feb-23	Actual Mar-23	Actual Apr-23	Actual May-23	Forecast Jun-23	Forecast Jul-23	Forecast Aug-23	Forecast Sep-23	Forecast Oct-23	Forecast Nov-23	Forecast Dec-23	Jan-23 to Dec-23
<b>ECRA Balance - Beginning</b>									\$ -	\$ 7,245	\$ 8,478	\$ (802)	\$ -
Electricity Costs (excludes GST)	\$ 4,012	\$ 4,382	\$ 3,313	\$ 3,531	\$ 2,757	\$ 3,125	\$ 2,949	\$ 2,625	\$ 2,681	\$ 3,620	\$ 4,466	\$ 5,434	\$ 42,895
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Total Energy Costs (excl. GST)	\$ 127,270	\$ 123,451	\$ 114,444	\$ 97,535	\$ 57,558	\$ 49,642	\$ 44,213	\$ 44,677	\$ 52,844	\$ 76,487	\$ 114,423	\$ 148,655	\$ 1,051,199
Total Sales (kWh)	2,318,920	2,271,880	2,101,300	1,853,300	817,800	788,908	656,366	677,522	883,701	1,458,412	2,397,334	3,239,373	19,464,816
Variable Charge/Variable Energy Charge (\$/kWh)	\$ 0.0474	\$ 0.0474	\$ 0.0474	\$ 0.0474	\$ 0.0474	\$ 0.0474	\$ 0.0474	\$ 0.0474	\$ 0.0516	\$ 0.0516	\$ 0.0516	\$ 0.0516	
Revenue from Approved Variable Energy Charge	\$ (109,917)	\$ (107,687)	\$ (99,602)	\$ (87,846)	\$ (38,764)	\$ (37,394)	\$ (31,112)	\$ (32,115)	\$ (45,599)	\$ (75,254)	\$ (123,702)	\$ (167,152)	\$ (956,143)
Monthly Shortfall/(Surplus)	\$ 17,353	\$ 15,764	\$ 14,843	\$ 9,688	\$ 18,794	\$ 12,247	\$ 13,102	\$ 12,563	\$ 7,245	\$ 1,232	\$ (9,279)	\$ (18,496)	\$ 95,056
<b>ECRA Balance - Ending</b>									\$ 7,245	\$ 8,478	\$ (802)	\$ (19,298)	\$ 95,056

	Forecast Jan-24	Forecast Feb-24	Forecast Mar-24	Forecast Apr-24	Forecast May-24	Forecast Jun-24	Forecast Jul-24	Forecast Aug-24	Forecast Sep-24	Forecast Oct-24	Forecast Nov-24	Forecast Dec-24	Jan 24 to Dec-24
<b>ECRA Balance - Beginning</b>	\$ (19,298)	\$ (13,635)	\$ (7,509)	\$ (271)	\$ 15,266	\$ 31,607	\$ 48,372	\$ 65,140	\$ 81,649	\$ 97,803	\$ 113,517	\$ 127,807	\$ (19,298)
Electricity Costs (excludes GST)	\$ 4,361	\$ 4,598	\$ 4,480	\$ 3,938	\$ 3,774	\$ 3,209	\$ 3,028	\$ 2,696	\$ 2,754	\$ 3,718	\$ 4,586	\$ 5,581	\$ 46,723
Natural Gas Costs (excludes GST)	\$ 131,476	\$ 129,635	\$ 119,639	\$ 102,968	\$ 81,602	\$ 59,762	\$ 54,521	\$ 52,923	\$ 61,774	\$ 91,831	\$ 140,934	\$ 184,971	\$ 1,212,037
Total Energy Costs (excl. GST)	\$ 135,838	\$ 134,233	\$ 124,119	\$ 106,906	\$ 85,376	\$ 62,971	\$ 57,550	\$ 55,619	\$ 64,528	\$ 95,549	\$ 145,521	\$ 190,552	\$ 1,258,760
Total Sales (kWh)	2,522,763	2,482,701	2,265,146	1,770,705	1,337,886	895,455	790,354	757,939	937,483	1,547,171	2,543,237	3,436,523	21,287,362
Variable Charge/Variable Energy Charge (\$/kWh)	\$ 0.0516	\$ 0.0516	\$ 0.0516	\$ 0.0516	\$ 0.0516	\$ 0.0516	\$ 0.0516	\$ 0.0516	\$ 0.0516	\$ 0.0516	\$ 0.0516	\$ 0.0516	
Revenue from Approved Variable Energy Charge	\$ (130,175)	\$ (128,107)	\$ (116,882)	\$ (91,368)	\$ (69,035)	\$ (46,205)	\$ (40,782)	\$ (39,110)	\$ (48,374)	\$ (79,834)	\$ (131,231)	\$ (177,325)	\$ (1,098,428)
Monthly Shortfall/(Surplus)	\$ 5,663	\$ 6,126	\$ 7,238	\$ 15,537	\$ 16,341	\$ 16,765	\$ 16,767	\$ 16,509	\$ 16,154	\$ 15,714	\$ 14,290	\$ 13,228	\$ 160,332
<b>ECRA Balance - Ending</b>	\$ (13,635)	\$ (7,509)	\$ (271)	\$ 15,266	\$ 31,607	\$ 48,372	\$ 65,140	\$ 81,649	\$ 97,803	\$ 113,517	\$ 127,807	\$ 141,034	\$ 141,034

**Chart 1: UBC NDES ECRA Month-end Balances at Existing Rate**  
Sep 2023 to Dec 2024



**Chart 2: UBC NDES ECRA Month-end Balances at Proposed Rate**  
Sep 2023 to Dec 2024

